NET PAYOUT YIELD AND PAYOUT FINANCING

EVIDENCE FROM THE CROSS SECTION OF STOCK RETURNS

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Net Payout Yield and Payout Financing: Evidence from the Cross Section of Stock Returns

Abstract:

We replicate that net payout yield (dividends plus share repurchases minus net equity issuance) outperforms dividend yield in the cross-section of stock returns. We demonstrate that the predictive power of net payout yield is conditional on the financing source of payouts. For firms that simultaneously raise net positive debt and make payouts, the net payout yield return relationship is attenuated. This conditional relationship is obscured under ordinary least squares (OLS) due to right-skewness in the return distribution of debt-financing firms but is robustly shown by least absolute deviation (LAD). While point estimate discounts are larger for persistent than for occasional debt-financing firms, we find no statistically significant difference between the two subgroups in the monthly cross-section.

Keywords:

Empirical Asset Pricing, Cross-section of Returns, Payouts, Debt-financed Payouts, Median Regression, Net Payout Yield

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Introduction

Dividend yield (DY) has long been used in the literature as a predictor of stock returns,[1] but its ability to capture cash flows between firms and shareholders has become less complete as share repurchases have increasingly replaced dividends as a primary payout channel (Fama and French (2001), Grullon and Michaely (2002)). In light of this, Boudoukh, Michaely, Richardson, and Roberts (2007) propose net payout yield (NPY), defined as dividends plus repurchases minus equity issuance and find that this measure substantially outperforms DY in the cross-section. Eaton and Paye (2017) show that this finding holds in an extended sample by documenting NPY's time-series predictability over aggregate market returns. More generally, payout based yields carry predictive information because the present-value identity implies that a high yield reflects either higher expected future returns or lower expected payout growth (Campbell and Shiller (1988)).

The NPY, however, treats every dollar distributed to shareholders as equivalent. By construction, equity issuance is subtracted from the yield while debt issuance is not. A firm distributing \$10 to shareholders out of internal cash flow and a firm distributing \$10 while simultaneously raising \$10 of new debt register the same NPY, even though the distributions differ materially in what they convey about the firm. The former represents surplus cash to shareholders which the literature has linked to many motives[2]. The latter is a capital structure transaction dressed as a payout, it raises capital through debt issuance and returns it to equity holders through share repurchases or dividends while leaving the firm's real activities unchanged. If investors price internally funded and debt-financed payouts differently, then the cross-sectional predictive power of NPY should vary with funding source, since the informational content of the measure differs across the two groups. Whether this distinction matters empirically depends on how common debt-financed payouts are and whether the motives behind them differ from those behind internally funded ones. Farre-Mensa, Michaely, and Schmalz (2025) find that, in the average year, 43% of all U.S. public firms[3] that pay out simultaneously raise external financing and that nearly a third of all payouts to shareholders are financed with debt. This behavior is persistent rather than transitory and roughly two-thirds of firms that externally finance their payouts in a given year continue to do so in at least half of the following five years. Figure I below illustrates the scale of this pattern. The authors further show that payout announcements generate less positive market returns when firms have a persistent history of financing those payouts with debt, suggesting that investors do condition their interpretation of payouts on funding sources.

[1]See, for example, Campbell and Shiller (1988) and Fama and French (1988) for foundational evidence on dividend yield predictability, and Goyal and Welch (2008) for an out-of-sample evaluation.

[2]See, for example, Jensen (1986) on the disciplining role of payouts in reducing free cash flow available for value-destroying investment, Vermaelen (1981) on repurchases as a signal of undervaluation, Jagannathan, Stephens, and Weisbach (2000) on repurchases and financial flexibility, Brav, Graham, Harvey, and Michaely (2005) on the joint role of flexibility, perceived undervaluation and EPS targets in CFO payout decisions.

[3]As is customary, Farre-Mensa, Michaely, and Schmalz (2025) excludes financial firms (SIC 6), utilities (SIC 49) and firms in the year of their IPO.

Figure I
Total payouts vs. debt-financed payouts 1990–2024.

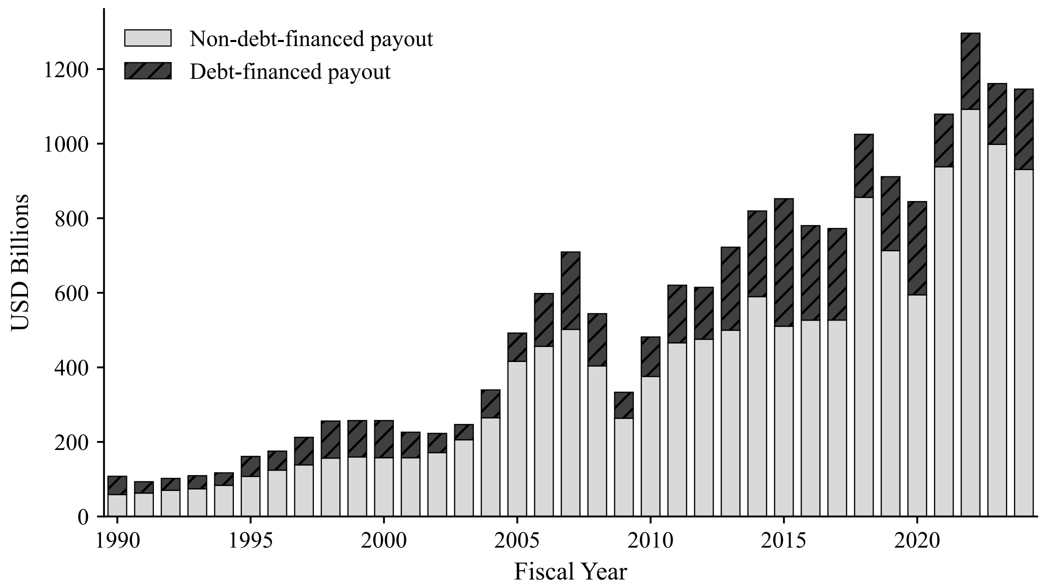

Figure I: Total payouts vs. debt-financed payouts 1990–2024. This figure shows how much of aggregate cash flows received by shareholders in payouts were financed by debt over the sample period for non-financial, non-utility U.S. public firms. Each bar decomposes total payouts into debt-financed payouts (red bar) and non-debt-financed payouts (blue). Dividends, repurchases and debt data are sourced from Compustat. All figures are in nominal billion dollars.

