Corporate cash shortfalls and financing decisions

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Abstract

Given their actual revenue and spending, most net equity issuers and an overwhelming majority of net debt issuers would face immediate cash depletion without external financing. Debt issuers tend to have short-lived cash needs while equity issuers often have persistent cash needs. On average, debt issuers immediately spend almost all of the proceeds, while equity issuers retain much of the proceeds in cash. Anticipated near-future cash needs and fixed costs of financing help explain the fraction of the proceeds being retained. Our findings support a funding-horizon theory in which cash needs and the nature of cash needs motivate financing decisions.

Key Words: Cash Needs, Cash Holdings, External Financing, Security Issuance, SEO, Private Investment in Public Equity (PIPE), Bond Offering, Bank Loan, Financing Decision, Capital Structure, Floatation Cost, Precautionary Saving, Market Timing, Pecking Order, Corporate Lifecycle, Financial Flexibility, Static Tradeoff, Dynamic Tradeoff

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1. Introduction

Firms do external financing for a variety of reasons. They may need cash to fund investment or operations. Debt or equity issuance may also be motivated by a desire to rebalance capital structures or increase cash balances. In this paper, we find that external financing decisions of U.S. firms during 1972-2013 are primarily motivated by near-term cash shortfalls, with the choice of financing instrument determined by how persistent the cash shortfalls are and what the issuance proceeds will be used for.[1] By contrast, moving towards a stationary target capital structure appears to be a second-order consideration for most companies. Our findings suggest that observed capital structures are best explained by a dynamic tradeoff model with path dependent outcomes of period-by-period financing decisions.

The pecking order theory (Myers (1984)) and the market timing theory (Baker and Wurgler (2002)) are theories of optimized security issuance, in which the firm's debt ratio is merely the path-dependent outcome of these period-by-period decisions. These theories assume that the tradeoff between the tax advantage of debt financing and financial distress costs is unimportant, and have limited empirical support. The static tradeoff theory, on the other hand, is a theory of capital structure optimization that encounters substantial difficulty in explaining slow speeds of adjustment and frequent occurrences of security issuances that move a firm away from its target. DeAngelo and Roll (2015) document that capital structures exhibit significant instability from decade to decade, inconsistent with theories in which staying close to a particular target debt ratio is of primary importance.

[1] In this paper, a firm's cash shortfall or cash need in a fiscal year is measured by its net spending in the year minus the sum of its beginning-of-year cash balance and internal cash flow in the year. A firm that has a cash shortfall is not necessarily in financial trouble. Cash needs in fiscal year t are viewed as immediate cash needs. Fiscal years t+1 and t+2 are viewed as near-future and medium-future, respectively, and both t and t+1 are viewed as near-term.

A dynamic tradeoff model, which incorporates both security issuance optimization and capital structure level optimization associated with meeting immediate and future funding needs, as in DeAngelo, DeAngelo, and Whited (2011), henceforth DDW, appears to offer the greatest ability to describe capital structures. In their model, a firm issues debt to meet short-lived funding needs associated with imperfectly anticipated investment shocks, even if it results in a debt ratio that is temporarily above the firm's long-run target. If firms anticipate sufficiently large future funding needs, they forego borrowing and instead issue costly equity to meet an immediate funding need. In their model, a firm's target debt ratio is the debt ratio to which the firm would converge after many periods of neutral investment shocks. Firms have target debt ratios that are low because they want to maintain unused debt capacity, so as to be able to fund profitable investment opportunities in the future.

In this paper, we provide empirical evidence describing security issuance behavior. We address three questions on the importance of cash needs for financing decisions. First, given their actual revenue and spending, do U.S. firms that engage in external financing do so mainly when they would otherwise run out of cash either immediately or in the near-future? The answer is yes. Given their actual revenue and spending, without external financing, 75.0% of firms with net debt issuance and 53.9% of firms with net equity issuance would have otherwise run out of cash by the end of the year of issuance.[2] By the end of the following year, 83.2% of firms with net debt issuance and 72.5% of firms with net equity issuance in a year would otherwise have run out of cash. In our multinomial logit regressions, measures of near-term cash needs based on actual revenue and spending dominate other firm characteristics in predicting the decision to raise external debt or equity capital. If they didn't raise money, however, firms might spend less.

[2] Unless explicitly stated as otherwise, "equity issuance" and "net equity issuance" are used interchangeably, as are "debt issuance" and "net debt issuance".

Measures of immediate cash needs based on projected revenue and spending, for which endogeneity issues are less of a concern, are also strongly related to net issuance. These findings suggest that a near-term cash shortfall rather than pure cash stockpiling or leverage rebalancing is the primary motive for net debt or equity issuance.

Second, is the nature of cash needs (i.e., how persistent cash needs are and how the proceeds are used) very important for the choice between debt and equity financing? Some types of firms (e.g., unprofitable and R&D-intensive firms) tend to have multi-year cash needs while others types of firms tend to have short-lived cash needs. Unprofitable firms frequently continue to be unprofitable in subsequent years, as documented by Denis and McKeon (2020). Among firms that would otherwise face immediate cash depletion, given their actual revenue and spending, the likelihood of net equity issuance in a year is 18.3% for profitable firms and increases substantially to 48.2% for unprofitable firms, while the likelihood of net debt issuance decreases from 70.1% for profitable firms to 53.2% for unprofitable firms. These likelihoods are not very sensitive to whether current or lagged values of profitability are used. Furthermore, small, growth, and R&D-intensive firms are more likely to issue equity rather than debt. These patterns suggest that firms with immediate and short-lived investment spending prefer debt issuance. By contrast, equity issuance is preferred by firms with long-lived cash needs, as when investing in research and development (R&D), which often produces persistent operating losses and does not quickly result in pledgeable assets (i.e., assets that can be used as collateral).

Third, what proportion of the proceeds is retained as cash at the end of the fiscal year in which the net issuance occurs? Because net debt or equity proceeds are positively associated with both the growth of non-cash assets in the issuance year and the expected level of cash needs in the near future, it is plausible to expect a positive relation between the proceeds and the change in cash. More cash may be needed to accompany the growth of other assets, and large expected near-future cash needs incentivize issuers to raise extra proceeds and thus create a cash reserve to avoid the fixed costs of raising capital again soon. Compared with debt issuers, equity issuers often have characteristics that are associated with longer-lived (more persistent) cash needs, have less pledgeable assets for future borrowing, and are less likely to have a credit line to draw on for future cash needs. Furthermore, the fixed costs of issuing equity are typically higher than those of issuing debt, and the terms of equity issuance can fluctuate more substantially across time than the terms of debt issuance, providing an incentive to issue equity and stockpile cash in good times. Consistent with the above discussions, our regression analysis shows that an extra dollar of net debt or equity proceeds in a fiscal year is associated with, respectively, an increase of 18.9 cents or 62.9 cents in cash reserves at the end of the year. The retention rate of 62.9 cents per dollar does not necessarily mean that pure cash stockpiling (i.e., increasing cash to an abnormally high level) is the primary use of equity proceeds, because many equity issuers need more cash to accompany their non-cash asset growth and/or fund expected near-future cash needs. Much of the proceeds is only temporarily parked in the cash reserve.

Issuing equity in the public market normally has higher fixed costs than placing shares in the private market. The fixed costs of drawing on a credit line are presumably lower than those for other types of external debt financing. A large cash increase is expected when the fixed costs of financing are large. Consistent with these expectations, in one regression that controls for other determinants of cash changes, the fraction of net equity proceeds going to cash reserves in years when there is a seasoned equity offering (SEO), also known as a follow-on, is 8.1% higher (e.g., 68.1% versus 60.0%) than in years when there is a Private Investment in Public Equity (PIPE) transaction. In another regression, in years when there is a public bond offering, the fraction of net debt issuance going to cash reserves is 18.6% higher than in years with a new credit line arrangement, after controlling for other variables.

Our paper builds on two papers on near-term cash needs and the decision to raise capital. DeAngelo, DeAngelo, and Stulz (2010), henceforth DDS, find that 62.6% of firms conducting SEOs from 1973-2001 would have run out of cash by the end of the following year if they did not raise capital. Our paper documents similar results for a comprehensive sample of equity issues, including SEOs. Denis and McKeon (2012) document that, for the subsets of their sample of 2,314 firm years with large leverage increases from 1971-1999, the likelihood of immediate cash depletion ranges from 70.8% to 93.4%. We document similar results for a much larger sample of debt issues than theirs. We also extend these two papers to address 1) why some firms issue debt while others issue equity to fund immediate cash needs, and 2) whether firms that issue debt or equity raise just enough capital to avoid immediate cash depletion.

Although external financing is common, many papers document a relatively moderate speed of adjustment toward target leverage (e.g., Huang and Ritter (2009), Iliev and Welch (2010), and Yin and Ritter (2019)). Our findings help explain how a moderate speed of adjustment and extensive external financing can coexist. Firms issue debt or equity primarily for meeting immediate cash needs rather than engaging in capital restructurings to move towards target leverage. As the DDW model predicts, firms with immediate and short-lived cash needs that issue debt instead of equity may become over-levered relative to their stationary targets. In contrast, firms with long-lived cash needs issue equity instead of debt to fund immediate cash needs even if they become under-levered, partly because they are concerned about the opportunity costs of failing to fund future cash needs. Existing research finds that many profitable firms that have low leverage do not issue debt (Graham (2000)). Our findings suggest that this pattern is partly because these firms do not have an immediate need for external capital.

McLean (2011) suggests that precautionary cash savings have become the primary use of share issuance proceeds. He finds that most of the equity issuance proceeds are used to increase cash reserves, especially for R&D-intensive firms, firms in industries with high cash flow volatility, and firms that do not pay dividends. We show that many of these firms have long-lived cash needs. Thus, besides precautionary savings demand, high expected levels of future cash needs and large fixed costs of equity financing can also explain why the positive relation between net equity proceeds and cash changes is so strong. We further contribute to the literature by showing that the positive relation is stronger when there is public financing than when there is private financing, consistent with explanations based on fixed costs of financing.

Our paper complements that of Denis and McKeon (2020). Our paper emphasizes the importance of cash needs and the nature of cash needs for the decision to raise external capital, the choice between debt and equity financings, and the decision on how much of the proceeds is retained as cash. Their paper documents that within our sample period Compustat-listed firms with persistent funding needs have become more common, and that these firms account for most of the growth in average cash balances of U.S. firms. They also document that the growth in average cash balances is most prominent in firms with both negative net cash flows and intensive intangible investment. They show that the high cash balances for many of these firms are associated with equity financing, with the high cash balances quickly decreasing due to subsequent negative net cash flows. Both papers emphasize that equity financing is common for firms with persistent funding needs.

Our paper contributes to a growing literature on the importance of cash needs for financing decisions (DDS, McLean (2011), Denis and McKeon (2012, 2020), and McLean and Palazzo (2018)). Our findings provide strong support for a funding-horizon theory of financing decisions based on the DDW model. This theory posits that financing decisions are primarily motivated by cash needs and the nature of cash needs. In this theory, firms do external financing when they have an immediate cash need. Firms with temporary (short-lived) cash shortfalls caused by investing in tangible assets or transitory losses issue debt, and firms with persistent (long-lived) cash shortfalls caused by R&D spending or persistent operating losses issue equity. In this theory, attaining target leverage is not a primary motive for financing decisions. As a result, observed capital structures are path dependent.

2. A Conceptual Framework for Financing Decisions

2.1 The costs and benefits of external financing

Firms consider all sorts of benefits and costs when making financing and investment decisions. Traditional capital structure theories focus on the tax benefits of debt, financial distress costs, issuance costs, information asymmetry costs, or market timing benefits, or a combination of them. In comparison, the funding-horizon theory of financing decisions considers these costs and benefits, but emphasizes the opportunity costs of not meeting cash needs.

The opportunity costs of not meeting cash needs include the costs of forgoing or delaying positive net present value (NPV) projects, the costs of selling assets to raise cash, the costs of failing to meet operating cash needs, and the costs of failing to retain existing employees or attract new employees. The opportunity costs of not meeting cash needs are not the same as the traditional view of bankruptcy costs. Even if a firm has no debt at all or is unlikely to go bankrupt, without thoughtful financing plans, it could incur large opportunity costs of under-spending on investment or operations. Holding more cash reduces the opportunity costs of cash depletion, but it increases the opportunity and agency costs of holding cash. Thus, many firms rely on external financing, in addition to cash holdings, to fund investment or operational needs.

In the static tradeoff theory, firms choose an optimal debt ratio by comparing the tax benefits and financial distress costs of debt. If the costs of leverage deviations are sufficiently large, firms engage in capital restructurings (i.e., issuing debt to repurchase equity or issuing equity to retire debt) to move towards target leverage, even if they have no immediate cash needs.

Dynamic tradeoff models assume that floatation costs slow down the speed of adjustment toward target leverage (e.g., Fischer, Heinkel, and Zechner (1989)). There are several different types of dynamic tradeoff theories, as surveyed by Ai, Frank, and Sanati (2020), including models with exogenous investment and those with endogenous investment due, for instance, to debt overhang issues. This second set of models focuses on the value of financial flexibility.

Our funding-horizon theory of financing decisions is based on the dynamic model in DDW. In their infinite-period model, firms make investment and financing decisions at each date. When firms issue debt to fund investment shocks, they may deliberately and temporarily move away from their targets. A firm's target debt ratio exists in a long-run sense and prepares the firm optimally for raising capital in the future. Their model considers investment opportunities, taxes, distress costs, external financing costs, and the costs of holding cash, with financial flexibility for funding investment opportunities being an important consideration.

There is a key difference between the DDW dynamic tradeoff model/funding horizon theory of security issuance and traditional dynamic tradeoff models. The traditional models predict that, other than to save on transaction costs, when firms issue securities, they will issue securities that move them towards their target debt ratios. In contrast, the funding-horizon theory based on the DDW model accommodates financing-induced leverage deviations and predicts that security issuance normally occurs when a company is running out of cash, and that the type of security issued is determined mainly by the expected persistence of external funding needs.

2.2 The decision to raise external capital: the importance of immediate cash needs

Dynamic tradeoff models with fixed costs of financing and exogenous investment generally predict that security issuance occurs when a firm's debt ratio moves far enough away from the firm's target that it is worthwhile to incur the transaction costs. In contrast, the funding-horizon theory assumes that the advantage of moving to the target is sufficiently small that most of the time it is not worthwhile to issue securities until a firm is running out of cash, at which point it must either raise external capital, sell assets, cut spending, or forego investment. When a firm does raise capital, the amount of capital raised depends on the magnitude of funding needs and transaction costs. If the fixed costs are low, as with a bank line of credit or an at-the-market (ATM) equity offering, the amount of capital raised will be small. If cash needs are persistent, capital raising events will be frequent. If the fixed costs are high, capital raising events will be less frequent, and in larger amounts when they occur. Transaction costs may be high either because of fees, because of adverse selection costs (as in the pecking order theory), or because of time-varying mispricing (as in the market timing theory).

2.3 The debt versus equity choice: the importance of the nature of cash needs

The funding-horizon theory of financing decisions, which emphasizes cash needs and the nature of cash needs, can help explain not only the decision to raise external capital, but also the choice between debt and equity. Firm characteristics such as profitability and the type of investment determine the nature of cash needs. Denis and McKeon (2020) document that cash needs due to operating losses and/or R&D spending are more persistent than those due to spending on tangible assets.

Debt provides tax benefits and has low floatation costs, and the availability of pledgeable assets can further reduce the cost of debt. However, the funding-horizon theory further posits that, for firms with long-lived cash needs, these benefits of debt can be less important than the opportunity costs of failing to meet the cash needs, resulting in an incentive to preserve debt capacity. As DDW emphasize, having too much debt removes the option of issuing more debt if there is limited debt capacity.

Debt financing can be less costly than equity financing for firms with immediate and short-lived cash needs, especially when the needs are due to investment in tangibles rather than the funding of operating losses. As in the static tradeoff model, the after-tax cost of debt is low for firms that are expected to be persistently profitable. These firms issue debt even if doing so sometimes makes them over-levered relative to their long-term targets. Following debt issuance, they can gradually pay off the debt with internally generated funds when they no longer have large cash needs. DDW and DeAngelo and Roll (2015) suggest that this behavior is common.

Long-lived cash needs usually arise from persistent operating losses or projects that require many years or rounds of large investments in intangible, non-pledgeable assets, requiring “permanent capital.” Many firms have a negative operating cash flow because of large R&D expenses (e.g., paying research scientists), which may not quickly result in pledgeable assets. It can be very expensive for firms with long-lived cash needs to issue debt. Even if they are able to issue debt at a reasonable cost to fund immediate cash needs, issuing equity rather than debt can be optimal. Unused debt capacity is a valuable source of financial flexibility (Denis (2011), DDW, and DeAngelo, Goncalves, and Stulz (2018)). Issuing debt instead of equity to fund immediate cash needs can lower floatation costs and taxes in the current year, but with the disadvantage of increasing future floatation costs, bankruptcy costs, and the opportunity costs of a reduced ability to fund future cash needs. For companies with losses that are expected to persist, the tax advantage of debt financing is not present in the near future, making an equity issue more attractive.

2.4 The relative advantages of the funding-horizon theory of financing decisions

Given the tax benefits of debt, traditional tradeoff theories that ignore the benefits of meeting cash needs and floatation costs can also explain why profitable firms are more likely to issue debt rather than equity, conditional on raising external capital. These theories, however, cannot easily explain the widely documented negative relation between profitability and leverage, and why many profitable firms without immediate cash needs do not issue debt. Furthermore, as DDW and Denis and McKeon (2012) note, traditional tradeoff models also have difficulty in explaining a very modest speed of adjustment towards target leverage and why many firms move away from target leverage when they issue debt. These patterns, however, are consistent with the funding-horizon theory of financing decisions.

The pecking order model of Myers (1984) emphasizes information asymmetry costs rather than the opportunity costs of not meeting cash needs. Frank and Goyal (2003) suggest that a major challenge for the pecking order theory is to explain why small growth firms, which face high information asymmetry, are more likely to issue equity instead of debt than are large value firms. Our evidence suggests that the reason is that small growth firms tend to have longer-lived cash needs and thus face larger opportunity costs of cash depletion than large value firms, consistent with the funding-horizon theory of financing decisions. Furthermore, many small growth firms are unprofitable and would not get immediate tax benefits from issuing debt, if they could issue debt at all.

Using the market-to-book ratio as a proxy for market timing opportunities, Baker and Wurgler (2002) present evidence that observed capital structure is the outcome of past attempts to time the equity market. Because market-to-book ratios are correlated with cash needs and how long-lived the needs are, their evidence is also consistent with the funding-horizon theory of financing decisions.[3]

2.5 The fraction of issuance proceeds being used to increase cash reserves: an explanation based on expected near-future cash needs and fixed floatation costs

The funding-horizon theory of financing decisions can also help explain the relation between net issue proceeds and cash changes. Net issue proceeds are positively related to the change in non-cash assets and near-future cash needs. When a firm's non-cash assets increase, it typically needs higher cash balances for working capital. Furthermore, in the presence of large fixed equity floatation costs, firms with long-lived cash needs have an incentive to raise enough capital to fund immediate cash needs and create a cash reserve for expected cash needs in the near future. Therefore, a positive relation between net issue proceeds and cash changes is expected, especially for equity issuers. Many equity issuers, especially those that have high R&D spending and/or high Tobin's Q, have high expected levels of future cash needs and thus temporarily increase cash substantially. A high retention rate of equity proceeds does not necessarily result in an abnormally high cash level or pure cash stockpiling. As Denis and McKeon (2020) document, equity issuers with persistent cash needs frequently display a zig-zag time-series pattern with their cash balances.

[3] Jung, Kim, and Stulz (1996) provide an agency explanation for the positive relation between growth opportunities and equity issuance.

3. Data, summary statistics, and univariate sorts

3.1. Data

We use Compustat to obtain financial information and CRSP to obtain stock prices for each U.S. firm. We require the statement of cash flow information for fiscal years t and t-1. Since the cash flow information is only available from 1971, our sample starts from 1972. Since we also examine stock returns from t+1 to t+3, our sample ends at 2013. We also drop firm-year observations for which frequently used variables in our paper have a missing value, the net sales is not positive (thus excluding many biotech firms), the book value of assets or the market value of equity at the end of fiscal year t-1 is less than $10 million (expressed in terms of purchasing power at the end of 2010), the book value of assets at the end of t-2 is missing, the cash flow identity is violated in t and t-1, or there is a major merger in t.[4] To avoid the effect of regulations on financing decisions, we remove financial and utility firms from our analysis.

In this paper, a firm is defined as having a net debt or net equity issuance in a fiscal year if, respectively, its net debt or net equity proceeds in the year from the cash flow statement are at least 5% of the book value of assets and 3% of the market value of equity at the beginning of the year. McKeon (2015) reports that a 3% of market equity screen removes from the equity issue category almost all firm-years with only stock option exercises. The equity issuance proceeds include cash from SEOs, PIPEs, employee stock option exercises, and preferred stock issuances.[5] The debt issuance proceeds include cash from straight and convertible bond offerings and bank financings. Technically, bank loans do not involve security issuance, but for convenience we

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[4] A violation of the cash flow identity in year t occurs when the absolute value of the difference between the uses and sources of funds in year t is greater than 0.5% of $Assets_{t-1}$. A major merger is identified by the Compustat footnote for net sales being AB, FD, FE, or FF. Our data requirements result in the dropping of firms that solved their cash shortfall problems by being acquired during year t.

[5] Since we require a one-year stock return prior to the current fiscal year, initial public offerings (IPOs) and SEOs shortly after the IPO are not included in our sample. Because cash flow statements are used, stock-financed acquisitions are not counted as equity issuances.

refer to the money raised from a bank loan as issuance proceeds. The final sample for most of our analysis consists of 124,058 firm-year observations from 1972-2013, including 13,152 firm-years with net equity issuance and 26,324 firm-years with net debt issuance.

3.2. Summary statistics and univariate sorts

Panel A of Table 1 reports the sample distribution by financing category. A net debt issue or a net equity issue occurs in 21.2% and 10.6% of firm-years, respectively.[6] In comparison, DDS document that the likelihood of an SEO by a firm in a given year is 3.4%.[7]

Panel B of Table 1 reports the likelihood of running out of cash, conditional on issuing or not. $Cash_{ex\ post}$ represents what the cash position would have been if there was no external financing, and is defined as $Cash_{t-1} + NCF_t$, where $Cash_{t-1}$ denotes cash at the end of t-1, and NCF_t denotes the net cash flow in t. NCF is the difference between the internal cash flow and the sum of investment, change in non-cash net working capital, and dividends. Due to the sources = uses of funds identity, $Cash_{ex\ post}$ also equals $Cash_t - \Delta D_t - \Delta E_t$, where ΔD_t is the net debt issue in t, and ΔE_t is the net equity issue in t. $Cash_{ex\ ante}$ is defined as $Cash_{t-1} + NCF_{t-1}$, using the realized NCF_{t-1} as the *projected* NCF_t to alleviate endogeneity concerns on the relation between NCF_t and net debt or equity issuance in t. For years with no net issuance of debt or equity, the likelihood of cash depletion is 6.3% on the basis of $Cash_{ex\ post}$ and 22.3% on the basis of $Cash_{ex\ ante}$. In these

[6] These values based on empirical distributions are also referred to as likelihoods in this paper. Our net equity issue likelihoods are lower than those reported in Fama and French (2005), who do not impose a minimum requirement for the issue size, and who include share issues that do not generate cash, such as those from stock-financed acquisitions and contributions to employee stock ownership.

[7] We investigated 50 randomly selected net equity issues using the Thomson Reuters' SDC database, Sagient Research's Placement Tracker database, and annual reports on the S.E.C.'s EDGAR web site. We found that PIPEs were almost as frequent as SEOs, and that SDC missed some SEOs. PIPEs are more common among smaller firms, so our sample of net equity issuers is tilted towards smaller firms relative to DDS' sample of SEOs. Gustafson and Iliev (2017) document that PIPEs have become less common following a 2008 S.E.C. regulatory change allowing small reporting companies (those with a public float of less than $75 million) to conduct shelf registrations. Billett, Floros, and Garfinkel (2019) document that "At-The-Market" (ATM) equity offerings, in which non-underwritten shares are issued to secondary market investors via a placement agent acting strictly as a broker, have gained popularity in recent years. We do not distinguish between ATMs and other types of equity issues.

no-issuance years, most of the firms with Cash $_{ex\ post}$ ≤0 actually did some external financing, but not enough to meet our 5% threshold.[8] For net issuance years, the likelihood of cash depletion is 66.1% on the basis of Cash $_{ex\ post}$ and 41.7% on the basis of Cash $_{ex\ ante}$. These results suggest that net issuers have larger immediate cash needs than non-issuers, as expected.

Panel C of Table 1 reports the likelihood of issuance, conditional on either running out of cash or not. 81.2% of the firm-years with Cash $_{ex\ post}$ ≤0 have a significant net issuance, but only 13.0% of firm-years with Cash $_{ex\ post}$ >0 do. When Cash $_{ex\ ante}$ is used, the likelihoods are 43.6% and 23.6%, respectively.

Panel D of Table 1 shows that in firm-years with only net debt issuance, the likelihood of cash depletion is much lower when using Cash $_{ex\ ante}$ rather than Cash $_{ex\ post}$. In contrast, in firm-years with only net equity issuance, the likelihood is not very sensitive to whether Cash $_{ex\ post}$ or Cash $_{ex\ ante}$ is used.

Panel E of Table 1 shows that, among firms that do significant external financing in a year in the presence of a cash squeeze, 82.4% of the firms issue net debt and 29.6% of them issue net equity, with 12.0% of these firms issuing both.

Panel F of Table 1 reports the sample distribution by financing and an indicator of internal cash flow (ICF). The likelihoods of net debt issuance in a year for negative and non-negative ICF firms are 21.0% and 21.3%, respectively. Thus, profitability, by itself, is unrelated to net debt issuance. This lack of a relation is inconsistent with the static tradeoff theory because profitable firms on average are retaining earnings, and thus need to issue debt to keep the debt ratio from falling. The corresponding likelihoods of net equity issuance for negative and non-

[8] Internet Appendix Figure IA-1 reports the likelihoods of cash depletion for the subgroups of firms sorted by net equity issue size and net debt issue size, respectively, as a percentage of beginning-of-year assets.

negative ICF firms are 26.5% and 7.8%, respectively, suggesting that unprofitable firms are much more likely to issue equity than profitable firms.

Panel G of Table 1 reports the sample distribution by financing, a profitability indicator (whether ICF is non-negative), and an indicator for cash depletion. When $\text{Cash}_{\text{ex post}} \leq 0$, 53.2% of unprofitable firms and 70.1% of profitable firms issue debt, and 48.2% of unprofitable firms and 18.3% of profitable firms issue equity. When $\text{Cash}_{\text{ex ante}} \leq 0$, 26.4% of unprofitable firms and 33.4% of profitable firms issue debt, and 38.0% of unprofitable firms and 12.0% of profitable firms issue equity. These results suggest that the nature of immediate cash needs is important for the funding choice. When $\text{Cash}_{\text{ex post}} > 0$, unprofitable firms are more likely to issue equity than profitable firms, although there is almost no difference in the likelihood of debt issuance between profitable and unprofitable firms. When $\text{Cash}_{\text{ex ante}} > 0$, unprofitable firms are more likely to issue equity and less likely to issue debt than profitable firms.

Panel A of Table 2 reports the means and medians of cash and excess cash at the end of each year from t-1 to t+1, all expressed as a percentage of assets. The excess cash ratio is the difference between the firm's cash ratio and the median cash ratio of firms in the same industry, tercile of Tobin's Q, and tercile of total assets at the end of the same year. On average, pure equity issuers have much higher cash ratios in the year before, the year of, and the year after the issuance than other firms. A high cash ratio can be optimal for small growth firms. For example, a money-losing company will find it easier to attract and retain employees if it has cash on the balance sheet. The average excess cash ratios of pure equity issuers at t and t+1 are higher than those of other firms. However, pure equity issuers and other firms have quite similar median excess cash ratios at t and t+1, suggesting that many pure equity issuers do not retain the proceeds to increase their cash ratios to abnormally high levels.

In Panel B of Table 2, we present the likelihoods of cash depletion under a variety of assumptions. In row (1), the likelihoods of an ex post cash squeeze ($Cash_{ex\ post} = Cash_t - \Delta D_t - \Delta E_t \leq 0$) by the end of t are 75.0% for debt issuers and 53.9% for equity issuers. Thus, most net equity issuers and an overwhelming majority of net debt issuers in our sample would face immediate cash depletion without external financing. This finding undercuts the importance of pure cash stockpiling and leverage rebalancing motives for the decision to raise external capital.[9] One explanation is that immediate cash needs are the primary motive for external financing.

There are alternative explanations for the strong relation between external financing and the likelihood of immediate cash depletion using $Cash_{ex\ post}$. One possibility is that net issuance in t and spending on investment and operations in t are integral parts of a plan. Another possibility is that firms tend to spend the capital that they have raised. In rows (2) and (3), we use two alternative assumptions for the *projected* NCF_t to alleviate these endogeneity concerns. Using $Cash_{ex\ ante}$ (= $Cash_{t-1} + NCF_{t-1}$) in row (2), the likelihoods of immediate cash depletion if they didn't issue are much lower at 42.3% and 44.4%, respectively, for the firms that actually did issue debt or equity. These likelihoods when using $Cash_{ex\ ante}$ in row (2) confirm the importance of an immediate cash need in motivating external financing, although they are much lower than those when using $Cash_{ex\ post}$ in row (1). The difference between the likelihoods in rows (1) and (2) is larger in net debt issuance years than in net equity issuance years. As we will show, this difference is partly because firms with immediate and short-lived investment spending tend to issue debt, and firms with long-lived cash needs tend to issue equity.

[9] Pure leverage rebalancing, where debt is issued to retire equity or equity is issued to retire debt, has no effect on the cash balance. With pure cash stockpiling, the issuer retains all of the proceeds in cash and would not run out of cash even without external financing.

The lagged spending and the current year financing can also be jointly determined. To alleviate this additional concern, we estimate a regression, reported in Appendix II, using a list of variables to predict $NCF_t \div Assets_{t-1}$. Using this alternative, the likelihoods of cash depletion by t for net debt and equity issuers in row (3) are 36.1% and 36.3%, respectively. The likelihoods of cash depletion are much lower using these two counterfactuals than using the *actual* NCF.

McLean (2011) assumes zero gross equity proceeds instead of zero *net* equity proceeds in computing the likelihood of cash depletion. In row (4), the likelihood of cash depletion using $Cash_t$ – Gross Equity $Proceeds_t$ is 59.0% for firm-years of net equity issuance in our sample. McLean's equity issue sample includes all firm-years with positive gross equity proceeds on the cash flow statements, including small amounts from employee stock option exercise. Our untabulated results show that the likelihood of cash depletion by the end of a year for firm-years with positive (rather than 5%) gross equity proceeds in our sample is 14.4%, which is close to the 17% that McLean reports and the 15.6% that McKeon (2015) reports.

A large literature argues that there is an optimal cash ratio (e.g., Opler, Pinkowitz, Stulz, and Williamson (1999)). Even if a firm does not face immediate cash depletion, it could raise capital to avoid a subnormal cash ratio. DDS document that 81.1% of SEO firms would have had a subnormal cash ratio without the SEO proceeds. Following DDS, we compute the likelihoods of having a cash ratio below the median cash ratio of firms that are in the same industry, tercile of Tobin's Q, and tercile of assets. Using NCF_t, in row (5) the likelihoods of having a subnormal cash ratio at the end of t are 88.5% and 76.3% for debt and equity issuers, respectively. Using NCF_{t-1}, in row (6) the likelihoods are 68% and 67.5%, respectively. These results confirm the importance of immediate cash needs for debt or equity issues.

We also compute the likelihood of cash depletion by the end of t+1 if a firm does not issue equity or debt in both t and t+1. The likelihoods of near-term cash depletion in row (7) are 83.2% and 72.5% for debt and equity issuers, respectively. The rows (1) and (7) results together suggest that, in addition to funding immediate spending, equity is also often issued for near-future spending. In contrast, net debt is issued overwhelmingly for immediate needs.

Using the lagged NCF, in row (8) the likelihoods of cash depletion by t+1 become 51.2% and 58.2% for debt and equity issuers in t, respectively. The likelihoods of near-term cash depletion in row (9) when using the fitted-value NCF ratio are similar to those in row (8).

DDS examine the likelihood of cash depletion by the end of t+1 for firms with an SEO in t, assuming zero SEO proceeds in t and holding other cash uses and sources at their actual values. To make our results more comparable to theirs, in row (10) we compute the likelihood of $Cash_{t+1} - \Delta E_t \leq 0$. For our sample of equity issuers in t, the likelihood of cash depletion by the end of t+1 is 59.4%, which is close to their 62.6%.

Panel A of Table 3 reports the summary statistics for the cash flow components, all scaled by beginning-of-year assets, for different financing groups.[10] Net debt issuers have an average $\Delta E_t \div Assets_{t-1}$ ratio of 3.0%, and net equity issuers have an average $\Delta D_t \div Assets_{t-1}$ ratio of 4.0%, limiting the importance of capital restructuring as a motive for debt or equity issuance. On average, debt issuers and non-issuers have similar profitability, while equity issuers are much less profitable, with 37.1% of them losing money. Both debt and equity issuers have a higher average investment ratio than non-issuers, suggesting that immediate investment spending is an important motive for both debt and equity issuance. One alternative explanation for this pattern

[10] Internet Appendix Table IA-1 reports the means and medians of the cash flow components for the subgroups of firms sorted by net equity issue size and net debt issue size, respectively, as a percent of beginning-of-year assets.

is that debt or equity issuance is part of an investment plan to which the firm is committed. Another explanation is that the firm makes the investment because it can raise the debt or equity.

The overall mean cash dividend ratio is low in Panel A because we are equally weighting firms, and most small firms do not pay dividends. The mean ratio of the change in non-cash net working capital for each financing group is much lower than the mean investment ratio, although the pattern across the groups is similar. The mean ratio of the change in cash is 14.0% for equity issuers, compared to 2.3% for debt issuers. The low average cash increase ratio for debt issuers suggests that increasing cash is not a first-order motive for debt issuance.

Panel B of Table 3 reports the summary statistics for the net spending and the change in cash as a percentage of the equity proceeds for equity issuers and as a percentage of the debt proceeds for debt issuers. On average, firms increase cash by 31.0% of the proceeds in equity issuance years, even though 37.1% of them have a negative internal cash flow that reduces cash, and firms increase cash by only 6.9% of the proceeds in debt issuance years. As a percentage of the proceeds, the net spending is on average much larger than cash increases, especially in firm-years with debt issuance. The change in cash is over half of the equity proceeds in 32.3% of the firm-years with equity issuance and over half of the debt proceeds in 15.0% of the firm-years with debt issuance.

Panel C of Table 3 reports the serial correlations in the internal cash flow, net spending, and net cash flow (NCF) from t-1 to t+2. The internal cash flow is highly persistent, while the net spending has low persistence. Net equity issuers in t have more persistent internal cash flows and losses from t-1 to t+2 than net debt issuers. Equity issuers also have more persistent net spending from t-1 to t than debt issuers. The serial correlations between NCF_{t-1} and NCF_t, both scaled by assets at the end of t-1, are 0.27 for debt issuers and 0.42 for equity issuers, respectively. These results help explain our earlier finding that the likelihoods of immediate cash depletion are lower when using $Cash_{ex\ ante}$ instead of $Cash_{ex\ post}$, with the pattern being stronger for firm-years with debt issuance than for firm-years with equity issuance.

Panel D of Table 3 reports the mean cash and cash flow components sorted by financing and cash depletion. Internet Appendix Table IA-2 reports qualitatively similar patterns for the medians. As expected, issuers that would otherwise deplete cash in year t have a lower average beginning cash ratio than other issuers. Firms that issue equity when not facing immediate cash depletion, measured by either $Cash_{ex\ post}$ or $Cash_{ex\ ante}$, have a high average beginning cash ratio of either 31.5% or 30.1% and they further increase cash holdings in t. Future cash needs help explain the cash increases. These firms have very negative average NCFs in t+1 and t+2. But future cash needs do not explain why firms with $Cash_{ex\ post} > 0$ are associated with a larger average cash increase than those with $Cash_{ex\ post} \leq 0$. On average, firms with $Cash_{ex\ post} > 0$ have less negative NCFs in t+1 and t+2 than those with $Cash_{ex\ post} \leq 0$. Whether they would be running out of cash or not, on average, firms that have net equity issuance in t are persistently much less profitable from t-1 to t+2 than firms that have net debt issuance in t.

Table 4 presents the means and medians for the control variables that are used in our regressions. For the full sample in Panel A, among the four subsets of firms, pure equity issuers have the highest Tobin's Q. Pure equity issuers and dual issuers have the highest average prior-year stock returns and the lowest average 3-year buy-and-hold stock returns from year t+1 to t+3, consistent with the literature on long-run stock performance following equity issuance (e.g., Huang and Ritter (2020)). On average, pure equity and dual issuers are smaller, younger, more R&D intensive, in industries with higher cash flow volatility, and less likely to be a dividend payer than other categories of firms.

Panel B of Table 4 reports the mean and medians for the controls conditional on either running out of cash or not, using either Cash $_{ex\ post}$ or Cash $_{ex\ ante}$. Firms that are running out of cash and firms that are not appear to be different in prior-year stock return, 3-year buy-and-hold stock return from t+1 to t+3, leverage, R&D intensity, industry cash flow volatility, and paying a dividend or not. However, the other characteristics appear to be fairly similar between firms that are running out of cash and firms that are not.