The corporate finance literature offers several reasons why firms would engage in simultaneous repurchases and debt issuance. Farre-Mensa et al. (2025) document that the most common motive is firms using debt-financed payouts as an instrument for jointly managing cash and leverage. They further show that taxes are a key driver of debt-financed payouts, in line with trade-off theories of capital structure. Additionally, Ma (2019), shows that firms issue debt and repurchase shares to exploit relative mispricings in debt and equity markets through cross-market arbitrage. Repurchase programs have additionally become increasingly sticky, meaning that once they have been initiated, firms face strong pressure to sustain repurchases at or above prior levels even when internal cash falls short (Almeida, Huang, and Xuan, 2026). Lambrecht and Myers (2012) formally model that when managers smooth payouts, debt serves as the residual "shock absorber" that covers cash shortfalls so that dividends and repurchases remain stable. These motives share a common feature. They generate payouts whose economic content has little to do with the firm's underlying cash-generating capacity. As a result, NPY among such firms reflects other things than the distribution of cash flowing to equity holders, thereby diluting the measure's informational content. Accordingly, we predict that the cross-sectional relationship between NPY and future returns is weaker among firms that finance their payouts with debt.

In this thesis, we examine if the cross-sectional predictive power of NPY for returns is conditional on how payouts are financed. We focus on net debt issuance because debt is the dominant external financing source for firms making payouts (Farre-Mensa et al. (2025)), while equity issuance is already accounted for in *NPY*. The central test is if the *NPY*-return relationship is weaker for firms that simultaneously raise net positive debt in the same fiscal year. We also conduct the same test to examine whether the market distinguishes between firms that finance payouts occasionally and those that do so persistently (3 out of 5 prior years). Hence our research questions are formulated as:

> *Is the predictive power of net payout yield weaker when payouts are financed by positive net debt issuance?*
>
> *Among firms that finance their payouts with debt, does the market differentiate between occasional and persistent users of debt financing in the cross-section?*

We test this using Fama and MacBeth (1973) cross-sectional regressions applied to all U.S. non-financial, non-utility firms in the merged CRSP/Compustat database, with accounting data from fiscal years 1989 to 2024 matched to monthly returns from July 1990 through June 2025. The sample contains 9,315 unique firms and 979,111 firm-month observations across 420 monthly cross-sections. Following Boudoukh et al. (2007), we construct a dividend yield variable and a *NPY* variable with Fama and French (1992) controls in order to confirm the cross-sectional predictive power of *NPY* still exists, and is more informative than *DY*, in our extended sample. The conditional analysis introduces a binary indicator, *DEBT_FIN*, that identifies firms that simultaneously make positive total payouts and raise positive net debt in the same fiscal year, following the construction in Farre-Mensa et al. (2025). The central test is the interaction between *NPY* and *DEBT_FIN*, a negative coefficient implies that the cross-sectional return relation associated with *NPY* is weaker when payouts are debt-financed. To examine the persistence channel suggested by Farre-Mensa et al. (2025), we further decompose *DEBT_FIN* into persistent and occasional indicators based on whether a firm satisfies *DEBT_FIN* = 1 in at least three of the five fiscal years strictly preceding the current fiscal year. Controls are progressively increased in each cross-section, to absorb firm characteristics that systematically differ between debt-financing and internally funded firms: leverage, cash, and operating cash flow, in addition to Fama and French (1992) controls. Following Boudoukh et al. (2007), all specifications are estimated under both OLS and LAD. OLS estimates the conditional mean of returns, whereas LAD estimates the conditional median, and is therefore less sensitive to the heavy tails characteristic of monthly stock returns. Knez and Ready (1997) show that this matters in practice because of outliers and that it can affect the sign and size of variables. When the two estimators disagree, we examine the source of the divergence using cross-sectional quantile regressions and OLS estimates after top-trimming.

Our results can be summarized in three findings. First, we replicate Boudoukh et al. (2007) in an extended sample and find that *NPY* continues to be positive, significant and outperform *DY* in the cross-section.

Second, the conditional test supports our prediction that the cross-sectional *NPY*-return relationship is meaningfully weaker for debt-financing firms, but the result depends on the estimator. Under LAD, the *NPY* × *DEBT_FIN* interaction is large, negative, and strongly significant, and survives the full Farre-Mensa et al. (2025) control set as well as robustness checks at alternative debt-financing thresholds and Fama and French (1997) 12 industry fixed effects. Under OLS, the same interaction is small, positive, and statistically insignificant in the untrimmed sample. The divergence reflects an asymmetry in the conditional return distribution of debt-financing firms, which is sharply right-skewed. Quantile regressions show the NPY-return relationship is negative across most of the distribution but turns sharply positive in the upper tail. Trimming just 0.5% of monthly returns reverses the OLS interaction from positive-insignificant to negative-significant, while LAD estimates remain stable under the same exercise. The OLS-LAD disagreement is therefore not estimation noise but a substantive feature of the conditional distribution. A small number of debt-financing firms realize very large positive returns that pull the OLS estimate toward zero, while the LAD estimate remains robust.

Third, we test whether the conditional discount on NPY differs between firms that persistently and occasionally use debt to finance payouts, following Farre-Mensa et al. (2025), who document that announcement returns for repurchases by persistent debt-financers are less positive than for repurchases by occasional ones. Their evidence implies that investors update their interpretation of payouts based on the firm's debt-financing history, which raises the question of whether this distinction also shows up in the monthly cross-sectional NPY-return relationship. Both subgroups exhibit negative and statistically significant LAD interactions individually, with point estimates larger in magnitude for persistent debt-financers, but a formal Wald test does not reject equality across control sets. This is not in conflict with Farre-Mensa et al.'s announcement-window finding, since announcement returns reflect immediate price adjustments to new information at a specific event window while our test averages across monthly cross-sections.

Our thesis contributes to existing literature in two ways. First, to our knowledge we provide the first cross-sectional test of whether the predictive power of NPY varies with how payouts are financed. As a baseline, we replicate Boudoukh et al. (2007) in our extended sample (July 1990 to June 2025), complementing Eaton and Paye (2017), who establish that NPY's time-series predictability holds in an extended sample. Building on this baseline, we document that the predictive power of NPY, which is treated as homogeneous across firms in applications, is in fact conditional on payout financing source. For firms that fund their payouts through debt issuance, the conditional NPY-return relationship is meaningfully attenuated. This has direct implications for asset pricing tests that use NPY as a control variable or as a characteristic in factor model construction. Treating NPY as homogeneous may therefore understate the relevant signal for internally funded firms while overstating it for debt-financing firms. Establishing this finding requires attention to the conditional return distribution of debt-financing firms, which is sufficiently right-skewed that mean-based and median-based estimators disagree in the upper tail. The conditional discount on debt-financed payouts is shown clearly by median-based estimators, but is obscured under OLS alone.

Second, we build on the evidence regarding how payouts are financed in Farre-Mensa et al. (2025) into a cross-sectional asset pricing setting. They find that the market discounts debt-financed payouts at announcement when firms have a persistent history of such financing. We examine this and do not find a corresponding differential at the monthly cross-sectional return predictability of NPY.