Table 5 uses univariate sorts to evaluate the relations of our cash need measures and control variables with the propensities to raise capital. For each subgroup sorted by a variable, we report the proportion of firm-years that fall into one of the three issuance categories. Firms with more cash are less likely to issue debt but more likely to issue equity. The Cash $_{ex\ post}$ ratio is very strongly related to debt issue likelihoods, and is strongly related to equity issue likelihoods. The likelihoods of debt issuance for firms in this variable's first and fourth quartiles are 62.9% and 4.1%, respectively. The corresponding likelihoods of equity issuance are 23.2% and 7.3%, respectively. The Cash $_{ex\ ante}$ ratio has a weaker relation with net financings than the Cash $_{ex\ post}$ ratio, but the relation is still strong.

The net cash flows (NCFs) in different years are all scaled by $Assets_{t-1}$. The NCF ratio in year t has a much stronger relation with debt issuance in year t than the NCF ratios in other years. For firms in the variable's lowest and highest quartiles in year t, the likelihoods of debt issuance are 55.0% and 3.1%, respectively, with the firms in the lowest quartile almost 18 times more likely to issue debt. For firms in the first and fourth quartiles of the NCF ratio in year t, the likelihoods of equity issuance are 27.3% and 4.7%, respectively, a difference of 22.6%. For firms in the lowest and highest quartiles of NCF ratios in t-1, t+1, and t+2, the likelihoods of equity issuance differ by 16.6%, 17.3%, and 13.8%, respectively. These findings suggest that debt is issued almost exclusively for immediate cash needs, while equity issuers have large cash needs not only in the issuance year, but also before and after the issuance year. These findings also help explain why the likelihood of immediate cash depletion is so much higher when using Cash $_{ex\ post}$ than when using Cash $_{ex\ ante}$ for debt issuers, while the likelihood is not very sensitive to whether Cash $_{ex\ post}$ or Cash $_{ex\ ante}$ is used for equity issuers.

Less profitable firms, measured by either the ratios of internal cash flow (ICF) or operating income before depreciation, are more likely to issue equity. This finding, combined with the persistence of ICF documented in Panel C of Table 3, suggests that firms with longer-lived cash needs are more likely to issue equity. Table 5 also shows that firms in the highest quartile of the investment ratio are more likely to issue debt or equity than other firms. For firms in the lowest and highest quartiles of the investment ratio in t, the likelihoods of debt issuance are 8.5% and 47.1%, respectively. These results suggest that immediate investment spending is the primary motive for debt issuance, although there are endogeneity concerns about the direction of causality.

Firms in the highest quartile of the cash change ratio are associated with a much higher likelihood of equity issuance than those in the other quartiles, but the same pattern does not exist for the likelihood of debt issuance, even though both debt issuers and equity issuers have experienced strong growth in non-cash assets.

Table 5 also shows that Tobin's Q is strongly related to equity issuance. For firms in the first and fourth quartiles of Tobin's Q, the likelihoods of equity issuance in a given year are 4.3% and 19.5%, respectively, a pattern qualitatively similar to that reported in Table 3 of DDS. In contrast, Tobin's Q is not strongly related to the likelihood of debt issuance. Firms in the highest quartile of the stock return in year t-1 are more likely to issue debt or equity than other firms.

The relation between lagged equity returns and equity issuance is non-monotonic, with small, unprofitable firms with negative prior returns frequently resorting to PIPEs. For a firm in the lowest quartile of the stock return from t+1 to t+3, the likelihood of equity issuance is 18.8%.

Inspection of Table 5 shows that the term spread and the default spread are not important in predicting debt or equity issuance, although we will show in Table 6's multinomial logit regressions that the default spread is positively related to equity issuance. Larger and older firms are less likely to issue equity.[11] Firms in the lowest leverage quartile are the least likely to issue debt, consistent with the findings of Strebulaev and Yang (2013). R&D intensity, industry cash flow volatility, and dividend paying status are positively related to net equity issuance.

4. Regression results

4.1. Cash depletion and the decision to raise external capital

Our summary statistics and univariate sorts suggest that it is important to estimate the marginal effects of our immediate and future cash need measures and other variables on financing decisions. Table 6 reports the multinomial logit results for the decision to raise external capital in year t and the choice between debt and equity. The base category consists of firm years with no external financing. Because the multinomial logit model is nonlinear, we report the economic effects rather than the coefficients. As some of the independent variables are perhaps endogenous, their economic effects should not be interpreted as causal effects.

In Table 6, the three dummy variables for immediate, near-future, and medium-future cash depletion are defined using the *actual* net cash flows in t, t+1, and t+2. Immediate Depletion equals one if the firm would run out of cash by the end of year t, and equals zero otherwise. Near

[11] We use the number of years that a firm has been listed on CRSP as a measure for the firm's age. CRSP first included NASDAQ stocks in December 1972. As DDS point out, the number of years on CRSP is not a reliable measure for firm age for these firms. Our major results are essentially the same if we add five years to the age of these firms or simply exclude these firms from our sample.

Depletion equals one if the firm would deplete cash by t+1 but not by t. Medium Depletion equals one if the firm would deplete cash by t+2 but not by t+1. Immediate cash depletion has an extremely strong relation with debt issuance. Firms that would face immediate cash depletion are 63.5% more likely to issue debt in the same year than firms that would not (70.2% vs. 6.7%).[12] Near-future cash depletion also has a strong relation with debt issuance. Firms that would deplete cash in t+1 but not by t are 11.3% more likely to issue debt than firms that would not (31.3% vs. 20.0%). Immediate and near-future cash depletion is strongly related to equity issuance. Firms that would run out of cash in t are 18.6% more likely to issue equity in the same year than firms that would not (24.8% vs. 6.2%). Firms that would run out of cash in t+1 are 11.1% more likely to issue equity than firms that would not (20.3% vs. 9.2%). Medium-future cash depletion is less strongly related to debt or equity issuance than near-term cash depletion. These results provide strong support for the funding-horizon theory of financing decisions.

By contrast, other variables have surprisingly weak economic effects compared with the cash depletion measures. A two standard deviation increase in Tobin's Q decreases the likelihood of debt issuance by 2.5% and increases the likelihood of equity issuance by 1.9%.[13] A two standard deviation increase in the stock return from t+1 to t+3 increases the likelihood of debt issuance by 0.4% and decreases the likelihood of equity issuance by 2.8%, consistent with the literature on the long-run performance following debt and equity issuances. Firms are less likely to issue debt and more likely to issue equity when the default spread is high.

[12] The standard deviation of Immediate Depletion for the sample is 0.42. A two standard deviation increase in this variable increases the likelihood of debt issuance by 31.9% and the likelihood of equity issuance by 12.4%.
[13] As discussed earlier, we require net issue size to be at least 5% of assets and 3% of market equity when defining a net debt or net equity issue. The economic effects of Tobin's Q here are quite different from those in the literature (e.g., Huang and Ritter (2009)) that only require net issue size to be at least 5% of assets. For better comparison, we report the results that only require net issue size to be at least 5% of assets in Table IA-3 in the Internet Appendix.

A two standard deviation increase in firm size increases the likelihood of debt issuance by 3.2% and decreases the likelihood of equity issuance by 6.1%. Older firms are less likely to issue equity, consistent with DDS' corporate lifecycle explanation. The economic effect of lagged leverage on equity issuance is 3.2%, consistent with the static tradeoff theory. Inconsistent with the tradeoff theory, however, the effect of lagged leverage on debt issuance is negligible.[14] This finding, together with our earlier finding of the primary importance of immediate cash depletion for debt issuance, is consistent with the findings in Denis and McKeon (2012), who conclude that most large debt issues are motivated by investment spending rather than a desire to rebalance capital structure. R&D intensity and industry cash flow volatility are positively related to equity issuance, and dividend payers are less likely to issue equity than non-payers.

Reverse-causality could also explain the importance of our ex post cash need measures (Baker, Stein, and Wurgler (2003)). That is, companies that raise external capital have a lower net cash flow (NCF) because they spend more and are less aggressive at controlling costs, compared to if they had not raised external capital. More generally, firms determine spending and financing jointly, and the joint determination can explain the importance of our ex post NCF measures. To alleviate such concerns, we use two alternative measures of projected NCFs. In regression (1) of Table 7, we replace the *actual* NCFs with the lagged NCF to define three dummy variables of cash depletion, denoted by the subscript "ex ante". Reassuringly, the ex ante measures of immediate and near-future cash depletion are the primary predictors for debt

[14] Furthermore, our results in Internet Appendix Table IA-4 suggest that adjusting towards the median leverage of firms in the same industry is not an important motive for a firm's decision to raise external capital. Many firms issue debt even when their book leverage is above the industry median, and many firms issue equity even when their leverage is below the industry median.

issuance and important predictors for equity issuance.[15] The economic effects of Immediate Depletion $_{ex\ ante}$ on debt and equity issuance are 13.3% and 7.5%, respectively, and the economic effects of Near Depletion $_{ex\ ante}$ are 7.0% and 6.6%, respectively.

The lagged spending and the current financing could be jointly determined, so there is still an endogeneity concern. To alleviate this additional concern, we use the fitted value from a regression to define the projected NCF in regression (2) of Table 7, as we did in Panel B of Table 2. Immediate cash depletion using the alternative NCF measure is still the most important predictor of debt issuance and an important predictor of equity issuance.

The economic effects of our control variables in Table 7 are sometimes quite different from those in Table 6. For example, the economic effect of the year t-1 stock return on debt issuance is 1.0% in Table 6, and 5.4% in regression (1) of Table 7. Such changes are partly because the correlations between the *actual* NCFs and the controls are different from the correlations between the *projected* NCFs and the controls.

4.2. The nature of cash needs and financing decisions

Cash depletion can be the result of a low initial cash balance, low internal cash flow (ICF), or large spending. The internal cash flow and various types of spending have different degrees of persistence.[16] Panel A of Table 8 distinguishes between loss-related and non-loss-related cash depletion in year t. In regression (1) when firms face immediate cash depletion based on the *actual* net cash flow, the likelihood of equity issuance increases substantially from 16.8% for firms with a non-negative ICF to 26.7% for firms with a negative ICF, while the

[15] Internet Appendix Table IA-5 uses Compustat quarterly data to examine the relation between cash depletion and external financing, with immediate being defined as the current quarter instead of the current year. The results using the quarterly data are qualitatively similar to the results using the annual data. Cash needs in the current quarter have a stronger relation with net debt or equity issuance than cash needs over the next four quarters. The relation between net debt issuance and the current quarter cash needs based on *actual* revenue and spending is especially strong.

[16] Low profitability might itself be driven by heavy investment in intangibles, such as R&D, which are typically expensed.

likelihood of debt issuance decreases from 64.2% to 52.2%. In regression (2) when firms face immediate cash depletion based on the lagged net cash flow, the likelihood of equity issuance increases from 6.2% for firms with a non-negative lagged ICF to 13.6% for firms with a negative lagged ICF, while the likelihood of debt issuance decreases from 13.9% to 10.9%. Consistent with our finding of the positive relation between profitability and debt issuance, Denis and McKeon (2012) find that covering reductions in operating profitability is the primary use of funds in only 4% of the 2,314 debt issues in their sample.

Panel B of Table 8 examines the relations between cash flow components and net issuance. Even after controlling for the cash flow components, the dummy variables for cash depletion are still strongly related to net debt or equity issuance in both regressions (3) and (4).[17] In regression (3), among the current cash flow components, investment has the strongest relation with debt issuance, and the cash flow components in t+1 and t+2 have negligible economic effects on debt issuance. The current investment also has a stronger relation with equity issuance than the other current cash flow components. Investment spending reported on the statement of cash flows includes capital expenditures, cash acquisition spending, and other investment spending. Internet Appendix Table IA-7 shows that, although cash acquisition spending is an important component of investment spending, firm-years with large cash acquisition spending do not drive the success of the current investment spending in predicting debt and equity issuance.

Among the lagged cash flow components in regression (4), the lagged investment has the strongest relation with debt issuance, but the lagged ICF has the strongest relation with equity issuance. The current investment has a much stronger relation with net issuance than the lagged

[17] The cash depletion dummy variables are correlated with the cash flow components. Internet Appendix Table IA-6 shows that excluding these dummy variables from the independent variables strengthens the relations between the cash flow components and net issuances, as expected.

investment does, partly because investment can vary substantially from t-1 to t. The current and lagged ICFs have a similarly strong relation with equity issuance, consistent with Denis and McKeon (2020). Overall, the results suggest that the persistence of cash needs is important for the choice between debt and equity financings. Firms with short-lived cash needs tend to issue debt, while firms with long-lived cash needs tend to issue equity.

In Table 9, we estimate a multinomial logit regression for the financing choice, conditional on external financing and immediate cash depletion. Small, growth, low profitability, and R&D-intensive firms are likely to have long-lived cash needs, and are thus expected to issue equity instead of debt to fund immediate cash needs and preserve the capacity for funding future cash needs. The results are consistent with these expectations. The lagged internal cash flow, Tobin's Q, the logarithm of net sales, and the stock return in t-1 are the most important explanatory variables and have the expected signs. These results suggest that debt and equity issuers have a very different nature of cash needs, as manifested by some of the firm characteristics, providing further support for the funding-horizon theory of financing decisions.[18] Equity issues are associated with a lower stock return from t+1 to t+3 than debt issues, consistent with the literature on the stock performance following debt and equity issuances.

4.3. Financing and cash changes

When firms do raise external capital, they could raise more than what they immediately spend for various reasons. Panel A of Table 10 reports regression results using the cash change in year t, scaled by $Assets_{t-1}$, as the dependent variable, with firm characteristics and market conditions being the independent variables. The regressions are estimated for the full sample, equity issue sample, and debt issue sample, respectively. Our results in Panel A are generally

[18] Firm characteristics vary across firms and across time. the pooled regressions in Tables 8 and 9 do not distinguish between the cross-sectional variations and the within-firm time-series variations.

consistent with the literature on optimal cash holdings (Opler, Pinkowitz, Stulz, and Williamson (1999)). In regressions (1) and (3), a higher lagged cash ratio is associated with a smaller cash increase. In all three regressions, the coefficients on the lagged Tobin's Q, R&D, stock return in t-1, the default spread, and industry cash flow volatility are positive and statistically significant, and the coefficients on the dividend payer dummy variable and firm age are negative and statistically significant. In regressions (1) and (2), the coefficient on lagged leverage is negative and statistically significant, perhaps because equity issuers with a high debt ratio can use the proceeds to retire debt instead of increasing cash.

In Panel B of Table 10, we relate the internal cash flow and external financing to the cash change. We expect a positive relation between net debt or net equity proceeds and the change in cash.[19] Regression (4) for our full sample suggests that an extra dollar in net equity proceeds is associated with a cash increase of 54.1 cents. Regression (5) for the net equity issue sample suggests that 62.9 cents of each dollar of net proceeds go to cash reserves.[20] The two numbers differ because the full sample includes firm-years in which an equity issue of less than 5% of assets or 3% of equity occurred. Kim and Weisbach (2008) find that each additional dollar raised in the SEO is on average associated with a cash balance increase of 53.4 cents in the fiscal year of the SEO. McLean (2011, Table 6) finds that each extra dollar of equity raised is related to a cash increase of 56.4 cents. Although equity issuance proceeds going to cash reserves are

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[19] Internet Appendix Table IA-8 shows that net debt or equity proceeds are positively correlated with the growth of non-cash assets in the issuance year and future cash needs. More cash may be needed to accompany the growth of non-cash assets, and large expected near-future cash needs incentivize issuers to create a cash reserve to avoid the fixed costs of raising capital again soon.

[20] How is the regression slope coefficient of 0.629 related to the mean of $\Delta Cash_t \div \Delta E_t$ of 0.31 in Panel B of Table 3? The regression equation is $\Delta Cash_t \div A_{t-1} = a + b(\Delta E_t \div A_{t-1}) + c(\Delta D_t \div A_{t-1}) + d(ICF_t \div A_{t-1}) + e_t$, where A_{t-1} denotes $Assets_{t-1}$. So $\Delta Cash_t \div \Delta E_t = b + [a + c(\Delta D_t \div A_{t-1}) + d(ICF_t \div A_{t-1}) + e_t] \div (\Delta E_t \div A_{t-1}) = b + a(A_{t-1} \div \Delta E_t) + c(\Delta D_t \div \Delta E_t) + d(ICF_t \div \Delta E_t) + e_t(A_{t-1} \div \Delta E_t)$. For our sample of equity issuers, the mean of $A_{t-1} \div \Delta E_t = 6.283$, the mean of $\Delta D_t \div \Delta E_t = 0.259$, the mean of $ICF_t \div \Delta E_t = 0.329$, and the mean of $e_t \div (\Delta E_t \div A_{t-1}) = 0.107$. So the mean of $\Delta Cash_t \div \Delta E_t = 0.629 - 0.088 \times 6.283 + 0.068 \times 0.259 + 0.316 \times 0.329 + 0.107 = 0.305$.

referred to as "savings" in these papers, our findings suggest that much of the proceeds is parked in the cash reserve only temporarily rather than being "saved" for the long run.

According to regressions (6) for the debt issue sample, there is an increase of 18.9 cents in cash for an extra dollar in net debt proceeds.[21] This finding, together with our earlier findings on cash depletion, suggests once again that net debt proceeds are primarily used for immediate spending rather than cash stockpiling. Perhaps because they are more profitable, net debt issuers keep a lower faction of the internal cash flow in cash than net equity issuers.

Near-future cash needs and fixed costs of financing help explain why the cash retention rate of equity issuers is so much higher than that of debt issuers. As we discussed earlier, equity issuers often have greater expected future cash needs and face more uncertainties on the terms of issuance than debt issuers. Fixed costs can be higher for equity issuance than for debt issuance, as equity is more information-sensitive than debt.

Panel C of Table 10 reports the results for subsamples of net equity and net debt issuers sorted by immediate cash depletion based on $\text{Cash}_{\text{ex post}}$. Even equity issuers that would otherwise deplete cash by the end of the year retain most of the equity proceeds in cash when they do issue. In contrast, firms that issue debt when running out of cash spend almost all of the proceeds. For firms that issue when running out of cash, 50.7 cents of each dollar of the net equity proceeds for equity issuers and 10.9 cents of each dollar of the net debt proceeds for debt issuers go to cash reserves. Net debt or equity issuers that would not deplete cash immediately even without external financing use almost all of the proceeds to increase cash reserves instead of using the proceeds to rebalance leverage. According to Table 2, 46.1% of the firms that issue net equity would not otherwise deplete cash immediately. For these equity issuers, the cash

[21] McLean and Palazzo (2018) focus on gross debt issues rather than net debt issues and find that the primary use of the gross proceeds of long-term debt issues is to repurchase other long-term debt.

retention rate is 80.2 cents of each dollar. For the 25.0% of firms that issue net debt and would not otherwise deplete cash immediately, the retention rate is 83.9 cents of each dollar.

Panel D of Table 10 shows the results for the subsamples based on Cash $_{\text{ex ante}}$. For the equity issue subsamples, the results using Cash $_{\text{ex ante}}$ are similar to those using Cash $_{\text{ex post}}$. For the subsample of firms that issue debt when not running out of cash, the fraction of the proceeds going to cash reserves is 23.6 cents of each dollar when using Cash $_{\text{ex ante}}$, compared to 83.9 cents of each dollar when using Cash $_{\text{ex post}}$. This difference is partly because firms with immediate and short-lived investment spending tend to issue debt.

Using R&D, industry cash flow volatility, and a dividend paying dummy variable as proxies for precautionary savings, McLean (2011) suggests a precautionary savings explanation for the high fraction of equity proceeds going to cash reserves. Denis and McKeon (2020) point out that the precautionary demand for cash has traditionally been framed in terms of uncertainty about future cash flows, but the increasing fraction of firms that are incurring persistent losses suggests that the demand for cash stems more from the expected level of cash flow than from its volatility. They show that 76 out of the 100 randomly selected firms with funding needs in the current year explicitly state in their 10-K filings that they expect funding needs in future years. Our Internet Appendix Table IA-9 shows that net equity issuers, especially those with high R&D, in industries with high cash flow volatility, and paying no dividend, have large average future cash needs. Large expected future cash needs, in the presence of high fixed costs of equity issuance, can explain why a high fraction of equity issuance proceeds go to cash reserves.

More cross-sectional analysis of the association between net issues and cash changes is needed. Are public offerings, with arguably higher fixed costs of financing, associated with a higher fraction of the proceeds being retained than private placements? What explains the substantial cross-sectional variation in the fraction of net debt proceeds going to cash reserves? Tables 11 and 12 address these important questions.

The dependent variable in Table 11 is the cash change scaled by beginning-of-year assets.[22] The independent variables include the interactions between the net issue size and other variables. Firms with larger anticipated future cash needs and more uncertainties are expected to raise more capital and keep more of the proceeds in cash. Our findings are generally consistent with these expectations. For both the net equity issue sample in regression (1) and the net debt issue sample in regression (2), Tobin's Q, the default spread, R&D intensity, and industry cash flow volatility are positively related to the fraction of the proceeds going to cash reserves, and dividend payers have a lower cash retention rate than non-payers. For equity issuers, leverage is negatively related to the fraction of the proceeds being retained, perhaps because high leverage firms can use the proceeds to retire existing debt instead of increasing cash. For debt issuers, leverage is also negatively related to the cash retention rate, somewhat unexpectedly. The lagged cash ratio is negatively associated with the retention rate for net debt issuers, although it is not true for net equity issuers.[23]

Our Table 12 examines how fixed costs of financing are related to the net issue size and the fraction of net proceeds going to cash reserves. Firms can raise equity capital through SEOs or PIPEs or, in the last several years of our sample period, At-The-Market (ATM) offerings, or raise debt capital through public bond offerings or bank financings.[24] Public offerings could have higher fixed costs than private placements. Bank financings often include revolving credit lines,

[22] In Internet Appendix Table IA-10, we also examine the determination of the net issue size.

[23] In Internet Appendix Table IA-11, we also control for firm characteristics and market conditions, in addition to the interactions between these variables and cash sources. We continue to find that proxies for future cash needs and uncertainties are positively related to the fraction of the issuance proceeds going to cash reserves.

[24] Similar to PIPEs, ATM offerings may have lower fixed costs than SEOs. Billett, Floros, and Garfinkel (2019) document that announced ATM issuance programs by non-regulated and non-financial firms grew from 8 programs in 2008 to 163 programs in 2016.

and the costs of drawing down the credit lines can be small. Bank-borrower relationships can also help lower the fixed costs. Therefore, we posit that SEOs are associated with a larger net equity issue size and a higher cash retention rate than PIPEs, and public bond offerings are associated with a larger net debt issue size and a higher cash retention rate than credit line financings. The results in Table 12 are generally consistent with these expectations. In this table, we do not apply our screens of 5% of assets and 3% of the market value of equity.

In Panel A of Table 12, we report the summary statistics of cash flow components for firms with different types of financing. Firms with an SEO and a PIPE in a year are associated with an average net equity issue size of 44.4% or 38.9% of assets, respectively. Even though 30.4% of the SEO firms and 68.4% of the PIPE firms have a negative internal cash flow that reduces cash, they have an average cash increase of 22.3% and 9.7% of assets, respectively. On average, PIPE firms are much less profitable and invest much less than SEO firms. The average net debt issue size as a percentage of assets is low for both public bond issuers and bank financing firms, partly because debt refinancing activity does not create a net debt issue. For both public bond issuers and bank financing firms, the average cash increase is only slightly above zero, perhaps for different reasons. The literature documents that firms that offer bonds publicly generally have stable profits and high credit quality, so they possibly have little need to increase cash reserves. The fixed costs of bank financing are likely low, allowing firms to borrow from banks on an as-needed basis and reducing the need for cash increases.

Panels B-E of Table 12 report the regression results. SEO firms and PIPE firms can have very different characteristics, and firms that offer public bonds and firms that borrow from banks can also be very different. We examine whether our major results are robust to whether additional controls are included or not.

Panel B of Table 12 suggests that SEO firms are associated with a larger net equity issue than PIPE firms. In regression (3), firms on average raise 22.8% more, as a percent of assets, in a year with an SEO than in a year with a PIPE (e.g., 52.8% with an SEO versus 30.0% with a PIPE), after controlling for other determinants. In all three regressions, Tobin's Q is the most important explanatory variable. Since both the dependent variable and Tobin's Q have assets at t-1 in the denominator, the positive coefficients on Tobin's Q are partly mechanical. Firms with larger total assets raise less capital as a percent of assets. Firms with a higher lagged cash ratio, especially SEO firms, raise more. For the sample of SEOs, other important explanatory variables include the stock return in t-1, R&D intensity, and leverage. For the sample of PIPEs, other important explanatory variables include R&D intensity, leverage, and net sales.

According to Panel C of Table 12, SEO firms are associated with a larger cash increase for each incremental dollar of net equity proceeds than PIPE firms. Regression (7) suggests that SEO firms are related to a fraction of the proceeds going to cash reserves that is 8.1% higher than PIPE firms (e.g., 68.1% versus 60.0%), after controlling for other determinants of cash changes, consistent with fixed costs of financing. Tobin's Q, the default spread, R&D intensity, and industry cash flow volatility are positively related to the cash retention rate, while the term spread and dividend paying status are negatively related to the cash retention rate. The coefficient on leverage is negative, perhaps because high leverage firms can use the newly issued equity to retire debt instead of increasing cash.

Panel D of Table 12 shows that a year with bank financing, especially when there is a new credit line arrangement, is related to a slightly smaller net debt increase than a year with a public bond offering. After controlling for other variables in regression (10), firms on average raise 2.3% less, as a percent of assets, in a bank financing year with no credit line arrangement than in a public bond offering year (e.g., 5.0% versus 7.3%). In firm-years with a credit line arrangement, the net debt issue size is even smaller. For the sample of public bond offerings in regression (8), leverage, R&D intensity, total assets, Tobin's Q, and the stock return in t-1 are important explanatory variables and their coefficients have the expected signs. The lagged cash ratio is also important, although the sign of its coefficient is positive, somewhat unexpectedly. In regressions (9) and (10), net sales, Tobin's Q, leverage, R&D intensity, and firm age are the most important explanatory variables and their coefficients have the expected signs.

In Panel E of Table 12, regression (14) suggests that firm-years with a credit line arrangement are associated with a cash retention rate of the net debt proceeds that is 18.6% lower than firm-years with a public bond offering (e.g., -8.6% versus 10.0%), after controlling for other variables, consistent with fixed costs of financing. However, there is no statistically significant difference in the fraction of the net debt proceeds going to cash reserves between firm-years with a public bond offering and those with banking financing but no credit line arrangement. Taken together, the two findings suggest that it is the credit line arrangement that reduces the need for cash reserves. The coefficients on other variables are generally consistent with the importance of future cash needs and market conditions. Tobin's Q, the interest rate spreads, leverage, and R&D intensity are positively related to the fraction of the net debt proceeds being retained, and the lagged cash ratio and dividend paying status are negatively related to the cash retention rate.

Consistent with the results in Table 10, the results in Panel C and Panel E of Table 12 suggest that the cash retention rates of net equity proceeds for SEO firms and PIPE firms are much higher than those of net debt proceeds for public bond issuers and bank financing firms, respectively. These findings are likely because SEO firms and PIPE firms are associated with greater future cash needs and higher fixed costs of financing than public bond issuers and bank financing firms.

5. Conclusions

Traditional capital structure theories that focus on the tax benefits of debt, bankruptcy costs, information asymmetry costs, market timing benefits, or issuance costs, or a combination of them, encounter significant challenges in explaining financing decisions and observed leverage ratios. We find that immediate cash needs are crucial for the decision to raise external capital, and that expected near-future cash needs are important for the decision on the fraction of the proceeds going to cash reserves. Furthermore, debt and equity issuers have very different firm characteristics, such as profitability and the type of investment, suggesting that their cash needs are of a very different nature. Our findings suggest that, when making financing decisions, firms are concerned about the opportunity costs of failing to meet cash needs. Our findings provide strong support for a funding-horizon theory, which posits that observed capital structures are the outcome of period-by-period financing decisions. External financing is motivated by cash needs, with firms with short-lived cash needs issuing debt and firms with long-lived cash needs issuing equity. Firms with persistent funding needs find equity issuance attractive because debt issuance is either unavailable, or would use up debt capacity, as in the model of DeAngelo, DeAngelo, and Whited (2011).

Given their *actual* revenue and spending, most firms that raise external capital in a fiscal year would have otherwise run out of cash by the end of the year if they had not raised external capital. This finding suggests that the opportunity costs of cash depletion, including the opportunity costs of forgoing or delaying positive NPV projects, are more important considerations than leverage deviation costs and market timing benefits for the decision to raise external capital. Thus, to be more credible, capital structure theories should incorporate historical cash needs and the opportunity costs of not meeting the needs.

Cash needs because of negative internal cash flows or spending on R&D (e.g., paying research scientists) can be more persistent than cash needs due to spending on tangible assets. We find that the nature of cash needs is highly important for the choice between debt and equity financings. Given their actual revenue and spending, although an overwhelming majority (75.0%) of firms with net debt issuance in a year would otherwise have faced immediate cash depletion, only 53.9% of firms with net equity issuance would have. Furthermore, among firms that would be running out of cash immediately based on their actual revenue and spending, the likelihood of net equity issuance is 18.3% for profitable firms and increases substantially to 48.2% for unprofitable firms, while the likelihood of net debt issuance decreases from 70.1% to 53.2%. The profitable firms that would be running out of cash typically have heavy investment spending that is not persistent. These findings suggest that debt financing is preferable for firms with immediate and short-lived cash needs due to investment spending rather than operating losses. In contrast, firms with long-lived cash needs, especially when cash needs are due to operating losses rather than investment spending, prefer equity over debt to fund immediate cash needs, so that they can avoid the opportunity costs of a reduced ability to fund future cash needs.

We also measure immediate cash needs based on projected values of revenue and spending using ex ante information to alleviate endogeneity concerns. The measures based on projected values are less strongly related to net issuance than those based on actual values, but the relations are still strong.

Expected near-future cash needs and fixed costs of financing can explain much of the variation in the fraction of issuance proceeds going to cash reserves. Proxies for near-future cash needs are positively related to the fraction of issuance proceeds being retained. Firm-years in which an SEO occurs are associated with a larger net equity issuance size and a higher fraction of the net equity proceeds going to cash reserves than firm-years in which a PIPE occurs, and firm-years with a public bond offering are associated with a larger net debt issue size and a higher fraction of the net debt proceeds going to cash reserves than firm-years with a new credit line arrangement.

To understand why most of the proceeds from equity issuance are used to increase cash reserves, McLean (2011) suggests a precautionary savings explanation based on the uncertainty of future cash needs. Our findings provide support for an explanation based on high fixed costs of equity issuance and large expected future cash needs. For many equity issuers, much of the proceeds is only temporarily parked in the cash reserve and will be used to meet expected cash needs in the near-future. Many of the firms that issue equity have a very high probability that internal cash flow will be insufficient to cover their spending not only this year, but in the years ahead. Our findings complement those of Denis and McKeon (2020), who emphasize that the demand for cash is more about the first moment of the distribution of a firm’s internal cash flow (anticipated future losses) than the second moment (uncertainty about future losses).

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Appendix I. Variable definitions

Following Frank and Goyal (2003), we set some Compustat items to zero when they are missing or their Compustat data codes indicate that they are a combined figure or an insignificant figure.

Variable name	Detailed definition
ΔD	The change in interest-bearing debt. For firms reporting format codes 1 to 3, ΔD = Long-Term Debt Issuance (Compustat item DLTIS) – Long-Term Debt Reduction (DLTR) – Current Debt Changes (DLCCH). For firms reporting format code 7, ΔD = DLTIS – DLTR + DLCCH.
ΔE	The change in equity from the statements of cash flow. ΔE = Sale of Common and Preferred Stock (SSTK) – Purchase of Common and Preferred Stock (PRSTKC).
ICF	Internal Cash Flow. For firms reporting format codes 1 to 3, ICF = Income Before Extraordinary Items (IBC) + Extraordinary Items and Discontinued Operations (XIDOC) + Depreciation and Amortization (DPC) + Deferred Taxes (Changes) (TXDC) + Equity in Net Loss (Earnings) (ESUBC) + Sale of Property Plant and Equipment and Investments Gain (Loss) (SPPIV) + Funds from Operations Other (FOPO) + Sources of Funds Other (FSRCO). For firms reporting format code 7, ICF = IBC + XIDOC + DPC + TXDC + ESUBC + SPPIV + FOPO + Accounts Payable and Accrued Liabilities Increase (Decrease) (APALCH).
Investments	For firms reporting format codes 1-3, Investments = Capital Expenditures (CAPX) + Increase in Investments (IVCH) + Acquisitions (AQC) + Uses of Funds Other (FUSEO) – Sale of Property (SPPE) – Sale of Investments (SIV). For firms reporting format code 7, investments = CAPX + IVCH + AQC – SPPE – SIV – Investing Activities Other (IVACO).
Cash Dividends	Cash Dividends (Cash Flow Statement) (DV).
ΔNWC	Change in Net Working Capital. For firms reporting format codes 1-3, ΔNWC = Working Capital Change Other (WCAPC) + Cash and Cash Equivalents Increase (Decrease) (CHECH). For firms reporting format code 7, ΔNWC = – Accounts Receivable Decrease (Increase) (RECCH) – Inventory Decrease (Increase) (INVCH) – Accounts Payable and Accrued Liabilities Increase (Decrease) (APALCH) – Income Taxes Accrued Increase (Decrease) (TXACH) – Assets and Liabilities Other Net Change (AOLOCH) + Cash and Cash Equivalents Increase (Decrease) (CHECH) – Change in Short-Term Investments (IVSTCH) – Financing Activities Other (FIAO).
$Assets_{t-1}$	The book value of assets (item AT) at the end of fiscal year t-1.
$Cash_{t-1}$	Cash and Short-Term Investments (CHE) at the end of year t-1.
$\Delta Cash_t$	$Cash_t - Cash_{t-1}$.
ΔNon-Cash NWC_t	$\Delta NWC_t - \Delta Cash_t$.
$\Delta Assets_t$	$Assets_t - Assets_{t-1}$.
ΔNon-Cash $Assets_t$	$\Delta Assets_t - \Delta Cash_t$.
NS_t	$Investments_t$ + ΔNon-Cash NWC_t + Cash $Dividends_t$.
NCF_t	$\Delta Cash_t - \Delta D_t - \Delta E_t$, or $ICF_t - NS_t$ when the cash flow identity is satisfied.
$Cash_{\text{ex post}}$	$Cash_{t-1} + NCF_t$ or $Cash_t - \Delta D_t - \Delta E_t$.
$Cash_{\text{ex ante}}$	$Cash_{t-1} + NCF_{t-1}$ or $2\times Cash_{t-1} - Cash_{t-2} - \Delta D_{t-1} - \Delta E_{t-1}$.

Appendix I Continued:

Variable name	Detailed definition
Tobin's Q_{t-1}	The sum of the market value of equity and the book value of debt (Common Shares Outstanding (CSHO) × Price Close Fiscal Year (PRCC_F) + Total liabilities (LT) + Liquidating Value of Preferred Stock (PSTKL) – Deferred Taxes and Investment Tax Credit (TXDITC)) at the end of fiscal year t-1÷ Assets_{t-1}. When PSTKL is missing, the redemption value (PSTKRV) is used. When PSTKRV is also missing, the carrying value (PSTK) is used.
Return_{t-1}	The total return on the firm's stock in fiscal year t-1.
$\text{Return}_{t+1,\ t+3}$	The total return on the firm's stock from fiscal year t+1 to fiscal year t+3. If the stock gets delisted before 3 years, the return until delisting is used.
Term Spread_{t-1} (%)	The percentage yield difference between ten- and one-year constant fixed maturity treasuries on the day immediately prior to the beginning of fiscal year t.
Default Spread_{t-1} (%)	The percentage yield difference between Moody's Baa and Aaa rated corporate bonds on the day immediately prior to the beginning of fiscal year t.
Ln(Sales)_{t-1}	The natural logarithm of net sales (SALE) during fiscal year t-1. Net sales is in $millions and is expressed in purchasing power at the end of 2010.
Ln(Assets)_{t-1}	The natural logarithm of assets (item AT) during fiscal year t-1. Assets is in $millions and is expressed in purchasing power at the end of 2010.
Ln(Age)_{t}	The natural logarithm of the number of years the firm has been listed on CRSP.
Leverage_{t-1}	The book value of debt (Total Liabilities (LT) + Minority Interest (MTB) – Deferred Taxes and Investment Tax Credit (TXDITC) + Liquidating Value of Preferred Stock (PSTKL) – Convertible Debt (DCVT)) ÷ the book value of total assets (AT) at the end of fiscal year t-1. Note that DCVT is set to zero if it is missing in Compustat.
$\text{R\&D}_{t-1}$	Research and Development expenses (XRD) in year t-1 scaled by beginning-of-year assets (AT). Firm-years for which this variable is missing are assigned a value of zero.
Industry Volatility_{t-1}	The average standard deviation of cash flow to assets of the firms with the same two-digit SIC code. Cash flow is defined as (Operating Income Before Depreciation (OIBDP) – Interest and Related Expense (XINT) – Income Taxes (TXT) – Common Dividends (DVC)) ÷ beginning-of-year assets. For each firm, the standard deviation of cash flow is computed for the ten years until the end of year t-1, requiring at least three years of non-missing data. This definition follows Bates, Kahle, and Stulz (2009).
Dividend Payer_{t-1}	A dummy variable that equals one if the firm pays a common dividend (DVC) in year t-1, and zero otherwise.
OIBD_{t-1}	Operating income before depreciation (OIBDP) in fiscal year t-1.
Industry Dummies	Dummy variables using Fama and French's 17 industry classification at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/. The historical SIC code from Compustat is used from 1987 and the CRSP historical SIC code is used prior to 1987. If both are missing, we use the header SIC code from Compustat.