The remainder of this paper is organized as follows. In section II, we describe data and sample construction. Section III presents methodology and variable construction. Section IV presents the empirical results, including the conditional test, the distributional analysis of the OLS-LAD divergence, and the persistent vs. occasional test. Section V concludes.

II Data

A Sample Construction

Our sample consists of all U.S. publicly listed firms in the merged CRSP/Compustat database with monthly returns from July 1990 through June 2025, yielding 420 monthly cross-sections. Under the Fama-French (1992) timing convention used throughout, this corresponds to fiscal year-end accounting data from 1989 through 2024[4]. Following Boudoukh et al. (2007), Fama and French (1992), and Farre-Mensa et al. (2025), financial firms (SIC codes 6000–6999) and utilities (SIC codes 4900–4999) are excluded, with industry classification taken from Compustat historical SIC (*sich*). Financial firms have balance sheet structures that differ fundamentally from operating firms, and utilities operate under rate regulation that constrains payout policies and capital structure choices. We additionally require strictly positive book equity in fiscal year $t-1$, following Fama and French (1992), since firms with negative book equity have undefined log book-to-market and are typically in financial distress making them unrepresentative of the broader cross-section. Stocks must have at least 24 months of prior monthly return data on CRSP before entering a cross-section, so pre-ranking betas can be estimated. Firms are linked across the two databases using the CCM linking table. A firm-month is included in a given cross-section only if all variables used in that specification are available. However, firm-months that fail this test in one month may re-enter in subsequent months once data become available.

After applying all filters, the sample contains 9,315 unique firms, 84,551 firm-year observations, and 979,111 firm-month observations. The average monthly cross-section contains 2,331 firms, ranging from a minimum of 1,742 to a maximum of 3,183 depending on data availability.

B Data Sources

Monthly stock returns and market capitalizations are drawn from the CRSP monthly stock file. Annual accounting data are drawn from the Compustat fundamentals annual file, with specific Compustat items listed alongside each variable definition in Section III. Monthly excess market returns and the one-month Treasury bill rate are drawn from Kenneth French's data library.

Accounting variables from fiscal year $t-1$ are matched to monthly returns from July of year t through June of year $t+1$, following Fama and French (1992). This ensures all accounting information was publicly available at the time of the returns it is used to explain.

[4]The sample starts in fiscal year 1989 because SFAS 95 (Statement of Financial Accounting Standards No. 95, Financial Accounting Standards Board, November 1987) required firms to report a standardized Statement of Cash Flows for fiscal years ending after July 15, 1988. Prior to this requirement, Compustat coverage of cash flow statement items used in our variable constructions, including repurchases, equity issuances, debt issuances and retirements, and operating cash flow was uneven and partially imputed from earlier reporting formats. Starting in fiscal year 1989 ensures clean and consistent coverage across all variables without requiring a proxy for any cash flow component.

Accounting variables are held constant within each twelve-month window and updated each July as new fiscal year-end data become available.

C Trimming and Cleaning

To reduce the influence of outliers, two alternative procedures are applied cross-sectionally within each fiscal year. For the main yield variables and book-to-market, observations in the specified tails are trimmed. The upper 5% of the DY distribution is trimmed, since DY cannot take negative values. Both tails of the NPY distribution are trimmed symmetrically at the 2.5% level, since NPY can take negative values when equity issuance exceeds total payouts. The upper and lower 0.5% of the log book-to-market distribution are trimmed. All three trimming rules follow Boudoukh et al. (2007).

Winsorization at the 1st and 99th percentiles is applied for the Farre-Mensa et al. (2025) controls: leverage, cash, and operating cash flow. Winsorization replaces extreme values with the boundary value rather than removing the observations, preserving sample size on the regressors of interest. This follows standard practice in the empirical asset pricing literature for accounting-ratio controls (e.g., Fama and French (2015)).

III Methodology

A Variable Construction

This section describes how the three main groups of variables are constructed: the payout yield measures, the debt financing indicator, and the control variables.

A.1 Payout Yield Measures

The analysis uses two measures of payout yield, both constructed following Boudoukh et al. (2007) and scaled by year-end market capitalization.

The first measure, DY, is defined as total cash dividends paid to common shareholders (Compustat item *dvc*) divided by CRSP year-end-market capitalization, measured at the end of December of year $t-1$:

$$DY_{i,t} \;=\; \frac{D_{i,t}}{ME_{i,t-1}}$$

This is the most traditional measure of what a firm returns to its shareholders, but it has become increasingly incomplete over time. As firms have shifted away from dividends towards share repurchases since the 1980s, DY captures a shrinking share of total cash returned to equity holders (Fama and French (2001), Grullon and Michaely (2002)).

NPY addresses this by incorporating dividends, repurchases and equity issuances:

$$NPY_{i,t} \;=\; \frac{D_{i,t} + R_{i,t} - (S_{i,t} - \Delta P_{i,t})}{ME_{i,t-1}}$$

Repurchases $R_{i,t}$ are measured as total expenditure on the purchase of common and preferred stock from the cash flow statement (Compustat item *prstkc*). Equity issuances

$S_{i,t}$ are measured as proceeds from the sale of common and preferred stock (Compustat item *sstk*). Any increase in preferred stock outstanding (Compustat item *pstkrv*) is then subtracted, isolating changes specifically for common equity. The cash-flow based measure is used throughout, as it covers a longer sample period and produces qualitatively similar results to the alternative Treasury stock-based measure considered by Boudoukh et al. (2007).

The intuition behind NPY is that share repurchases represent a direct cash distribution to shareholders, economically equivalent in substance to dividends. By netting out equity issuances, NPY further adjusts for firms that simultaneously distribute cash to shareholders while raising new equity, a pattern that would otherwise inflate the payout signal.

A.2 The Debt Financing Indicator

The central variable of this thesis captures a feature that NPY does not. While NPY captures all equity-side cash flows, it does not take into account whether payouts were financed by debt. A firm can report a high NPY because it borrowed money and paid it out to shareholders, in which case the payout reflects a financing decision rather than a distribution of internally generated cash. The debt financing indicator is designed to identify these firms.

Net debt issuance is defined following Farre-Mensa et al. (2025) as long-term debt issued (Compustat item *dltis*) minus long-term debt retired (Compustat item *dltr*) plus the change in current debt (Compustat item *dlcch*), floored at zero:

$$NDI_{i,t} \; = \; \max\{0, \; DLTIS_{i,t} - DLTR_{i,t} + DLCCH_{i,t}\}$$

The floor at zero ensures that only firms raising net positive debt receive a non-zero value. Firms that are reducing their debt burden, retiring more than they issue, receive a value of zero, since they are not financing payouts by raising net positive debt. Including the change in current debt captures short-term borrowing activity in addition to long-term debt issuance, following the variable definition of Farre-Mensa et al. (2025).