Appendix II. Fitted value of net cash flow

This appendix reports the OLS regression results with $NCF_t \div Assets_{t-1}(\%)$ being the dependent variable. $NCF_t = \Delta Cash_t - \Delta D_t - \Delta E_t$ (or equivalently, ICF_t – $Investments_t$ $-\Delta$Non-Cash NWC_t – Cash $Dividends_t$ when the cash flow identity is satisfied). Median of $NCF_{t-1} \div Assets_{t-1}$ of a firm in year t-1 is defined as the median NCF ratio in year t-1 for a group of firms that are in the same industry (using Fama and French's 17 industry classification), tercile of Tobin's Q, and tercile of assets at the end of year t-1 as the firm. Median of $NCF_{t-1} \div Assets_{t-1}$ is assigned a missing value for about 10% of the firm-year observations when there are less than 10 firms in the group. Returns are measured as decimals (e.g., a 20% return is measured as 0.20) and spreads are measured as annual percentages. See Appendix I for detailed variable definitions. N denotes the number of firm-year observations. T-statistics are calculated using robust standard errors corrected for heteroskedasticity and clustering at the company level. ***, **, and * indicates significance at the 1%, 5%, and 10% level.

Independent variables	Coefficient	t-statistic
Median of $NCF_{t-1} \div Assets_{t-1}$	0.5***	20.2
Tobin's Q_{t-1}	-1.2***	-8.2
$Return_{t-1}$	-0.4	-1.4
$Return_{t+1,\ t+3}$	0.5***	3.0
Term $Spread_{t-1}$(%)	0.4***	3.3
Default $Spread_{t-1}$ (%)	-0.8***	-2.7
$Ln(Sales)_{t-1}$	1.6***	26.7
$Ln(Age)_t$	1.3***	12.8
$Leverage_{t-1}$	-4.3***	-9.5
$R\&D_{t-1}$	-33.3***	-19.6
Industry $Volatility_{t-1}$	4.1***	5.7
Dividend $Payer_{t-1}$	-1.3***	-7.6
Constant	-9.7***	-16.3
Industry dummies	Yes	
Year dummies	Yes	
N	111,485	
Adjusted R^2	15.5%	

Table 1. Sample distribution

This table reports the distribution of our sample of CRSP- and Compustat-listed firms from 1972-2013. Utility and financial firms are excluded. Panel A reports the distribution by financing or not and financing type. Panel B reports the distribution by cash depletion and financing or not. Panel C reports the likelihood of financing, conditional on cash depletion. Panel D reports the distribution by cash depletion and financing type. Panel E reports the likelihood of debt or equity issuance, conditional on ex post cash depletion and financing. Panel F reports the distribution by financing and the internal cash flow (ICF). Panel G reports the distribution by financing, cash depletion, and ICF. A firm is defined to have a pure equity issue if ($\Delta E_t \div Assets_{t-1} \geq 0.05$ and $\Delta E_t \div ME_{t-1} \geq 0.03$) and ($\Delta D_t \div Assets_{t-1} < 0.05$ or $\Delta D_t \div ME_{t-1} < 0.03$). A firm is defined to have a pure debt issue if ($\Delta E_t \div Assets_{t-1} < 0.05$ or $\Delta E_t \div ME_{t-1} < 0.03$) and ($\Delta D_t \div Assets_{t-1} \geq 0.05$ and $\Delta D_t \div ME_{t-1} \geq 0.03$). A firm is defined to have dual (both debt and equity) issues if ($\Delta E_t \div Assets_{t-1} \geq 0.05$ and $\Delta E_t \div ME_{t-1} \geq 0.03$) and ($\Delta D_t \div Assets_{t-1} \geq 0.05$ and $\Delta D_t \div ME_{t-1} \geq 0.03$). ΔD_t is the change in interest-bearing debt and ΔE_t is the change in equity from the statements of cash flow. $Assets_{t-1}$ and ME_{t-1} denote the book value of assets and the market value of equity at the end of t-1, respectively. Ex post cash depletion is defined as $Cash_{ex\ post} \leq 0$, where $Cash_{ex\ post} = Cash_{t-1} + NCF_t$. Ex ante cash depletion is defined as $Cash_{ex\ ante} \leq 0$, where $Cash_{ex\ ante} = Cash_{t-1} + NCF_{t-1}$. NCF denotes the net cash flow. N denotes the number of firm-year observations. % denotes the percent of firm-year observations in a group. See Appendix I for detailed variable definitions.

Panel A. Distribution by financing or not and financing type

	N	%
All firm-years	124,058	100.0
No external financing	87,852	70.8
Pure debt issue	23,054	18.6
Dual issue (issue of both debt and equity)	3,270	2.6
Pure equity issue	9,882	8.0

Panel B. Distribution by cash depletion and financing or not

	All firm years		No issue		Net debt or equity issue	
	N	%	N	%	N	%
$Cash_{ex\ post} \leq 0$	29,500	23.8	5,553	6.3	23,947	66.1
$Cash_{ex\ post} > 0$	94,558	76.2	82,299	93.7	12,259	33.9
$Cash_{ex\ ante} \leq 0$	34,655	27.9	19,560	22.3	15,095	41.7
$Cash_{ex\ ante} > 0$	89,403	72.1	68,292	77.7	21,111	58.3

Panel C. Likelihood of financing, conditional on cash depletion

	Running out of cash	Not running out of cash
$Cash_{ex\ post}$	23,947÷29,500 = 81.2%	12,259÷94,558 = 13.0%
$Cash_{ex\ ante}$	15,095÷34,655= 43.6%	21,111÷89,403 = 23.6%

Panel D. Distribution by cash depletion and financing type

	Pure debt issue		Dual issue		Pure equity issue	
	N	%	N	%	N	%
All	23,054	100.0	3,270	100.0	9,882	100.0
Cash $_{ex\ post}$≤0	16,859	73.1	2,876	88.0	4,212	42.6
Cash $_{ex\ post}$>0	6,195	26.9	394	12.0	5,670	57.4
Cash $_{ex\ ante}$≤0	9,255	40.1	1,878	57.4	3,962	40.1
Cash $_{ex\ ante}$>0	13,799	59.9	1,392	42.6	5,920	59.9

Panel E. Likelihood of financing type, conditional on ex post cash depletion and financing

Debt issue	19,735÷23,947 = 82.4%
Equity issue	7,088÷23,947 = 29.6%
Dual issue	2,876÷23,947 = 12.0%

Panel F: Distribution by financing and internal cash flow

	No issue		Debt issue		Equity issue	
	N	%	N	%	N	%
ICF_t<0	10,700	58.0	3,866	21.0	4,885	26.5
ICF_t≥0	77,152	73.0	22,458	21.3	8,267	7.8

Panel G: Distribution by financing, cash depletion, and internal cash flow

		Cash $_{ex\ post}$≤0		Cash $_{ex\ post}$>0		Cash $_{ex\ ante}$≤0		Cash $_{ex\ ante}$ >0	
		ICF_t<0	ICF_t≥0	ICF_t<0	ICF_t≥0	ICF_{t-1}<0	ICF_{t-1}≥0	ICF_{t-1}<0	ICF_{t-1}≥0
No issue	N	773	4,780	9,927	72,372	2,902	16,658	7,019	61,273
	%	*13.8*	*20.0*	*77.4*	*88.5*	*45.3*	*59.0*	*67.3*	*77.6*
Debt issue	N	2,985	16,750	881	5,708	1,694	9,439	1,231	13,960
	%	*53.2*	*70.1*	*6.9*	*7.0*	*26.4*	*33.4*	*11.8*	*17.7*
Equity issue	N	2,706	4,382	2,179	3,885	2,436	3,404	2,502	4,810
	%	*48.2*	*18.3*	*17.0*	*4.8*	*38.0*	*12.0*	*24.0*	*6.1*

Table 2. Cash, excess cash, and the likelihoods of cash depletion

Panel A reports the mean and median (in parentheses) cash and excess cash ratios. In computing the excess cash ratios, Median Cash Ratio for a firm at the end of year t is defined as the median cash ratio for a group of firms in the same industry (using Fama and French's 17 industry classification), tercile of Tobin's Q, and tercile of assets as the firm at the end of t, and it is assigned a missing value when there are less than 10 firms in the group. Panel B reports the likelihoods (in percent) of cash depletion and the likelihoods (in percent) of a subnormal cash ratio, sorted by financing. NCF denotes the net cash flow. Gross Equity Proceeds is Sale of Common and Preferred Stock (Compustat item SSTK). Fitted NCF_t equals $Assets_{t-1}$ times the fitted value from the regression using $NCF_t \div Assets_{t-1}$ as the dependent variable in Appendix II. See Appendices I and II and Table 1 for detailed variable definitions.

Panel A. Mean and median cash and excess cash ratios (%)

	No issue	Pure debt issue	Dual issue	Pure equity issue	Debt issue	Equity issue	All
$Cash_{t-1} \div Assets_{t-1}$	16.0	9.4	14.5	25.3	10.1	22.7	15.5
	(8.5)	(4.8)	(6.8)	(13.7)	(5.0)	(11.1)	(7.7)
$Cash_t \div Assets_t$	15.5	8.2	14.8	28.9	9.0	25.5	15.2
	(8.5)	(3.9)	(6.9)	(20.2)	(4.1)	(15.4)	(7.6)
$Cash_{t+1} \div Assets_{t+1}$	15.6	8.2	13.5	26.8	8.9	23.6	15.1
	(8.6)	(4.0)	(5.8)	(16.7)	(4.2)	(12.7)	(7.6)
$Cash_{t-1} \div Assets_{t-1}$	5.0	-0.0	0.3	4.9	0.0	3.8	3.9
$-$Median Cash $Ratio_{t-1}$	(0.5)	(-1.3)	(-1.6)	(-0.0)	(-1.3)	(-0.4)	(0.0)
$Cash_t \div Assets_t$	4.6	-0.3	1.9	8.8	-0.0	7.1	3.9
$-$Median Cash $Ratio_t$	(0.4)	(-1.4)	(-0.9)	(3.2)	(-1.4)	(1.4)	(0.0)
$Cash_{t+1} \div Assets_{t+1}$	4.6	-0.2	1.6	8.3	0.0	6.6	3.9
$-$Median Cash $Ratio_{t+1}$	(0.3)	(-1.4)	(-1.0)	(2.1)	(-1.3)	(0.6)	(-0.0)

Panel B. Likelihoods of cash depletion with alternative NCF and financing assumptions

	No issue	Debt issue	Equity issue
Immediate cash depletion (running out of cash at the end of t):			
(1) $Cash_t - \Delta D_t - \Delta E_t \leq 0$ ($=Cash_{t-1}+NCF_t \leq 0$)	6.3	75.0	53.9
(2) $Cash_{t-1} + NCF_{t-1} \leq 0$	22.3	42.3	44.4
(3) $Cash_{t-1}$+ Fitted $NCF_t \leq 0$	18.5	36.1	36.3
(4) $Cash_t -$Gross Equity $Proceeds_t \leq 0$ (McLean (2011))	3.9	14.6	59.0
Immediate subnormal cash ratio (< the median cash ratio at the end of t):			
(5) $(Cash_t - \Delta D_t - \Delta E_t) \div (Assets_t - \Delta D_t - \Delta E_t)<$Median Cash $Ratio_t$ or $Cash_{t-1}+NCF_t \leq 0$	36.2	88.5	76.3
(6) $(Cash_{t-1}+NCF_{t-1}) \div [Assets_{t-1} + (\Delta Assets_{t-1} - \Delta D_{t-1} - \Delta E_{t-1})] <$Median Cash $Ratio_{t-1}$ or $Cash_{t-1} + NCF_{t-1} \leq 0$	47.1	68.0	67.5
Near-term cash depletion (running out of cash at the end of t or t+1):			
(7) $Cash_t - \Delta D_t - \Delta E_t \leq 0$ or $Cash_{t-1}+NCF_t + NCF_{t+1} \leq 0$	18.9	83.2	72.5
(8) $Cash_{t-1} + NCF_{t-1} \leq 0$ or $Cash_{t-1}+2\times NCF_{t-1} \leq 0$	29.9	51.2	58.2
(9) $Cash_{t-1}$+Fitted $NCF_t \leq 0$ or $Cash_{t-1}+2\times$Fitted $NCF_t \leq 0$	29.2	50.2	56.3
(10) $Cash_{t+1} - \Delta E_t \leq 0$ (DDS)	2.8	12.1	59.4

Table 3. Summary statistics of cash and cash flow components (%)

This table reports the summary statistics of cash and the components of cash flows (%) for our sample of Compustat- and CRSP-listed firms from 1972-2013. ICF denotes the internal cash flow, and ΔNon-Cash NWC denotes the change in non-cash net working capital. NS denotes the net spending and equals Investments +ΔNon-Cash NWC +Cash Dividends. NCF denotes the net cash flow and equals ICF – NS. $Cash_{ex\ post} = Cash_{t-1} + NCF_t$, and $Cash_{ex\ ante} = Cash_{t-1} + NCF_{t-1}$. $Loss_t$ is a dummy variable that equals one if ICF_t is negative and equals zero otherwise. Panel A reports the means and medians (in parentheses) of the cash flow items (as % of the end of the prior fiscal year's assets) and the % (in brackets) of firms with $ICF_t<0$, categorized by financing in year t. Panel B reports the summary statistics of the net spending and the cash change, respectively, as a percent of ΔE_t for net equity issuers and as a percent of ΔD_t for net debt issuers. Panels C reports the serial correlations of ICF, NS, and NCF. Panel D reports the mean cash and cash flow components (%) for firms that also have cash flow data in t+1 and t+2, sorted by financing and cash depletion. See Appendix I and Table 1 for detailed variable definitions.

Panel A. Summary statistics of cash flow components (%) sorted by financing

VARIABLES	No issue	Pure debt issue	Dual issue	Pure equity issue	Debt issue	Equity issue	All
$\Delta D_t \div Assets_{t-1}$	-1.8	18.2	30.2	-4.7	19.7	4.0	2.5
	(-0.4)	(12.2)	(20.1)	(-1.3)	(12.8)	(-0.0)	(0.0)
$\Delta E_t \div Assets_{t-1}$	-0.4	-0.8	29.4	38.2	3.0	36.0	3.4
	(0.0)	(0.0)	(18.4)	(23.2)	(0.1)	(21.7)	(0.0)
$ICF_t \div Assets_{t-1}$	10.2	10.3	3.0	-1.6	9.4	-0.5	9.1
	(10.6)	(11.1)	(9.7)	(6.7)	(11.0)	(7.6)	(10.5)
	[12.2]	[12.4]	[31.0]	[39.2]	[14.7]	[37.1]	[14.9]
$Investments_t \div Assets_{t-1}$	6.5	20.5	40.8	14.3	23.0	20.9	10.7
	(5.4)	(15.3)	(31.6)	(8.4)	(16.4)	(11.8)	(6.8)
Cash $Dividends_t \div Assets_{t-1}$	1.3	1.1	0.7	0.5	1.0	0.5	1.1
	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
ΔNon-Cash $NWC_t \div Assets_{t-1}$	0.5	5.0	6.5	2.4	5.2	3.4	1.6
	(0.5)	(3.2)	(4.1)	(1.7)	(3.3)	(2.2)	(1.0)
$\Delta Cash_t \div Assets_{t-1}$	-0.1	1.2	10.6	15.1	2.3	14.0	1.6
	(0.0)	(0.1)	(2.5)	(4.6)	(0.2)	(3.9)	(0.2)
$\Delta Non\text{-}Cash_t \div Assets_{t-1}$	3.5	26.0	60.3	17.9	30.3	28.5	10.3
	(2.8)	(18.8)	(44.2)	(9.7)	(20.3)	(15.1)	(5.6)

Panel B. Net spending and cash change as a percentage of net financing amount

Equity issue (N=13,152)		Debt issue (N=26,324)	
Mean of $NS_t \div \Delta E_t$(%)	127.8	Mean of $NS_t \div \Delta D_t$(%)	188.6
% with $NS_t \div \Delta E_t > 0.5$	60.0	% with $NS_t \div \Delta D_t > 0.5$	90.0
% with $NS_t \div \Delta E_t > 1$	43.3	% with $NS_t \div \Delta D_t > 1$	80.3
Mean of $\Delta Cash_t \div \Delta E_t$(%)	31.0	Mean of $\Delta Cash_t \div \Delta D_t$(%)	6.9
% with $\Delta Cash_t > 0$	69.1	% with $\Delta Cash_t > 0$	54.8
% with $\Delta Cash_t \div \Delta E_t > 0.5$	32.3	% with $\Delta Cash_t \div \Delta D_t > 0.5$	15.0
% with $\Delta Cash_t \div \Delta E_t > 1$	13.1	% with $\Delta Cash_t \div \Delta D_t > 1$	6.5

Panel C. Persistence of internal cash flow, net spending, and net cash flow

	All	Debt issue	Equity issue
Correlation between ICF_{t-1}÷$Assets_{t-1}$ and ICF_t÷$Assets_{t-1}$	0.75	0.73	0.80
Correlation between ICF_t÷$Assets_{t-1}$ and ICF_{t+1}÷$Assets_{t-1}$	0.75	0.72	0.79
Correlation between ICF_{t+1}÷$Assets_{t-1}$ and ICF_{t+2}÷$Assets_{t-1}$	0.76	0.73	0.79
Correlation between $Loss_{t-1}$ and $Loss_t$	0.59	0.58	0.72
Correlation between $Loss_t$ and $Loss_{t+1}$	0.55	0.51	0.65
Correlation between $Loss_{t+1}$ and $Loss_{t+2}$	0.55	0.50	0.64
Correlation between NS_{t-1}÷$Assets_{t-1}$ and NS_t÷$Assets_{t-1}$	0.26	0.22	0.28
Correlation between NS_t÷$Assets_{t-1}$ and NS_{t+1}÷$Assets_{t-1}$	0.37	0.38	0.40
Correlation between NS_{t+1}÷$Assets_{t-1}$ and NS_{t+2}÷$Assets_{t-1}$	0.44	0.50	0.51
Correlation between NCF_{t-1}÷$Assets_{t-1}$ and NCF_t÷$Assets_{t-1}$	0.35	0.27	0.42
Correlation between NCF_t÷$Assets_{t-1}$ and NCF_{t+1}÷$Assets_{t-1}$	0.34	0.28	0.40
Correlation between NCF_{t+1}÷$Assets_{t-1}$ and NCF_{t+2}÷$Assets_{t-1}$	0.35	0.38	0.47

Panel D. Mean cash and cash flow components (%) sorted by financing and cash depletion

	Debt issue		Equity issue		Debt issue		Equity issue	
	Cash ex post		Cash ex post		Cash ex ante		Cash ex ante	
	>0	≤0	>0	≤0	>0	≤0	>0	≤0
$Cash_{t-1}$÷$Assets_{t-1}$	18.9	6.8	31.5	13.5	13.4	5.0	30.1	11.3
$\Delta Cash_t$÷$Assets_{t-1}$	7.5	0.8	20.2	10.0	2.2	2.9	17.4	11.3
ICF_{t-1}÷$Assets_{t-1}$	9.0	9.1	-3.2	-2.4	10.7	6.7	-0.0	-6.3
ICF_t÷$Assets_{t-1}$	10.5	9.8	1.5	-0.4	11.4	8.1	2.0	-1.5
ICF_{t+1}÷$Assets_{t-1}$	12.1	12.2	2.5	3.3	13.3	10.6	3.8	1.8
ICF_{t+2}÷$Assets_{t-1}$	13.8	14.1	3.6	5.7	14.9	12.8	5.0	4.3
NCF_{t-1}÷$Assets_{t-1}$	-2.7	-7.4	-12.7	-18.7	1.8	-17.6	-5.9	-28.8
NCF_t÷$Assets_{t-1}$	-5.7	-24.7	-8.5	-40.5	-18.5	-21.8	-22.3	-29.5
NCF_{t+1}÷$Assets_{t-1}$	-7.6	-9.9	-19.7	-29.8	-7.0	-12.6	-22.5	-28.4
NCF_{t+2}÷$Assets_{t-1}$	-6.0	-9.3	-20.1	-28.7	-6.3	-11.5	-21.8	-28.4

Table 4. Means and medians of control variables

This table reports the means and medians (in parentheses) of the control variables for the subgroups sorted by financing in Panel A and sorted by cash depletion in Panel B. See Appendix I and Table 1 for detailed variable definitions.