The binary indicator is then constructed as:

$$DEBT\_FIN_{i,t} = \begin{cases} 1 & \text{if } NDI_{i,t} > \$100{,}000 \text{ and } TP_{i,t} > \$100{,}000 \\ 0 & \text{otherwise} \end{cases}$$

where $TP_{i,t}$ is total payout, dividends plus repurchases, in fiscal year t. The indicator equals one for firms that simultaneously make payouts and raise net positive debt in the same fiscal year, and zero otherwise. A minimum threshold of \$100,000 is applied to both the payout and the net debt issuance, following Farre-Mensa et al. (2025), to prevent rounding errors in Compustat from being recorded as financed payouts.

A potential concern with this indicator is that simultaneous debt issuance and payout does not, on its own, establish that debt financed the payout. In principle, a firm could raise debt for other uses, such as capital expenditure, and simultaneously fund payouts from operating cash flow, and still be flagged as a debt-financing firm. However, cash raised from debt and cash generated internally are fungible once they enter the firm, and firms decide jointly on investment, payout, and capital structure rather than earmarking specific inflows to specific outflows (Farre-Mensa et al. 2025). The $DEBT\_FIN$ indicator therefore captures firms whose payouts could not have been sustained at the observed level without simultaneous debt raising.

The interaction between NPY and $DEBT\_FIN$ compares firms with similar payout yields but different financing sources, testing whether the NPY-return relationship differs when payouts are accompanied by net debt issuance. The analysis is not interpreted causally, as firms that debt-finance payouts may differ systematically from internally funded firms in dimensions correlated with returns. The controls therefore aim to isolate whether the financing source contains additional information about the cross-sectional pricing of payouts beyond the NPY level itself.

The $DEBT\_FIN$ indicator focuses on net debt issuance rather than total external financing. Equity issuance is already netted out of NPY by construction, so including it in $DEBT\_FIN$ would duplicate variation already reflected in the yield variable itself. Debt issuance, by contrast, does not enter NPY and represents the financing dimension the indicator is designed to capture.

A.3 Robustness Checks: Alternative DEBT_FIN Definitions

To assess the sensitivity of the results to the definition of the debt financing indicator, three alternative definitions of $DEBT\_FIN$ are constructed based on the ratio of net debt issuance to total payout. While the baseline indicator flags any firm that simultaneously raises net positive debt above \$100,000 and makes total payouts above \$100,000 in the same fiscal year, the alternative definitions impose stricter thresholds requiring that net debt issuance equals or exceeds 10%, 25%, and 50% of total payout, respectively:

$$DEBT\_FIN^k_{i,t} = \begin{cases} 1 & \text{if } TP_{i,t} > 0 \text{ and } \dfrac{NDI_{i,t}}{TP_{i,t}} \geq k \\ 0 & \text{otherwise} \end{cases} \qquad k \in \{0.10,\ 0.25,\ 0.50\}$$

These thresholds are designed to isolate firms where debt more meaningfully funds the payout.

A.4 Control Variables

Two sets of control variables are used. The first follows Boudoukh et al. (2007) and Fama and French (1992) and is included in all specifications. The second, motivated by Farre-Mensa et al. (2025), is added in the specifications that include $DEBT\_FIN$ to absorb firm characteristics that systematically differ between debt-financing and internally funded firms. Specifications are

The first set includes three variables: beta, log size, and log book-to-market. To keep the timing convention transparent, we distinguish between two market capitalization measures: $ME^{Jun}_{i,t}$ refers to firm i's market capitalization at the end of June of year t, and $ME^{Dec}_{i,t-1}$ refers to market capitalization at the end of December of year $t-1$. The former is used for the size variable, while the latter is used as the denominator for book-to-market and for all yield measures defined in Section A.1.

Firm size is measured as the natural logarithm of June market capitalisation:

$$\ln(ME_{i,t}^{Jun})$$

The book-to-market ratio is constructed using fiscal year $t-1$ book equity (Compustat item *seq*) plus deferred taxes (Compustat item *txdb*), scaled by December of year $t-1$ market capitalization:

$$\ln\left(\frac{BE_{i,t-1}}{ME_{i,t-1}^{Dec}}\right)$$

Both variables are matched with monthly returns from July of year t to June of year $t+1$, following the standard Fama-French (1992) timing convention which ensures all accounting information is publicly available before the returns it is used to explain.

Market beta is estimated using a two-step procedure following Fama and French (1992) and Dimson (1979). Pre-ranking betas are first computed for each stock by regressing monthly excess returns on the contemporaneous and lagged CRSP value-weighted market excess return, using between 24 and 60 months of available historical data. The sum of the two slope coefficients constitutes the pre-ranking beta, following Dimson (1979) to adjust for non-synchronous trading. These estimates are updated annually each July, and stocks are required to have at least 24 months of historical return data before being included in the estimation.

To obtain more precise beta estimates, stocks are sorted into 100 portfolios based on size deciles and pre-ranking beta deciles, using NYSE breakpoints for both sorts. Value-weighted portfolio returns are computed over the full sample period and regressed on the contemporaneous and lagged market excess return, yielding a post-ranking beta for each of the 100 portfolios. This post-ranking beta is then assigned to every stock within the corresponding portfolio and enters the Fama-MacBeth regression as the measure of systematic risk. The two-step procedure reduces noise in individual firm beta estimates by exploiting the greater stability of portfolio-level time-series regressions, following the implementation of Fama and French (1992) and Boudoukh et al. (2007).

The second set adds three variables motivated by Farre-Mensa et al. (2025), who document that debt-financing firms are systematically different from internally funded firms in ways that may independently affect returns. Specifically, debt-financing payout firms have different leverage, cash holdings, and operating cash flow (OCF). Without controlling for these characteristics, the $DEBT\_FIN$ interaction term could reflect firm characteristics rather than the payout financing channel specifically. All three variable definitions follow the exact definition of Farre-Mensa et al. (2025).

Each of these characteristics has an established link to expected returns in empirical asset pricing literature. Leverage has been shown to predict returns cross-sectionally (Bhandari (1988)), cash holdings are positively related to expected returns through a precautionary savings channel (Palazzo (2012)). Operating cash flow is closely related to cash-based operating profitability measures that have been shown to predict cross-sectional returns (Ball, Gerakos, Linnainmaa, and Nikolaev (2016)). Our specific variable definitions follow Farre-Mensa et al. (2025) rather than the original return-predictability papers, in order to match the literature that motivates the inclusion of these controls in the first place.