Panel A. Sorted by financing

VARIABLES	No issue	Pure debt issue	Dual issue	Pure equity issue
Tobin's Q_{t-1}	1.6	1.6	2.1	2.7
	(1.2)	(1.3)	(1.7)	(1.9)
$Return_{t-1}$(%)	16.6	22.5	45.7	43.4
	(5.0)	(11.2)	(19.9)	(13.9)
$Return_{t+1, t+3}$(%)	59.1	43.8	9.2	15.1
	(28.6)	(14.5)	(-26.1)	(-19.1)
Term $Spread_{t-1}$(%)	1.2	1.0	1.1	1.3
	(1.3)	(0.9)	(0.9)	(1.3)
Default $Spread_{t-1}$(%)	1.1	1.1	1.1	1.1
	(1.0)	(1.0)	(1.0)	(1.0)
$Ln(Sales)_{t-1}$	6.0	5.9	4.7	4.2
	(5.9)	(5.8)	(4.7)	(4.2)
$Ln(Age)_{t}$	2.5	2.4	2.0	2.1
	(2.5)	(2.4)	(2.0)	(2.0)
$Leverage_{t-1}$(%)	44.9	49.4	54.2	47.6
	(43.7)	(48.1)	(52.1)	(44.6)
$R\&D_{t-1}$ (%)	3.8	2.6	6.4	12.1
	(0.0)	(0.0)	(0.0)	(3.1)
Industry $Volatility_{t-1}$ (%)	19.8	16.9	21.5	27.2
	(13.0)	(11.3)	(15.3)	(22.4)
Dividend $Payer_{t-1}$ (%)	47.3	45.6	23.2	16.9

Panel B. Sorted by cash depletion

	Ex post cash depletion ($Cash_{ex\ post} \leq 0$)		Ex ante cash depletion ($Cash_{ex\ ante} \leq 0$)	
VARIABLES	No	Yes	No	Yes
Tobin's Q_{t-1}	1.7	1.8	1.7	1.6
	(1.3)	(1.3)	(1.3)	(1.2)
$Return_{t-1}$(%)	18.4	27.7	24.6	10.5
	(5.6)	(11.6)	(9.7)	(-0.9)
$Return_{t+1, t+3}$(%)	57.2	32.9	54.5	43.4
	(26.8)	(3.5)	(25.5)	(11.5)
Term $Spread_{t-1}$(%)	1.2	1.0	1.2	1.0
	(1.3)	(0.9)	(1.3)	(0.9)
Default $Spread_{t-1}$(%)	1.1	1.1	1.1	1.1
	(1.0)	(1.0)	(1.0)	(1.0)
$Ln(Sales)_{t-1}$	5.9	5.5	5.9	5.5
	(5.8)	(5.5)	(5.8)	(5.5)
$Ln(Age)_{t}$	2.5	2.3	2.5	2.3
	(2.5)	(2.3)	(2.5)	(2.3)
$Leverage_{t-1}$(%)	44.5	51.6	43.4	53.6
	(42.9)	(50.2)	(41.5)	(52.3)
$R\&D_{t-1}$ (%)	4.5	3.5	4.6	3.6
	(0.2)	(0.0)	(0.3)	(0.0)
Industry $Volatility_{t-1}$ (%)	20.8	16.9	20.8	17.4
	(14.5)	(11.4)	(14.5)	(11.6)
Dividend $Payer_{t-1}$ (%)	45.0	40.6	45.4	40.3

Table 5. Likelihoods of debt and equity issues sorted by firm characteristics

This table reports the likelihoods (in percent) of net debt and equity issues in year t for the subgroups sorted by firm characteristics and market conditions. The cutoff points are determined each fiscal year. See Appendix I and Table 1 for detailed variable definitions.

	No issue	Debt issue	Equity issue
$Cash_{t-1}$÷$Assets_{t-1}$ Quartile:			
1 (low)	66.6	27.1	8.9
2	68.1	25.4	9.4
3	72.8	20.2	9.6
4 (high)	75.8	12.1	14.5
$Cash_{ex\ post}$÷$Assets_{t-1}$ Quartile:			
1	23.1	62.9	23.2
2	83.0	11.6	6.0
3	88.4	6.2	5.8
4	88.8	4.1	7.3
$Cash_{ex\ ante}$÷$Assets_{t-1}$ Quartile:			
1	56.4	31.6	17.5
2	70.8	23.3	8.0
3	75.5	18.6	7.5
4	80.5	11.5	9.4
NCF_{t-1}÷$Assets_{t-1}$ Quartile:			
1 (low)	55.4	28.3	22.4
2	70.8	22.7	8.6
3	77.3	18.3	5.6
4 (high)	79.8	15.6	5.8
NCF_{t}÷$Assets_{t-1}$ Quartile:			
1 (low)	27.5	55.0	27.3
2	71.1	22.5	6.7
3	92.3	4.2	3.6
4 (high)	92.4	3.1	4.7
NCF_{t+1}÷$Assets_{t-1}$ Quartile:			
1 (low)	54.1	28.4	23.8
2	73.6	20.5	7.4
3	79.7	16.7	4.5
4 (high)	75.9	19.3	6.5
NCF_{t+2}÷$Assets_{t-1}$ Quartile:			
1 (low)	58.3	25.6	21.6
2	75.1	19.2	7.2
3	77.8	18.3	5.2
4 (high)	72.7	21.4	7.8

	No issue	Debt issue	Equity issue
$OIBD_{t-1}$÷$Assets_{t-2}$ Quartile:			
1 (low)	67.1	17.2	19.6
2	75.3	19.7	6.9
3	71.0	24.1	7.1
4 (high)	69.8	23.9	9.0
ICF_{t-1}÷$Assets_{t-2}$ Quartile:			
1 (low)	67.1	17.5	19.2
2	74.2	20.7	6.8
3	72.0	23.3	6.9
4 (high)	70.0	23.3	9.4
ICF_{t}÷$Assets_{t-1}$ Quartile:			
1 (low)	65.1	20.6	18.2
2	75.1	20.2	6.2
3	73.8	21.6	6.5
4 (high)	69.2	22.4	11.4
$Investments_{t-1}$÷$Assets_{t-2}$ Quartile:			
1 (low)	76.5	14.7	10.6
2	75.8	17.3	8.4
3	71.8	21.7	8.4
4 (high)	59.1	31.0	14.9
$Investments_{t}$÷$Assets_{t-1}$ Quartile:			
1 (low)	84.0	8.5	8.3
2	82.5	11.2	7.1
3	75.1	18.0	8.0
4 (high)	41.7	47.1	19.0
$\Delta Cash_{t}$÷$Assets_{t-1}$ Quartile:			
1 (low)	75.5	18.5	8.0
2	73.6	22.2	5.8
3	71.6	23.3	7.2
4 (high)	62.6	20.8	21.4
ΔNon-Cash $Assets_{t}$÷$Assets_{t-1}$ Quartile:			
1 (low)	84.8	8.0	8.3
2	84.7	9.6	6.2
3	72.8	20.6	7.6
4 (high)	40.9	46.8	20.3

Table 5 Continued:

	No issue	Debt issue	Equity issue		No issue	Debt issue	Equity issue
Tobin's Q_{t-1} Quartile:				$Ln(Sales)_{t-1}$ Quartile:			
1 (low)	79.3	17.5	4.3	1 (low)	63.2	20.2	21.1
2	72.4	22.4	7.4	2	70.8	21.9	9.9
3	67.5	24.6	11.2	3	72.5	22.6	7.1
4 (high)	64.0	20.5	19.5	4 (high)	76.8	20.2	4.4
Stock $Return_{t-1}$ Quartile:				Age_t Quartile:			
1 (low)	72.8	18.5	11.1	1 (young)	63.4	24.1	16.7
2	73.8	20.3	7.7	2	69.0	21.7	12.3
3	72.2	21.8	8.3	3	72.8	20.3	9.0
4 (high)	64.4	24.3	15.3	4 (old)	77.9	18.8	4.5
Stock $Return_{t+1, t+3}$ Quartile:				$Leverage_{t-1}$ Quartile:			
1 (low)	60.1	26.1	18.8	1 (low)	77.1	14.1	10.4
2	72.3	20.5	9.3	2	70.5	22.5	9.5
3	75.7	19.2	6.8	3	68.9	24.1	9.7
4 (high)	75.1	19.0	7.5	4 (high)	66.7	24.2	12.8
Term $Spread_{t-1}$ Quartile:				$R\&D_{t-1}$ Group:			
1 (low)	71.5	20.5	10.5	0 (zero or missing)	69.1	24.8	9.1
2	73.6	21.3	6.9	1 (low)	76.0	19.1	6.5
3	65.5	26.1	12.1	2 (high)	69.3	15.8	17.7
4 (high)	71.0	20.2	11.5	Industry $Volatility_{t-1}$ Quartile:			
Default $Spread_{t-1}$ Quartile:				1 (low)	73.4	22.4	6.2
1 (low)	71.6	20.5	10.3	2	71.3	21.9	9.4
2	68.6	23.1	11.4	3	69.8	20.5	12.7
3	67.6	25.4	9.9	4 (high)	68.2	19.8	15.3
4 (high)	71.8	20.1	10.7	Dividend $Payer_{t-1}$:			
				0 (Non-payer)	66.5	21.6	15.4
				1 (Payer)	76.3	20.7	4.5

Table 6. Cash depletion and multinomial logit for financing decisions

This table reports the economic effect of multinomial logit regression results for the decision to issue only debt, only equity, both debt and equity, or neither debt nor equity (the base case), using *actual* net cash flows (NCFs). Immediate Depletion equals one if $Cash_{t-1} + NCF_t \leq 0$, and equals zero otherwise. Near Depletion equals one if $Cash_{t-1} + NCF_t > 0$ and $Cash_{t-1} + NCF_t + NCF_{t+1} \leq 0$, and equals zero otherwise. Medium Depletion equals one if $Cash_{t-1} + NCF_t > 0$, $Cash_{t-1} + NCF_t + NCF_{t+1} > 0$, and $Cash_{t-1} + NCF_t + NCF_{t+1} + NCF_{t+2} \leq 0$, and equals zero otherwise. This table reports the economic effects and the z-statistics (in italic) of the coefficients using robust standard errors corrected for heteroskedasticity and clustering at the firm level. To compute the economic effect of a variable on pure equity issuance, for example, we add one standard deviation of this variable to its actual values but keep the actual values of other variables, and compute the predicted average likelihood of pure equity issuance using the coefficients. We also subtract its actual values by one standard deviation and compute the predicted average likelihood. The change in the predicted average likelihood is the economic effect. The industry and year dummy variables and the intercept are among the independent variables, but their economic effects and z-statistics are not reported. See Table 1 and Appendix I for detailed variable definitions. N denotes the number of firm-year observations of Compustat-listed firms from 1972-2013.

	Pure debt issue		Dual issue		Pure equity issue		Debt issue	Equity issue
VARIABLES	Econ. effect	*z-stat.*	Econ. effect	*z-stat.*	Econ. effect	*z-stat.*	Econ. effect	Econ. effect
Regression: N = 109,535, Pseudo R^2 = 32.8%								
Immediate Depletion	51.8	*135.3*	11.7	*46.3*	6.9	*75.5*	63.5	18.6
Near Depletion	5.4	*35.4*	5.9	*18.1*	5.2	*34.5*	11.3	11.1
Medium Depletion	1.7	*12.4*	3.8	*8.6*	2.3	*14.1*	5.5	6.1
Tobin's Q_{t-1}	-2.5	*-6.1*	0.0	*-0.6*	1.9	*8.3*	-2.5	1.9
$Return_{t-1}$	0.4	*2.9*	0.6	*2.8*	1.2	*5.6*	1.0	1.8
$Return_{t+1, t+3}$	1.1	*-0.6*	-0.7	*-4.4*	-2.1	*-7.6*	0.4	-2.8
Term $Spread_{t-1}$ (%)	-0.3	*0.1*	0.5	*1.9*	0.0	*0.2*	0.2	0.5
Default $Spread_{t-1}$ (%)	-1.2	*0.6*	1.0	*4.0*	2.9	*6.2*	-0.2	3.9
$Ln(Sales)_{t-1}$	4.1	*5.4*	-0.9	*-7.1*	-5.2	*-20.8*	3.2	-6.1
$Ln(Age)_t$	-0.9	*-8.7*	-1.0	*-12.0*	-1.8	*-12.0*	-1.9	-2.8
$Leverage_{t-1}$	-1.5	*-0.7*	1.0	*12.3*	2.2	*14.1*	-0.5	3.2
$R\&D_{t-1}$	-1.8	*-0.9*	0.8	*9.2*	3.0	*20.2*	-1.0	3.8
Industry $Volatility_{t-1}$	0.5	*3.5*	0.6	*4.7*	1.4	*6.4*	1.1	2.0
Dividend $Payer_{t-1}$	-0.1	*-4.6*	-0.5	*-6.3*	-2.5	*-12.0*	-0.6	-3.0

Table 7. Alternative cash depletion measures and multinomial logit for financing decisions

This table reports the multinomial logit regression results for the decision to issue only debt, only equity, both debt and equity, or neither debt nor equity (the base case), using *projected* net cash flows (NCFs). The dummy variables of cash depletion are defined by replacing NCF_t, NCF_{t+1}, and NCF_{t+2} in Table 6 with either NCF_{t-1} or the fitted NCF_t. The fitted NCF_t equals $Assets_{t-1}$×the fitted value of the dependent variable of the regression in Appendix II. The industry and year dummy variables and the intercept are among the independent variables, but their economic effects and z-statistics are not reported. See Appendix I, Table 1, and Table 6 for detailed variable definitions and economic effect calculations.

	Pure debt issue		Dual issue		Pure equity issue		Debt issue	Equity issue
VARIABLES	Econ. eff.	*z-stat.*	Econ. eff.	*z-stat.*	Econ. eff.	*z-stat.*	Econ. eff.	Econ. eff.
Regression (1): N = 124,058, Pseudo R^2 = 10.7%								
Immediate Depletion $_{ex\ ante}$	10.1	*40.5*	3.2	*30.9*	4.3	*31.2*	13.3	7.5
Near Depletion $_{ex\ ante}$	4.7	*15.1*	2.3	*14.9*	4.3	*19.6*	7.0	6.6
Medium Depletion $_{ex\ ante}$	2.0	*5.2*	0.8	*4.2*	2.9	*9.5*	2.8	3.7
Tobin's Q_{t-1}	-2.3	*-4.9*	0.2	*2.4*	2.1	*13.2*	-2.1	2.3
$Return_{t-1}$	4.5	*11.9*	0.9	*6.1*	2.0	*10.1*	5.4	2.9
$Return_{t+1,\ t+3}$	-2.1	*-8.1*	-1.7	*-7.2*	-2.8	*-10.7*	-3.8	-4.5
Term $Spread_{t-1}$ (%)	-0.3	*-0.2*	0.6	*2.3*	-0.1	*-0.1*	0.3	0.5
Default $Spread_{t-1}$ (%)	-0.7	*0.2*	0.7	*2.9*	2.8	*6.1*	0.0	3.5
$Ln(Sales)_{t-1}$	1.7	*0.1*	-1.3	*-13.3*	-5.8	*-26.8*	0.4	-7.1
$Ln(Age)_t$	-3.0	*-14.7*	-1.4	*-14.2*	-1.9	*-12.7*	-4.4	-3.3
$Leverage_{t-1}$	2.3	*12.0*	1.4	*20.8*	2.7	*20.7*	3.7	4.1
$R\&D_{t-1}$	-5.1	*-9.1*	0.6	*5.9*	3.1	*19.8*	-4.5	3.7
Industry $Volatility_{t-1}$	-1.8	*-3.7*	0.0	*0.1*	1.1	*3.5*	-1.8	1.1
Dividend $Payer_{t-1}$	0.3	*40.5*	-0.5	*30.9*	-2.5	*31.2*	-0.2	-3.0
Regression (2): N = 114,485, Pseudo R^2 = 9.9%								
Immediate Depletion $_{fitted\ NCF}$	11.5	*30.0*	1.4	*12.6*	2.0	*12.7*	12.9	3.4
Near Depletion $_{fitted\ NCF}$	6.9	*17.6*	0.9	*7.6*	2.0	*10.3*	7.8	2.9
Medium Depletion $_{fitted\ NCF}$	3.7	*8.3*	0.6	*4.3*	1.4	*6.4*	4.3	2.0
Tobin's Q_{t-1}	-2.2	*-4.6*	0.1	*1.6*	2.1	*12.0*	-2.1	2.2
$Return_{t-1}$	2.9	*8.0*	0.6	*3.8*	1.3	*6.9*	3.5	1.9
$Return_{t+1,\ t+3}$	-1.2	*-5.2*	-1.8	*-6.2*	-3.1	*-9.5*	-3.0	-4.9
Term $Spread_{t-1}$ (%)	0.5	*0.9*	0.5	*1.9*	0.0	*0.3*	1.0	0.5
Default $Spread_{t-1}$ (%)	-0.9	*-0.1*	0.9	*3.3*	2.8	*5.8*	0.0	3.7
$Ln(Sales)_{t-1}$	5.0	*8.2*	-1.4	*-10.9*	-6.3	*-24.1*	3.6	-7.7
$Ln(Age)_t$	-2.0	*-9.7*	-1.5	*-13.2*	-2.0	*-11.0*	-3.5	-3.5
$Leverage_{t-1}$	1.0	*6.1*	1.6	*19.3*	2.9	*18.3*	2.6	4.5
$R\&D_{t-1}$	-5.9	*-9.7*	0.6	*5.1*	3.2	*18.0*	-5.3	3.8
Industry $Volatility_{t-1}$	-1.3	*-2.1*	0.1	*1.0*	1.4	*4.3*	-1.2	1.5
Dividend $Payer_{t-1}$	-0.6	*-3.8*	-0.3	*-3.7*	-2.6	*-11.3*	-0.9	-2.9

Table 8. The nature of cash depletion and multinomial logit for financing decisions

This table reports the multinomial logit regression results on the decision to issue only debt, only equity, both debt and equity, or neither debt nor equity (the base case). Panel A shows the results on the interactions between profitability and cash depletion. Panel B shows the results on the cash flow components. $Loss_t$ equals one if the internal cash flow in year t is negative, and equals zero otherwise. The industry and year dummy variables and the intercept are among the independent variables, but their economic effects and z-statistics are not reported. See Appendix I, Tables 1, 6, and 7 for detailed variable definitions and economic effect calculations.

Panel A. Internal cash flow and cash depletion

	Pure debt issue		Dual issue		Pure equity issue		Debt issue	Equity issue
VARIABLES	Econ. eff.	*z-stat.*	Econ. eff.	*z-stat.*	Econ. eff.	*z-stat.*	Econ. eff.	Econ. eff.
Regression (1): N = 109,535, Pseudo R^2 = 32.9%								
Immediate Depletion ×$Loss_t$	33.5	*70.5*	18.7	*42.6*	8.0	*52.0*	52.2	26.7
Immediate Depletion ×($1–Loss_t$)	51.3	*131.1*	12.9	*45.7*	3.9	*67.3*	64.2	16.8
Near Depletion	5.4	*35.4*	5.9	*18.0*	5.3	*35.1*	11.3	11.2
Medium Depletion	1.7	*12.3*	3.8	*8.6*	2.4	*14.5*	5.5	6.2
Tobin's Q_{t-1}	-2.2	*-5.4*	0.0	*-0.6*	1.7	*7.5*	-2.2	1.7
$Return_{t-1}$	0.1	*2.4*	0.6	*2.9*	1.3	*5.8*	0.7	1.9
$Return_{t+1, t+3}$	0.9	*-0.8*	-0.7	*-4.4*	-2.0	*-7.5*	0.2	-2.7
Term $Spread_{t-1}$ (%)	-0.3	*0.0*	0.5	*1.9*	0.0	*0.2*	0.2	0.5
Default $Spread_{t-1}$ (%)	-1.2	*0.6*	1.0	*4.0*	2.8	*6.1*	-0.2	3.8
$Ln(Sales)_{t-1}$	3.5	*4.3*	-0.8	*-6.7*	-4.7	*-19.0*	2.7	-5.5
$Ln(Age)_t$	-0.8	*-8.4*	-1.0	*-12.0*	-1.9	*-12.2*	-1.8	-2.9
$Leverage_{t-1}$	-1.3	*-0.0*	1.0	*12.2*	2.0	*13.2*	-0.3	3.0
$R\&D_{t-1}$	-1.5	*-0.1*	0.8	*9.6*	2.9	*20.2*	-0.7	3.7
Industry $Volatility_{t-1}$	0.5	*3.5*	0.6	*4.7*	1.4	*6.4*	1.1	2.0
Dividend $Payer_{t-1}$	-0.1	*-4.6*	-0.5	*-6.0*	-2.4	*-11.7*	-0.6	-2.9
Regression (2): N = 124,058, Pseudo R^2 = 10.8%								
Immediate Depletion $_{ex\ ante}$ ×$Loss_{t-1}$	5.0	*14.1*	5.9	*25.4*	7.7	*27.4*	10.9	13.6
Immediate Depletion $_{ex\ ante}$ ×($1 – Loss_{t-1}$)	10.7	*40.2*	3.2	*27.3*	3.0	*23.6*	13.9	6.2
Near Depletion $_{ex\ ante}$	4.6	*15.1*	2.4	*15.2*	4.5	*20.4*	7.0	6.9
Medium Depletion $_{ex\ ante}$	1.9	*5.1*	0.8	*4.4*	3.0	*10.1*	2.7	3.8
Tobin's Q_{t-1}	-2.1	*-4.5*	0.1	*1.9*	2.0	*12.2*	-2.0	2.1
$Return_{t-1}$	4.3	*11.6*	1.0	*6.3*	2.1	*10.4*	5.3	3.1
$Return_{t+1, t+3}$	-2.2	*-8.2*	-1.6	*-7.2*	-2.7	*-10.5*	-3.8	-4.3
Term $Spread_{t-1}$ (%)	-0.3	*-0.2*	0.6	*2.3*	-0.1	*-0.1*	0.3	0.5
Default $Spread_{t-1}$ (%)	-0.6	*0.3*	0.7	*2.8*	2.7	*6.0*	0.1	3.4
$Ln(Sales)_{t-1}$	1.2	*-0.8*	-1.2	*-11.8*	-5.2	*-24.2*	0.0	-6.4
$Ln(Age)_t$	-3.0	*-14.5*	-1.4	*-14.4*	-2.0	*-13.0*	-4.4	-3.4
$Leverage_{t-1}$	2.6	*12.6*	1.3	*19.6*	2.4	*19.2*	3.9	3.7
$R\&D_{t-1}$	-4.9	*-8.8*	0.6	*5.7*	3.0	*19.4*	-4.3	3.6
Industry $Volatility_{t-1}$	-1.8	*-3.6*	0.0	*-0.0*	1.1	*3.4*	-1.8	1.1
Dividend $Payer_{t-1}$	0.2	*-1.5*	-0.4	*-4.4*	-2.5	*-11.2*	-0.2	-2.9

Panel B. Cash flow components

VARIABLES	Pure debt issue		Dual issue		Pure equity issue		Debt issue	Equity issue
	Econ. eff.	*z-stat.*	Econ. eff.	*z-stat.*	Econ. eff.	*z-stat.*	Econ. eff.	Econ. eff.
Regression (3): N = 109,456, Pseudo R^2 = 38.6%								
Immediate Depletion	32.6	*63.3*	3.8	*27.1*	4.7	*33.8*	36.4	8.5
Near Depletion	3.9	*18.4*	2.8	*11.5*	0.8	*10.0*	6.7	3.6
Medium Depletion	0.9	*6.5*	2.2	*5.9*	0.2	*4.2*	3.1	2.4
$Cash_{t-1}$÷$Assets_{t-1}$	-2.5	*-7.7*	-0.9	*-8.2*	-0.4	*-5.5*	-3.4	-1.3
ICF_{t}÷$Assets_{t-1}$	-10.7	*-26.4*	-2.8	*-28.5*	-2.9	*-20.2*	-13.5	-5.7
$Investments_{t}$÷$Assets_{t-1}$	22.8	*42.9*	3.5	*48.6*	5.4	*31.6*	26.3	8.9
ΔNon-Cash NWC_{t}÷$Assets_{t-1}$	10.0	*33.8*	1.8	*32.7*	2.0	*23.1*	11.8	3.8
Cash $Dividends_{t}$÷$Assets_{t-1}$	4.3	*12.1*	0.2	*3.7*	-0.9	*0.5*	4.5	-0.7
ICF_{t+1}÷$Assets_{t-1}$	1.3	*1.9*	-0.2	*-1.4*	-1.2	*-3.6*	1.1	-1.4
$Investments_{t+1}$÷$Assets_{t-1}$	-1.0	*0.7*	0.4	*7.3*	2.5	*14.6*	-0.6	2.9
ΔNon-Cash NWC_{t+1}÷$Assets_{t-1}$	-0.5	*0.4*	0.3	*4.8*	1.2	*7.8*	-0.2	1.5
Cash $Dividends_{t+1}$÷$Assets_{t-1}$	-2.1	*-3.0*	0.5	*1.8*	1.2	*3.6*	-1.6	1.7
ICF_{t+2}÷$Assets_{t-1}$	1.3	*3.2*	0.0	*0.8*	-0.5	*-0.9*	1.3	-0.5
$Investments_{t+2}$÷$Assets_{t-1}$	-0.6	*0.9*	0.4	*7.0*	1.5	*9.6*	-0.2	1.9
ΔNon-Cash NWC_{t+2}÷$Assets_{t-1}$	-0.6	*-1.0*	0.2	*3.0*	0.7	*4.2*	-0.4	0.9
Cash $Dividends_{t+2}$÷$Assets_{t-1}$	-1.4	*-2.2*	0.4	*1.7*	0.8	*2.3*	-1.0	1.2
Tobin's Q_{t-1}	-5.1	*-14.9*	-1.2	*-14.1*	1.6	*-0.5*	-6.3	0.4
$Return_{t-1}$	-1.0	*-0.8*	0.4	*3.2*	1.0	*2.7*	-0.6	1.4
$Return_{t+1, t+3}$	1.1	*-0.8*	-0.6	*-4.0*	-2.4	*-7.8*	0.5	-3.0
Term $Spread_{t-1}$ (%)	0.4	*0.8*	0.5	*2.1*	0.4	*0.3*	0.9	0.9
Default $Spread_{t-1}$ (%)	-2.3	*0.6*	0.6	*3.4*	2.2	*5.9*	-1.7	2.8
$Ln(Sales)_{t-1}$	3.4	*5.5*	0.2	*0.9*	-4.8	*-16.4*	3.6	-4.6
$Ln(Age)_{t}$	0.0	*-4.3*	-0.6	*-7.4*	-1.4	*-8.6*	-0.6	-2.0
$Leverage_{t-1}$	0.6	*9.2*	1.0	*16.6*	2.7	*18.8*	1.6	3.7
$R\&D_{t-1}$	-1.8	*-1.3*	0.5	*5.6*	2.6	*14.3*	-1.3	3.1
Industry $Volatility_{t-1}$	0.4	*3.2*	0.6	*5.2*	1.4	*6.3*	1.0	2.0
Dividend $Payer_{t-1}$	0.2	*-3.9*	-0.6	*-6.8*	-2.6	*-11.2*	-0.4	-3.2
Regression (4): N = 124,058, Pseudo R^2 = 11.9%								
Immediate Depletion $_{ex\ ante}$	4.1	*12.9*	1.4	*11.7*	2.3	*11.6*	5.5	3.7
Near Depletion $_{ex\ ante}$	2.8	*8.2*	1.1	*7.9*	2.2	*9.6*	3.9	3.3
Medium Depletion $_{ex\ ante}$	1.3	*3.0*	0.2	*1.6*	1.5	*5.2*	1.5	1.7
$Cash_{t-1}$÷$Assets_{t-1}$	-12.4	*-26.0*	-0.6	*-8.4*	-0.4	*-8.2*	-13.0	-1.0
ICF_{t-1}÷$Assets_{t-1}$	1.1	*-0.3*	-1.6	*-15.1*	-3.4	*-18.5*	-0.5	-5.0
$Investments_{t-1}$÷$Assets_{t-1}$	5.1	*17.4*	1.3	*16.7*	0.7	*8.6*	6.4	2.0
ΔNon-Cash NWC_{t-1}÷$Assets_{t-1}$	0.6	*2.8*	0.5	*6.0*	0.9	*7.0*	1.1	1.4
Cash $Dividends_{t-1}$÷$Assets_{t-1}$	-1.8	*-6.1*	-0.1	*-1.6*	-1.4	*-4.4*	-1.9	-1.5
Tobin's Q_{t-1}	-0.6	*-0.3*	0.1	*2.4*	2.1	*13.3*	-0.5	2.2
$Return_{t-1}$	3.9	*10.8*	1.1	*6.5*	2.3	*10.6*	5.0	3.4
$Return_{t+1, t+3}$	-2.4	*-8.4*	-1.5	*-7.0*	-2.6	*-10.3*	-3.9	-4.1
Term $Spread_{t-1}$ (%)	-0.3	*-0.3*	0.6	*2.4*	-0.1	*-0.1*	0.3	0.5
Default $Spread_{t-1}$ (%)	-0.4	*0.6*	0.7	*2.8*	2.7	*6.1*	0.3	3.4
$Ln(Sales)_{t-1}$	-0.8	*-6.0*	-0.9	*-9.7*	-4.3	*-19.5*	-1.7	-5.2
$Ln(Age)_{t}$	-2.7	*-13.3*	-1.3	*-13.3*	-2.0	*-12.9*	-4.0	-3.3
$Leverage_{t-1}$	0.9	*5.7*	1.1	*15.0*	2.0	*14.4*	2.0	3.1
$R\&D_{t-1}$	-1.1	*-1.2*	0.3	*4.3*	2.3	*14.9*	-0.8	2.6
Industry $Volatility_{t-1}$	-0.4	*-0.5*	0.0	*0.6*	0.9	*3.3*	-0.4	0.9
Dividend $Payer_{t-1}$	1.1	*1.9*	-0.3	*-2.5*	-1.8	*-6.4*	0.8	-2.1

Table 9: Multinomial logit for the debt vs. equity choice, conditional on financing and immediate cash depletion

This table reports the multinomial logit regression results for the decision to issue only debt (the base case), only equity, or both debt and equity, using the subsample of net issuers that would otherwise face immediate cash depletion ($Cash_{ex\ post} \leq 0$). The industry and year dummy variables and the intercept are among the independent variables, but their economic effects, coefficients, and z-statistics are not reported. See Appendix I, Table 1, and Table 6 for detailed variable definitions and economic effect calculations.

	Dual issue		Pure equity issue		Equity issue
VARIABLES	Econ. eff.	*z-stat.*	Econ. eff.	*z-stat.*	Econ. eff.
Regression: N = 23,947, Pseudo R^2 = 16.7%					
$Cash_{t-1}$	3.6	*6.7*	0.3	*2.2*	3.9
ICF_{t-1}	-5.3	*-11.6*	-8.4	*-13.9*	-13.7
Tobin's Q_{t-1}	0.2	*3.2*	7.4	*10.6*	7.6
$Return_{t-1}$	4.2	*10.0*	3.8	*8.8*	8.0
$Return_{t+1,\ t+3}$	-2.6	*-5.2*	-2.9	*-5.7*	-5.5
Term $Spread_{t-1}$ (%)	2.5	*2.5*	1.1	*1.4*	3.6
Default $Spread_{t-1}$ (%)	1.6	*1.7*	2.6	*2.2*	4.2
$Ln(Sales)_{t-1}$	-1.5	*-5.5*	-7.8	*-12.0*	-9.3
$Ln(Age)_t$	-3.8	*-8.9*	-2.5	*-6.5*	-6.3
$Leverage_{t-1}$	4.1	*9.8*	0.3	*2.9*	4.4
$R\&D_{t-1}$	0.8	*2.5*	3.4	*5.3*	4.2
Industry $Volatility_{t-1}$	1.1	*2.1*	1.7	*2.6*	2.8
Dividend $Payer_{t-1}$	-1.1	*-2.9*	-2.1	*-4.0*	-3.2

Table 10. Firm characteristics, market conditions, cash sources, and cash changes

This table reports the OLS regression results for cash changes. The dependent variable is $\Delta Cash_t \times 100 \div Assets_{t-1}$. A firm is defined to have a net equity issue in year t if $\Delta E_t \div Assets_{t-1} \geq 0.05$ and $\Delta E_t \div ME_{t-1} \geq 0.03$. A firm is defined to have a net debt issue in year t if $\Delta D_t \div Assets_{t-1} \geq 0.05$ and $\Delta D_t \div ME_{t-1} \geq 0.03$. $Assets_{t-1}$ and ME_{t-1} denote the book value of assets and the market value of equity, respectively, at the end of fiscal year t-1. Returns are measured as decimals (e.g., a 20% return is measured as 0.20) and spreads are measured as annual percentages. N denotes the number of firm-year observations. T-statistics are calculated using robust standard errors corrected for heteroskedasticity and clustering at the company level. ***, **, and * indicates significance at the 1%, 5%, and 10% level. See Appendix I and Table 1 for detailed variable definitions. In Panels B-D, the numbers in bold are either the cash retention rate of equity issue proceeds for equity issuers or the cash retention rate of debt issue proceeds for debt issuers.