Leverage is defined as total debt (Compustat items *dltt* + *dlc*) scaled by total assets

(Compustat item *at*):

$$LEV_{i,t} = \frac{DLTT_{i,t} + DLC_{i,t}}{AT_{i,t}}$$

Cash holdings are cash and short-term investments (Compustat item *che*) scaled by total assets (Compustat item *at*):

$$CASH_{i,t} = \frac{CHE_{i,t}}{AT_{i,t}}$$

Operating cash flow is defined as operating activities cash flow (Compustat item *oancf*) scaled by total assets (Compustat item *at*),

$$OCF_{i,t} = \frac{OANCF_{i,t}}{AT_{i,t}}$$

A.5 Persistent versus Occasional Debt-Financing

DEBT_FIN treats every debt-financed payout identically, regardless of whether the firm has a trend of doing debt-financed payouts or not. Farre-Mensa et al. (2025) find that two-thirds of firms that externally finance their payouts continue to do so in at least half of the following five years, suggesting debt-financing is largely a persistent feature of firm policy rather than a transitory event. To test whether the conditional *NPY*-return relation varies with this persistence dimension, *DEBT_FIN* is decomposed into two mutually exclusive indicators following the split of Farre-Mensa et al. (2025).

Persistence is measured using the firm's debt-financing history in the five fiscal years strictly preceding year t (years $t-5$ through $t-1$). Year t itself is used only in the eligibility condition, and not in the persistence classification. Constructing the indicator from strictly lagged data ensures that the classification of firm i at year t is independent of contemporaneous outcomes used to estimate the regression:

$$\text{DEBT\_FIN\_persist}_{i,t} = \mathbf{1}\left\{\text{DEBT\_FIN}_{i,t} = 1 \text{ and } \sum_{s=1}^{5} \text{DEBT\_FIN}_{i,t-s} \geq 3\right\}$$

$$\text{DEBT\_FIN\_occas}_{i,t} = \mathbf{1}\left\{\text{DEBT\_FIN}_{i,t} = 1 \text{ and } \sum_{s=1}^{5} \text{DEBT\_FIN}_{i,t-s} < 3\right\}$$

By construction, firm-years with *DEBT_FIN* = 1 are split into two mutually exclusive indicators: *DEBT_FIN_persist* and *DEBT_FIN_occas*. Firms with fewer than five fiscal years of history preceding year t cannot be classified and are therefore excluded from regressions using these indicators.

The five-year window and the three-of-five threshold follow the spirit of Farre-Mensa et al. (2025), who use the same window length to define persistence in external financing decisions, as the three-of-five threshold is the natural majority cutoff.

In our sample, of the 195,250 firm-months with *DEBT_FIN* = 1 and sufficient lagged history for classification (174,716 or 89.5%), 60,921 are persistent with debt financers and 113,795 are occasional debt-financers. In the regressions using these indicators, the single

$NPY \times DEBT\_FIN$ interaction is replaced with two separate interaction terms, $NPY \times DEBT\_FIN\_persist$ and $NPY \times DEBT\_FIN\_occas$, while all other regressors remain unchanged.

B Cross-Sectional Analysis: Fama-MacBeth Regressions

The main empirical analysis follows the cross-sectional regression procedure of Fama and MacBeth (1973), as implemented by Boudoukh et al. (2007). In each month t, a cross-sectional regression of stock returns on firm characteristics is estimated across all firms with available data:

$$R_{i,t} \;=\; a_t + \sum_{k=1}^{K} b_{kt}\, X_{k,i,t} + \varepsilon_{i,t}$$

where $R_{i,t}$ is the return on stock i in month t and $X_{k,i,t}$ are the K firm characteristics included in the specification. This gives one set of coefficient estimates per month. The process is then repeated for every month in the sample, producing a time-series of monthly coefficient estimates. The final reported coefficient for each variable is the time-series mean of those monthly estimates. Standard errors on this mean are computed using Newey and West (1987) with 12 lags to account for serial correlation in the monthly slope estimates. The key advantage of this approach is that statistical inference is based on the time-series variation of the monthly estimates, which makes the standard errors robust to cross-sectional correlation in returns. This matters because stock returns tend to move together, and a pooled OLS regression would understate standard errors by ignoring this correlation.

For inclusion in any monthly cross-section, a firm must have at least 24 months of historical return data on CRSP for beta estimation, a valid fiscal year-end Compustat observation for all required accounting variables, and a non-missing market capitalization. Firms not meeting these requirements in a given month are excluded from that month's cross-section but may re-enter in subsequent months.

Following Boudoukh et al. (2007), all regressions are estimated under both ordinary least squares (OLS) and least absolute deviation (LAD). The LAD estimator minimizes the sum of absolute rather than squared deviations and is therefore less sensitive to outliers in the return distribution, an important robustness check given the well-documented fat tails in monthly individual stock returns. Inference for the LAD specifications applies the same Fama-MacBeth time-series aggregation: monthly LAD slope estimates are computed in each cross-section, and Newey-West-adjusted standard errors are computed on their time-series mean.

C The Four Specifications

The analysis proceeds through four specifications, each building on the previous one. The first two examine whether NPY outperforms DY in explaining the cross-section of returns. The final two test whether the predictive power of NPY is conditional on how payouts are funded.

Specification 1 is the DY benchmark, using the Boudoukh et al. (2007) control set:

$$R_{i,t} = a_t + b_{1t}\,\beta_{i,t} + b_{2t}\,\ln(ME_{i,t}) + b_{3t}\,\ln\left(\frac{BE_{i,t}}{ME_{i,t}}\right) + b_{4t}\,\ln\left(\frac{D_{i,t}}{ME_{i,t}}\right) + \varepsilon_{i,t}$$

It evaluates the explanatory power of *DY* for the cross-section of returns in the extended sample and provides a benchmark for comparison with *NPY*.

Specification 2 replaces *DY* with *NPY* while retaining the same set of controls:

$$R_{i,t} = a_t + b_{1t}\,\beta_{i,t} + b_{2t}\,\ln(ME_{i,t}) + b_{3t}\,\ln\left(\frac{BE_{i,t}}{ME_{i,t}}\right) + b_{4t}\,NPY_{i,t} + \varepsilon_{i,t}$$

A positive and statistically significant coefficient on *NPY* indicates the variable has predictive power in the cross-section, and that firms with higher *NPY* earn higher future returns. Comparing the *NPY* coefficient in this specification with the *DY* coefficient in Specification 1 provides a direct test of whether *NPY* outperforms *DY*, following Boudoukh et al. (2007) directly.

Specification 3 extends Specification 2 by introducing the *DEBT_FIN* indicator and its interaction term with *NPY*, while keeping the Boudoukh et al. (2007) controls:

$$\begin{aligned} R_{i,t} = a_t &+ b_{1t}\,\beta_{i,t} + b_{2t}\,\ln(ME^{Jun}_{i,t}) + b_{3t}\,\ln(BE_{i,t-1}/ME^{Dec}_{i,t-1}) + b_{4t}\,NPY_{i,t} \\ &+ b_{5t}\,(NPY_{i,t} \times \text{DEBT\_FIN}_{i,t}) + b_{6t}\,\text{DEBT\_FIN}_{i,t} + \varepsilon_{i,t} \end{aligned}$$

The coefficient on *NPY* captures the return relation for internally funded firms. The interaction coefficient measures how that relation changes for debt-financing firms, a negative interaction coefficient implies that *NPY* is a weaker signal when payouts are funded by debt rather than internal cash flow. The main effect of *DEBT_FIN* captures the return difference between debt-financing and internally funded firms at $NPY = 0$.

Specification 4a extends Specification 3 by adding two out of three Farre-Mensa et al. (2025) controls: leverage and cash, but excluding operating cash flow:

$$\begin{aligned} R_{i,t} = a_t &+ b_{1t}\,\beta_{i,t} + b_{2t}\ln(ME^{Jun}_{i,t}) + b_{3t}\ln(BE_{i,t-1}/ME^{Dec}_{i,t-1}) \\ &+ b_{4t}\,NPY_{i,t} + b_{5t}\,(NPY_{i,t} \times \text{DEBT\_FIN}_{i,t}) + b_{6t}\,\text{DEBT\_FIN}_{i,t} \\ &+ b_{7t}\,LEV_{i,t} + b_{8t}\,CASH_{i,t} + \varepsilon_{i,t} \end{aligned}$$

Specification 4a is motivated by the fact that operating cash flow is by construction correlated with *DEBT_FIN*, as firms with higher internal cash flow are less likely to require debt to finance their payouts. Including *OCF* therefore absorbs variation that *DEBT_FIN* is intended to capture. By excluding it, Specification 4a isolates the portion of the conditional *NPY*-return relation associated with leverage and cash, providing a cleaner test of the financing channel than Specification 4b alone.

Specification 4b re-estimates Specification 3 including all three Farre-Mensa et al. (2025) motivated controls: leverage, cash, and operating cash flow:

$$\begin{aligned} R_{i,t} = a_t &+ b_{1t}\,\beta_{i,t} + b_{2t}\,\ln(ME^{Jun}_{i,t}) + b_{3t}\,\ln(BE_{i,t-1}/ME^{Dec}_{i,t-1}) \\ &+ b_{4t}\,NPY_{i,t} + b_{5t}\,(NPY_{i,t} \times \text{DEBT\_FIN}_{i,t}) + b_{6t}\,\text{DEBT\_FIN}_{i,t} \\ &+ b_{7t}\,LEV_{i,t} + b_{8t}\,CASH_{i,t} + b_{9t}\,OCF_{i,t} + \varepsilon_{i,t} \end{aligned}$$

Specification 4b is the most demanding controls benchmark. By directly controlling for these characteristics, it absorbs the systematic differences between debt-financing and internally funded firms documented by Farre-Mensa et al. (2025). However, because OCF and $DEBT\_FIN$ share variation by construction, attenuation between Specifications 4a and 4b should be interpreted as a conservative ceiling on the controls effect rather than as direct evidence that firm characteristics explain the financing channel.

IV Empirical Results

This section presents the empirical results. Section A compares DY and NPY as cross-sectional return predictors, replicating Boudoukh et al. (2007) in our extended sample. Section B introduces the debt-financing indicator and tests whether the return predictability of NPY is conditional on financing source. Section C investigates the divergence between OLS and LAD estimates and documents the distributional mechanism driving it. Section D examines whether the conditional discount differs between firms that debt-finance their payouts persistently and those that do so occasionally.

A Dividend Yield vs Net Payout Yield

Table I reports Fama-MacBeth regressions of monthly stock returns on DY (Specification 1) and NPY (Specification 2), each with the Fama and French (1992) controls as used in Boudoukh et al. (2007).

The OLS estimates show the expected pattern in the control variables, log book-to-market is positive and significant in both specifications, the post-ranking beta coefficient is statistically indistinguishable from zero, and log size is small and insignificant. More relevant for our analysis, the yield variables differ considerably between the two specifications. The coefficient on DY is -0.032 with a t-statistic of -0.60, statistically indistinguishable from zero. The coefficient on NPY is 0.023 with a t-statistic of 3.36, significant at the 1% level. The point estimate on NPY is therefore positive and statistically meaningful whereas the DY estimate is neither.

The LAD results sharpen this contrast. The DY coefficient remains insignificant (0.039, $t = 0.91$), while the NPY coefficient rises to 0.051 with a t-statistic of 8.48. The LAD estimate on NPY is more than twice the OLS estimate, a divergence in the same direction as that reported by Boudoukh et al. (2007), but larger in magnitude in our extended sample. Given the established difference between OLS and LAD, the divergence is informative about the role of outliers. The larger LAD estimates suggest that extreme observations in the return distribution attenuate the OLS coefficient on NPY, consistent with the sensitivity of mean-based estimators to heavy tails.

Among the controls, the book-to-market effect remains positive and significant, while the size coefficient switches sign and becomes positive and significant. The sign reversal is consistent with the broader point of Knez and Ready (1997) that the size effect is highly sensitive to outliers in cross-sectional return regressions, and matches the LAD pattern reported in Boudoukh et al. (2007).

Table I
Dividend Yield versus Net Payout Yield in the Cross-Section

	OLS		LAD	
Variable	(1)	(2)	(3)	(4)
DY	−0.032		0.039	
	(0.053)		(0.043)	
	[−0.60]		[0.91]	
NPY		0.023***		0.051***
		(0.007)		(0.006)
		[3.36]		[8.48]
Beta	−0.000	0.001	−0.002	−0.001
	(0.002)	(0.002)	(0.002)	(0.002)
	[−0.05]	[0.29]	[−1.24]	[−0.58]
ln(ME)	−0.001	−0.001	0.004***	0.003***
	(0.001)	(0.001)	(0.000)	(0.000)
	[−0.89]	[−1.64]	[11.36]	[10.29]
ln(BM)	0.002**	0.002*	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
	[2.31]	[1.92]	[3.94]	[3.27]
Constant	0.015***	0.017***	−0.018***	−0.015***
	(0.005)	(0.004)	(0.003)	(0.003)
	[3.15]	[3.78]	[−5.53]	[−5.38]
Months	420	420	420	420