Panel A: Firm characteristics, market conditions, and cash changes

	(1) Full sample		(2) Equity issue		(3) Debt issue	
Variables	Coeff.	t-statistic	Coeff.	t-statistic	Coeff.	t-statistic
$Cash_{t-1} \div Assets_{t-1}$	-16.9***	-30.1	-3.0	-1.5	-10.4***	-6.5
$LnAssets_{t-1}$	-1.0***	-12.3	-3.3***	-10.5	0.8***	4.4
Tobin's Q_{t-1}	2.4***	28.0	4.5***	18.4	3.1***	14.0
$Return_{t-1}$	0.9***	6.1	1.9***	4.8	1.1***	5.1
$Return_{t+1, t+3}$	0.0	0.7	0.1	0.4	-0.1	-1.1
Term $Spread_{t-1}$ %	0.2*	1.9	0.3	0.6	0.4	1.6
Default $Spread_{t-1}$ %	1.6***	7.4	4.8***	3.2	2.0***	3.1
$LnSales_{t-1}$	0.9***	10.0	3.3***	10.9	-0.4**	-2.4
$LnAge_t$	-0.1**	-2.4	-0.9***	-2.9	-0.4***	-3.6
$Leverage_{t-1}$	-2.2***	-8.8	-12.5***	-11.4	-0.5	-0.8
$R\&D_{t-1}$	16.8***	13.4	10.2***	3.4	17.0***	5.5
Industry $Volatility_{t-1}$	2.0***	4.8	5.7**	2.4	2.3**	2.3
Dividend $Payer_{t-1}$	-0.9***	-9.5	-3.4***	-6.3	-1.4***	-7.0
Constant	-1.3***	-3.4	1.1	0.5	-5.7***	-6.1
Industry Dummies	Yes		Yes		Yes	
Year Dummies	Yes		Yes		Yes	
N	124,058		13,152		26,324	
Adjusted R^2	8.8%		17.1%		9.2%	

Panel B: Cash sources and cash changes

	(4) Full sample		(5) Equity issue		(6) Debt issue	
Variables	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
$\Delta E_t \div Assets_{t-1}$	54.1***	80.1	**62.9*****	71.5	31.2***	19.7
$\Delta D_t \div Assets_{t-1}$	9.8***	14.6	6.8***	4.4	**18.9*****	17.6
$ICF_t \div Assets_{t-1}$	30.4***	54.9	31.6***	32.6	9.6***	9.0
Constant	-3.2***	-47.0	-8.8***	-33.6	-3.2***	-17.3
N	124,058		13,152		26,324	
Adjusted R^2	37.4%		52.8%		20.1%	

Panel C: Cash sources and cash changes for the subsamples sorted by ex post cash depletion

	Equity issue				Debt issue			
	(7) Cash $_{ex\ post}$ ≤0		(8) Cash $_{ex\ post}$ >0		(9) Cash $_{ex\ post}$ ≤0		(10) Cash $_{ex\ post}$ >0	
Variables	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
$\Delta E_t \div Assets_{t-1}$	**50.7*****	43.8	**80.2*****	104.4	29.5***	17.7	68.3***	24.2
$\Delta D_t \div Assets_{t-1}$	9.7***	6.1	65.1***	25.2	**10.9*****	12.5	**83.9*****	44.0
$ICF_t \div Assets_{t-1}$	18.2***	14.9	49.3***	44.6	4.8***	4.6	34.1***	17.5
Constant	-11.1***	-29.1	-5.0***	-16.1	-3.4***	-20.0	-7.8***	-23.1
N	7,088		6,064		19,736		6,588	
Adjusted R^2	46.2%		77.1%		21.5%		62.8%	

Panel D: Cash sources and cash changes for the subsamples sorted by ex ante cash depletion

	Equity issue				Debt issue			
	(11) Cash $_{ex\ ante}$ ≤0		(12) Cash $_{ex\ ante}$ >0		(13) Cash $_{ex\ ante}$ ≤0		(14) Cash $_{ex\ ante}$ >0	
Variables	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
$\Delta E_t \div Assets_{t-1}$	**52.2*****	37.1	**69.2*****	67.9	29.0***	13.9	33.9***	14.3
$\Delta D_t \div Assets_{t-1}$	6.6***	3.7	7.6***	3.0	**12.7*****	10.6	**23.6*****	14.7
$ICF_t \div Assets_{t-1}$	22.4***	15.9	36.3***	29.9	8.1***	6.8	10.2***	5.7
Constant	-7.4***	-18.8	-9.5***	-28.1	-1.8***	-8.2	-4.2***	-14.8
N	5,840		7,312		11,133		15,191	
Adjusted R^2	43.8%		58.7%		22.1%		20.0%	

Table 11. Cross-sectional differences in the fraction of net proceeds going to cash reserves

This table examines cross-sectional differences in the fraction of net proceeds being retained in cash. The dependent variable is $100\times\Delta Cash_t \div Assets_{t-1}$. OLS regressions are estimated. Regression (1) is estimated for the sample of firm years with a net equity issue, Regression (2) is estimated for the sample of firm years with a net debt issue. Returns are measured as decimals (e.g., a 20% return is measured as 0.20) and spreads are measured as annual percentages. N denotes the number of firm-year observations. T-statistics are calculated using robust standard errors corrected for heteroskedasticity and clustering at the company level. ***, **, and * indicates significance at the 1%, 5%, and 10% level. See Appendix I and Table 1 for detailed variable definitions.

(1) Net equity issue sample			(2) Net debt issue sample		
Variables	Coeff.	t-stat.	Variables	Coeff.	t-stat.
$\Delta E_t \div Assets_{t-1}$	32.3***	8.9	$\Delta E_t \div Assets_{t-1}$	29.3***	18.6
$\Delta D_t \div Assets_{t-1}$	8.4***	5.7	$\Delta D_t \div Assets_{t-1}$	-17.0***	-5.2
$ICF_t \div Assets_{t-1}$	39.9***	35.1	$ICF_t \div Assets_{t-1}$	12.3***	10.9
$\Delta E_t \div Assets_{t-1} \times Ln(Assets)_{t-1}$	-0.1	-0.1	$\Delta D_t \div Assets_{t-1} \times Ln(Assets)_{t-1}$	4.4***	5.5
$\Delta E_t \div Assets_{t-1} \times Cash_{t-1} \div Assets_{t-1}$	0.5	0.1	$\Delta D_t \div Assets_{t-1} \times Cash_{t-1} \div Assets_{t-1}$	-35.1***	-5.4
$\Delta E_t \div Assets_{t-1} \times$ Tobin's Q_{t-1}	1.6***	4.4	$\Delta D_t \div Assets_{t-1} \times$ Tobin's Q_{t-1}	4.0***	6.0
$\Delta E_t \div Assets_{t-1} \times Return_{t-1}$	0.1	0.2	$\Delta D_t \div Assets_{t-1} \times Return_{t-1}$	0.9	0.8
$\Delta E_t \div Assets_{t-1} \times Return_{t+1, t+3}$	0.8	1.0	$\Delta D_t \div Assets_{t-1} \times Return_{t+1, t+3}$	-0.8	-1.3
$\Delta E_t \div Assets_{t-1} \times$ Term $Spread_{t-1}$(%)	-0.0	-0.0	$\Delta D_t \div Assets_{t-1} \times$ Term $Spread_{t-1}$(%)	2.3***	4.2
$\Delta E_t \div Assets_{t-1} \times$ Default $Spread_{t-1}$ (%)	4.9***	3.6	$\Delta D_t \div Assets_{t-1} \times$ Default $Spread_{t-1}$ (%)	10.8***	7.9
$\Delta E_t \div Assets_{t-1} \times Ln(Sales)_{t-1}$	1.7***	3.6	$\Delta D_t \div Assets_{t-1} \times Ln(Sales)_{t-1}$	-0.4	-0.5
$\Delta E_t \div Assets_{t-1} \times Ln(Age)_t$	1.5	1.5	$\Delta D_t \div Assets_{t-1} \times Ln(Age)_t$	-0.5	-0.7
$\Delta E_t \div Assets_{t-1} \times Leverage_{t-1}$	-19.0***	-7.5	$\Delta D_t \div Assets_{t-1} \times Leverage_{t-1}$	-11.3***	-3.9
$\Delta E_t \div Assets_{t-1} \times R\&D_{t-1}$	29.5***	7.1	$\Delta D_t \div Assets_{t-1} \times R\&D_{t-1}$	138.6***	9.1
$\Delta E_t \div Assets_{t-1} \times$ Industry $Volatility_{t-1}$	39.4***	8.9	$\Delta D_t \div Assets_{t-1} \times$ Industry $Volatility_{t-1}$	7.9*	1.8
$\Delta E_t \div Assets_{t-1} \times$ Dividend $Payer_{t-1}$	-25.4***	-8.0	$\Delta D_t \div Assets_{t-1} \times$ Dividend $Payer_{t-1}$	-11.5***	-8.3
Constant	-7.0***	-21.5	Constant	-3.1***	-17.4
N	13,152		N	26,324	
Adjusted R^2	56.4%		Adjusted R^2	24.3%	

Table 12. Issue type, issue size, and the fraction of net proceeds going to cash reserves

Panel A reports the mean and median (in parentheses) cash flow components and the percent (in brackets) of firms with a negative internal cash flow, sorted by issue type. In a fiscal year, a firm is defined as having a private investment in public equity (PIPE) or seasoned equity offering (SEO) if in the year there is at least one common stock PIPE in the PlacementTracker database or at least one SEO in the SDC database, defined as using public bond or bank financing if in the year there is at least one public bond offering in SDC or at least one bank loan package in the DealScan database, and defined as having a credit line if at least one loan package includes a "364-Day Facility" or "Revolver/Line". Panels B-E report the OLS regression results. The dependent variable is $100\times\Delta E_t \div Assets_{t-1}$ in Panels B, $100\times\Delta D_t \div Assets_{t-1}$ in Panels D, and $100\times\Delta Cash_t \div Assets_{t-1}$ in Panels C and E. The equity issue samples exclude firm years in which both an SEO and a PIPE occur. The debt issue samples exclude firm years in which both a public bond offering and a bank financing occur. In this table, we do not apply our screens of 5% of assets and 3% of the market value of equity. SEO_t is a dummy variable that equals one if the firm has at least one SEO in fiscal year t, and equals zero otherwise. Bank $Financing_t$ is a dummy variable that equals one if the firm has at least one bank loan package that closes in t, and equals zero otherwise, and Credit $Line_t$ is a dummy variable that equals one if at least one package includes a "364-Day Facility" or "Revolver/Line", and equals zero otherwise. Returns are measured as decimals (e.g., a 20% return is measured as 0.20) and spreads are measured as annual percentages. N denotes the number of firm-year observations. T-statistics are calculated using robust standard errors corrected for heteroskedasticity and clustering at the company level. ***, **, and * indicates significance at the 1%, 5%, and 10% level. See Appendix I and Table 1 for detailed variable definitions.

Panel A. Summary statistics of annual cash flow components (%) sorted by issue type

VARIABLES	SEOs only, 1995-2013	PIPEs only, 1995-2013	Bond offerings only, 1987-2013	Bank financings only, 1987-2013	Bank financings only (with credit line), 1987-2013
$\Delta D_t \div Assets_{t-1}$	3.3	2.9	5.1	5.7	5.4
	(-0.1)	(-0.0)	(2.7)	(0.2)	(0.0)
$\Delta E_t \div Assets_{t-1}$	44.4	38.9	-0.9	2.3	2.1
	(29.4)	(24.9)	(-0.0)	(0.1)	(0.1)
$ICF_t \div Assets_{t-1}$	1.3	-19.1	12.2	10.5	10.7
	(9.0)	(-13.8)	(11.7)	(10.4)	(10.5)
	[30.4]	[68.4]	[2.4]	[10.0]	[9.3]
$Investments_t \div Assets_{t-1}$	23.8	11.8	11.6	14.2	14.0
	(12.3)	(4.8)	(8.4)	(7.6)	(7.3)
Cash $Dividends_t \div Assets_{t-1}$	0.3	0.2	2.0	0.9	0.9
	(0.0)	(0.0)	(1.5)	(0.0)	(0.0)
ΔNon-Cash $NWC_t \div Assets_{t-1}$	2.0	0.7	1.1	2.1	2.1
	(1.9)	(0.8)	(0.6)	(1.2)	(1.2)
$\Delta Cash_t \div Assets_{t-1}$	22.3	9.7	1.7	1.0	0.8
	(6.7)	(1.9)	(0.3)	(0.1)	(0.1)
N	2,764	1,801	1,717	20,313	16,817

Panel B: Net equity issue size: SEOs vs. PIPEs

	(1) SEOs only		(2) PIPEs only		(3) SEOs only or PIPEs only	
Variables	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
SEO_t					22.8***	20.1
$LnAssets_{t-1}$	-8.2***	-11.7	-5.5***	-6.5	-7.6***	-14.0
$Cash_{t-1} \div Assets_{t-1}$	18.3***	4.3	8.5**	2.0	14.1***	4.6
Tobin's Q_{t-1}	6.9***	16.7	5.0***	9.9	5.9***	17.3
$Return_{t-1}$	1.1***	3.4	0.0	0.0	0.8**	2.5
$Return_{t+1, t+3}$	-0.4	-1.3	-0.6	-1.2	-0.5	-1.6
Term $Spread_{t-1}$ (%)	2.5	1.1	-1.1	-0.4	0.9	0.5
Default $Spread_{t-1}$ (%)	2.7	0.9	5.1	1.2	3.1	1.3
$Ln(Sales)_{t-1}$	-0.0	-0.0	-2.0***	-2.7	-0.5	-1.0
$Ln(Age)_t$	0.4	0.5	1.4	1.4	0.4	0.6
$Leverage_{t-1}$	-7.1***	-3.1	8.9***	3.2	-0.9	-0.5
$R\&D_{t-1}$	18.3***	3.1	33.3***	5.4	24.6***	5.6
Industry $Volatility_{t-1}$	4.8	1.1	-6.3	-1.2	0.3	0.1
Dividend $Payer_{t-1}$	-1.8	-1.3	3.5	1.2	-1.7	-1.4
Constant	62.9***	11.5	40.7***	5.4	27.5***	3.3
Industry Dummies	Yes		Yes		Yes	
Year Dummies	Yes		Yes		Yes	
N	2,764		1,801		4,565	
Adjusted R^2	58.3%		42.4%		51.4%	

Panel C: Retention rate of net equity proceeds: SEOs vs. PIPEs

	SEOs only		PIPEs only		SEOs only or PIPEs only			
	(4)		(5)		(6)		(7)	
Variables	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
$\Delta E_t \div Assets_{t-1}$	69.8***	55.8	62.2***	23.5	60.0***	29.2	31.9***	5.7
$\Delta D_t \div Assets_{t-1}$	3.8	1.2	17.6***	3.3	7.9***	2.8	9.8***	3.7
$ICF_t \div Assets_{t-1}$	25.2***	11.5	43.1***	14.2	31.3***	17.6	40.0***	18.9
$\Delta E_t \div Assets_{t-1} \times SEO_t$					9.5***	5.0	8.1***	4.1
$\Delta E_t \div Assets_{t-1} \times Ln(Assets)_{t-1}$							-0.2	-0.2
$\Delta E_t \div Assets_{t-1} \times Cash_{t-1} \div Assets_{t-1}$							5.6	1.2
$\Delta E_t \div Assets_{t-1} \times$ Tobin's Q_{t-1}							2.0***	3.8
$\Delta E_t \div Assets_{t-1} \times Return_{t-1}$							-0.0	-0.0
$\Delta E_t \div Assets_{t-1} \times Return_{t+1, t+3}$							-0.4	-0.3
$\Delta E_t \div Assets_{t-1} \times$ Term $Spread_{t-1}$(%)							-2.0**	-2.1
$\Delta E_t \div Assets_{t-1} \times$ Default $Spread_{t-1}$ (%)							10.1***	3.8
$\Delta E_t \div Assets_{t-1} \times Ln(Sales)_{t-1}$							1.2*	1.7
$\Delta E_t \div Assets_{t-1} \times Ln(Age)_t$							0.9	0.6
$\Delta E_t \div Assets_{t-1} \times Leverage_{t-1}$							-17.1***	-4.5
$\Delta E_t \div Assets_{t-1} \times R\&D_{t-1}$							21.1***	3.8
$\Delta E_t \div Assets_{t-1} \times$ Industry $Volatility_{t-1}$							21.4***	3.1
$\Delta E_t \div Assets_{t-1} \times$ Dividend $Payer_{t-1}$							-41.9***	-6.0
Constant	-9.2***	-17.1	-6.8***	-10.2	-8.7***	-19.8	-6.9***	-13.0
N	2,764		1,801		4,565		4,565	
Adjusted R^2	65.7%		47.9%		60.3%		62.6%	

Panel D: Net debt issue size: Public bond offerings vs. bank financings

	(8) Bonds only		(9) Loans only		(10) Bonds only or loans only	
Variables	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Bank $Financing_t$					-2.3***	-5.1
Credit $Line_t$					-0.7*	-1.9
$LnAssets_{t-1}$	-2.3***	-3.8	1.0***	4.4	0.8***	3.8
$Cash_{t-1}÷Assets_{t-1}$	25.7***	4.6	-1.7	-1.1	-0.5	-0.3
Tobin's Q_{t-1}	1.6***	3.7	1.9***	9.1	1.9***	9.3
$Return_{t-1}$	2.7***	3.4	1.0***	3.7	1.0***	4.0
$Return_{t+1, t+3}$	-0.6	-1.5	-0.3***	-3.2	-0.3***	-3.4
Term $Spread_{t-1}$ (%)	2.2	1.5	-0.3	-0.6	-0.1	-0.1
Default $Spread_{t-1}$ (%)	1.9*	1.7	1.3*	1.7	1.3*	1.8
$Ln(Sales)_{t-1}$	-0.0	-0.0	-2.4***	-9.3	-2.2***	-9.2
$Ln(Age)_t$	-1.1***	-3.0	-1.2***	-7.7	-1.3***	-8.3
$Leverage_{t-1}$	-9.7***	-5.9	-6.8***	-9.0	-6.6***	-9.2
$R\&D_{t-1}$	-49.3***	-4.9	-24.7***	-8.8	-25.3***	-9.2
Industry $Volatility_{t-1}$	5.8**	2.4	-2.3**	-2.4	-1.8*	-1.9
Dividend $Payer_{t-1}$	-2.4***	-2.9	0.7**	2.5	0.6**	2.0
Constant	19.1***	3.4	21.2***	15.6	15.6***	6.5
Industry Dummies	Yes		Yes		Yes	
Year Dummies	Yes		Yes		Yes	
N	1,717		20,313		22,030	
Adjusted R^2	28.4%		9.8%		10.2%	

Panel E: Retention rate of net debt proceeds: Public bond offerings vs. bank financings

	Bonds only		Loans only		Bonds only or Loans only			
	(11)		(12)		(13)		(14)	
Variables	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
$\Delta E_t÷Assets_{t-1}$	29.4***	4.2	33.9***	19.5	33.5***	19.9	33.6***	19.6
$\Delta D_t÷Assets_{t-1}$	18.9***	4.0	2.4***	2.7	20.5***	4.7	-1.1	-0.2
$ICF_t÷Assets_{t-1}$	14.6***	2.7	16.3***	11.9	16.9***	13.0	17.5***	13.5
$\Delta D_t÷Assets_{t-1}$×Bank $Financing_t$					-3.0	-0.6	-1.2	-0.2
$\Delta D_t÷Assets_{t-1}$×Credit $Line_t$					-18.4***	-6.4	-18.6***	-6.5
$\Delta D_t÷Assets_{t-1}$×$Ln(Assets)_{t-1}$							2.7*	1.9
$\Delta D_t÷Assets_{t-1}$×$Cash_{t-1}÷Assets_{t-1}$							-47.4***	-4.9
$\Delta D_t÷Assets_{t-1}$×Tobin's Q_{t-1}							2.9***	3.0
$\Delta D_t÷Assets_{t-1}$×$Return_{t-1}$							-1.2	-0.8
$\Delta D_t÷Assets_{t-1}$×$Return_{t+1, t+3}$							-1.3	-1.6
$\Delta D_t÷Assets_{t-1}$×Term $Spread_{t-1}$(%)							2.1***	3.0
$\Delta D_t÷Assets_{t-1}$×Default $Spread_{t-1}$ (%)							5.0**	2.0
$\Delta D_t÷Assets_{t-1}$×$Ln(Sales)_{t-1}$							-0.8	-0.5
$\Delta D_t÷Assets_{t-1}$×$Ln(Age)_t$							-0.6	-0.6
$\Delta D_t÷Assets_{t-1}$×$Leverage_{t-1}$							10.0***	2.7
$\Delta D_t÷Assets_{t-1}$×$R\&D_{t-1}$							71.9***	2.9
$\Delta D_t÷Assets_{t-1}$×Industry $Volatility_{t-1}$							-5.4	-1.1
$\Delta D_t÷Assets_{t-1}$×Dividend $Payer_{t-1}$							-8.5***	-5.0
Constant	-0.8	-1.1	-1.6***	-10.6	-1.6***	-11.2	-1.6***	-11.1
N	1,717		20,313		22,030		22,030	
Adjusted R^2	17.8%		19.0%		20.4%		21.8%	