This table reports Fama and MacBeth (1973) cross-sectional regressions of monthly stock returns on dividend yield (DY) or net payout yield (NPY) and firm-level controls. The sample consists of all non-financial, non-utility U.S. common stocks in the merged CRSP/Compustat database from July 1990 to June 2025, yielding 420 monthly cross-sections. DY is total cash dividends in fiscal year $t-1$ scaled by market capitalization at the end of December of year $t-1$. NPY is net payout yield, equal to dividends plus repurchases minus equity issuance net of increases in preferred stock redemption value, scaled by December year $t-1$ market capitalization. Beta is the post-ranking beta from 100 size $\times$ pre-ranking beta portfolios following Fama and French (1992). ln(ME) is the natural log of market capitalization in June of year t. ln(BM) is the natural log of book equity (stockholders' equity plus deferred taxes) divided by December year $t-1$ market capitalization. To mitigate the effect of outliers, we trim the upper 5% of the dividend yield distribution, the upper and lower 2.5% of the net payout yield distribution, and the upper and lower 0.5% of the log book-to-market distribution. Columns (1) and (2) report ordinary least squares (OLS) estimates of the conditional mean; columns (3) and (4) report least absolute deviation (LAD) estimates of the conditional median. Reported coefficients are time-series means of the monthly cross-sectional estimates. Standard errors in parentheses and t-statistics in brackets are computed using Newey and West (1987) with 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Together, these results show that NPY still outperforms DY as a cross-sectional return predictor in our extended sample, replicating the central finding of Boudoukh et al. (2007) and complementing the finding of Eaton and Paye (2017) that NPY still holds in the time-series. The unconditional NPY-return relationship established here serves as the baseline for the conditional analysis that follows, where we examine whether this relationship varies with how payouts are financed.

B The Debt-financing Interaction

Table II below examines whether the cross-sectional NPY-return relationship is conditional on financing source by introducing the debt-financing indicator $DEBT\_FIN$ and its interaction with NPY to the baseline specification of Table I. Specification 3 uses the Fama and French (1992) controls used in Boudoukh et al. (2007). Specification 4a adds two of the three Farre-Mensa et al. (2025) controls (leverage and cash). Specification 4b additionally adds operating cash flow.

OLS and LAD deliver opposing conclusions about the interaction. Under OLS, the $NPY \times DEBT\_FIN$ interaction is small, positive and statistically insignificant in all three specifications. The OLS estimates provides no evidence that the market prices debt-financed and internally financed payouts differently. Under LAD, the same interaction is large, negative, and significant under all specifications. In Specification 3 the LAD estimate is -0.042 ($t = -5.40$), in Specification 4a it is -0.040 ($t = -4.90$), in Specification 4b it is -0.024 ($t = -3.20$). LAD estimates show that conditional on the same NPY level, debt-financing firms earn lower future returns at the conditional median than firms that fund payouts internally.

The progression of LAD interaction across the three specifications is itself informative. Adding leverage and cash in Specification 4a changes the interaction by less than 5% in magnitude (from -0.042 to -0.040). Leverage and cash, despite being economically important controls, absorb almost none of the conditional NPY-return relation. Adding operating cash flow in Specification 4b, by contrast, reduces the interaction by an additional 40% (from -0.040 to -0.024). The attenuation between Specification 3 and Specification 4b is therefore almost entirely attributable to the inclusion of OCF.

Two interpretations of the OCF effect coexist. First, operating cash flow is an established cross-sectional return predictor (Ball, Gerakos, Linnainmaa, and Nikolaev (2016)) and may absorb variation in returns correlated with $DEBT\_FIN$ through firm-characteristic channels rather than through the financing channel itself. This is the reason for including OCF in Specification 4b. Second, operating cash flow and $DEBT\_FIN$ are not fully independent regressors. The cash-flow identity implies that firms whose payouts exceed their internal cash flow must raise external securities, so one component of $DEBT\_FIN$'s variation reflects firms that cannot fund payouts internally. However, $DEBT\_FIN$ also captures firms that debt-finance by choice rather than by necessity, including for tax optimization and joint leverage and cash management (Farre-Mensa et al. (2025)). Controlling for OCF in Specification 4b therefore absorbs both the firm-characteristic channel and the cash-constraint dimension of $DEBT\_FIN$'s variation, but the regression cannot tell us how much of the 40% attenuation is each. Specification 4b should therefore be read as the most demanding controls benchmark, with the caveat that part of its attenuation reflects OCF absorbing variation $DEBT\_FIN$

Table II
The Conditional NPY Premium: Interaction with Debt Financing

	OLS			LAD		
Variable	(1) Spec 3	(2) Spec 4a	(3) Spec 4b	(4) Spec 3	(5) Spec 4a	(6) Spec 4b
NPY	0.023***	0.022***	0.015***	0.057***	0.052***	0.029***
	(0.007)	(0.007)	(0.005)	(0.006)	(0.006)	(0.005)
	[3.29]	[3.34]	[2.88]	[9.29]	[9.00]	[5.80]
NPY × *DEBT_FIN*	0.010	0.009	0.013	−0.042***	−0.040***	−0.024***
	(0.009)	(0.009)	(0.008)	(0.008)	(0.008)	(0.007)
	[1.12]	[1.05]	[1.58]	[−5.40]	[−4.90]	[−3.20]
DEBT_FIN	−0.001	−0.000	0.000	0.001	0.001**	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
	[−1.40]	[−0.40]	[0.02]	[1.28]	[2.48]	[3.85]
Beta	0.001	0.000	0.001	−0.001	−0.001	0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
	[0.26]	[0.28]	[0.40]	[−0.59]	[−0.35]	[0.23]
ln(ME)	−0.001	−0.001	−0.001**	0.003***	0.003***	0.002***
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
	[−1.58]	[−1.41]	[−2.18]	[10.27]	[10.27]	[9.24]
ln(BM)	0.002**	0.002***	0.002***	0.003***	0.002***	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	[2.02]	[2.69]	[2.74]	[3.25]	[3.06]	[2.94]
Leverage		−0.004	−0.003		−0.006***	−0.003
		(0.003)	(0.003)		(0.002)	(0.002)
		[−1.51]	[−1.18]		[−3.54]	[−1.63]
Cash		0.004	0.007*		−0.004	0.003
		(0.004)	(0.004)		(0.003)	(0.003)
		[1.02]	[1.81]		[−1.23]	[0.96]
OCF			0.010**			0.033***
			(0.005)			(0.003)
			[2.03]			[11.82]
Constant	0.017***	0.016***	0.017***	−0.015***	−0.013***	−0.015***
	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
	[3.77]	[3.64]	[3.72]	[−5.38]	[−4.87]	[−5.37]
Months	420	420	420	420	420	420

This table reports Fama and MacBeth (1973) cross-sectional regressions of monthly stock returns on net payout yield, the debt-financing indicator, their interaction, and firm-level controls. The sample consists of all non-financial, non-utility U.S. common stocks in the merged CRSP/Compustat database from July 1990 to June 2025, yielding 420 monthly cross-sections. NPY is net payout yield, equal to dividends plus repurchases minus equity issuance net of increases in preferred stock redemption value, scaled by December year $t-1$ market capitalization. DEBT_FIN equals one for firm-years in which the firm simultaneously makes positive total payouts (dividends plus repurchases) and raises positive net debt, both exceeding $100,000. Net debt issuance is long-term debt issued minus long-term debt retired plus the change in current debt, floored at zero. Leverage is total debt scaled by total assets. Cash is cash and short-term investments scaled by total assets. OCF is operating cash flow scaled by total assets. Leverage, Cash, and OCF are winsorized at the 1st and 99th percentiles of their annual cross-sectional distributions. All accounting variables are measured in fiscal year $t-1$. Specification 3 uses the Fama and French (1992) control set (Beta, ln(ME), ln(BM)). Specification 4a adds Leverage and Cash. Specification 4b additionally adds OCF, following Farre-Mensa, Michaely, and Schmalz (2025). Columns (1)–(3) report OLS estimates; columns (4)–(6) report LAD estimates. Standard errors in parentheses and t-statistics in brackets are computed using Newey and West (1987) with 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

is intended to capture, whereas Specification 4a provides the cleaner test of the financing channel as a whole.

The economic magnitude of the interaction coefficient is large. In Specification 4a, the LAD estimates imply that debt-financing firms retain only a small fraction of the baseline *NPY*-return slope. The marginal effect of *NPY* falls from 0.052 for internally financed payout firms to 0.012 ($0.052 - 0.040$) for debt-financing firms. Equivalently, a one-standard-deviation increase in *NPY* is associated with materially smaller future returns among debt-financing firms.

The negative LAD interaction is robust to two alternative specifications that address distinct concerns about the baseline construction, with full results reported in the Appendix. The first concern is that the baseline *DEBT_FIN* indicator flags any firm with positive net debt and positive payout above $100,000, regardless of how large debt issuance is relative to payouts. To address this, Appendix Table AI re-estimates the OLS and LAD regressions using stricter thresholds, where net debt issuance must equal at least 10%, 25%, or 50% of total payouts for *DEBT_FIN* = 1. The LAD interaction remains negative and significant at the 1% level across all three threshold variations for Specifications 3 and 4a, with point estimates ranging from -0.041 to -0.032 in Specification 3 and similar magnitudes in Specification 4a. Specification 4b weakens with stricter thresholds and reaches marginal significance at the 50% threshold, consistent with *OCF* and *DEBT_FIN* overlapping more heavily as the threshold tightens. Mechanically, stricter thresholds increasingly select firms whose payouts cannot be supported by internal cash generation alone, so *DEBT_FIN* becomes more closely tied to the cash-flow shortfall captured by *OCF* rather than discretionary debt-financing choices such as tax optimization or leverage management. The second concern is that *DEBT_FIN* may be capturing industry-level differences in leverage and payout policy rather than firm-level financing decisions. Appendix Table AII addresses this by adding Fama and French (1997) 12 industry fixed effects to each monthly cross-section. The LAD interaction shrinks modestly (by approximately 7% to 13% in magnitude) but remains significant at the 1% level across all three specifications. This suggests that conditional discount on *NPY* for debt-financing firms is not driven by a particular *DEBT_FIN* definition or by industry-specific patterns of leverage and payout policy in Specifications 3 and 4a, while Specification 4b remains robust to industry effects but is more sensitive to the threshold definition for the *OCF*-related reasons discussed above.

Together, these results suggest that the cross-sectional *NPY*-return relationship is conditional on payout financing source: high *NPY* is a meaningfully weaker signal when payouts are funded by borrowing rather than by internal cash flow under LAD. The disagreement between OLS and LAD across all three specifications implies that the conditional return distribution of debt-financing firms is asymmetric in a way that affects mean-based and median-based estimators differently. The next subsection traces the source of this divergence.

C The Source of the OLS-LAD Divergence

The previous subsection documented persistent disagreement between OLS and LAD estimates of the *NPY* × *DEBT_FIN* interaction. This subsection traces that disagreement to its source in the conditional return distribution of debt-financing firms.

Table III
Summary Statistics of Monthly Returns by Debt-Financing Status

Statistic	*DEBT_FIN = 0*	*DEBT_FIN = 1*
N	783,861	195,250
Mean	0.0123	0.0101
Median	0.0000	0.0060
Standard deviation	0.2040	0.1496
Skewness	8.05	30.08
Kurtosis	374.20	5,113.08

This table reports summary statistics of monthly stock returns separately for firm-months in which the firm debt-finances its payouts (DEBT_FIN = 1) and firm-months in which it does not (DEBT_FIN = 0). The sample consists of all non-financial, non-utility U.S. common stocks in the merged CRSP/Compustat database from July 1990 to June 2025, yielding 420 monthly cross-sections. DEBT_FIN equals one for firm-years in which the firm simultaneously makes positive total payouts (dividends plus repurchases) and raises positive net debt, both exceeding $100,000, where net debt issuance is long-term debt issued minus long-term debt retired plus the change in current debt, floored at zero. Each firm-month is treated as a single observation; statistics are pooled across the full panel. Skewness and kurtosis are reported as excess (i.e., normal distribution = 0).

The two distributions differ markedly in their tails. Mean returns are slightly lower for debt-financing firm-months (0.0101 vs. 0.0123) and median returns are slightly higher (0.0060 vs. 0.0000). The standard deviation of the $DEBT\_FIN = 1$ distribution is in fact lower than that of $DEBT\_FIN = 0$ (0.150 vs 0.204), but skewness is nearly four times larger and excess kurtosis is more than thirteen times larger. The distribution of firms that debt-finance their payouts is more concentrated in its center, but substantially heavier-tailed on the right, consistent with the type of asymmetry that can generate disagreement between mean- and median-based estimators when a small set of extreme positive returns pulls the conditional mean above the conditional median.

Table IV below reports the $NPY \times DEBT\_FIN$ interaction coefficient from Fama-MacBeth quantile regressions estimated at ten quantiles of the conditional return distribution, for each of Specifications 3, 4a, and 4b. Figure II makes the upper-tail reversal visible: the interaction is steady-negative through the body of the distribution and turns sharply positive above the 75th percentile, with the slope of the reversal accelerating between the 95th and 99th percentiles.

Table IV
The NPY × DEBT_FIN Coefficient across the Conditional Return Distribution

	Specification 3		Specification 4a		Specification 4b	
Quantile	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*	*Coefficient*	*t-statistic*
0.05	−0.067***	[−2.85]	−0.050**	[−2.30]	0.007	[0.34]
0.10	−0.063***	[−3.68]	−0.053***	[−3.42]	−0.001	[−0.06]
0.25	−0.058***	[−5.10]	−0.047***	[−4.29]	−0.015	[−1.54]
0.40	−0.045***	[−5.25]	−0.040***	[−4.76]	−0.023***	[−2.95]
0.50	−0.042***	[−5.40]	−0.040***	[−4.90]	−0.024***	[−3.20]
0.60	−0.026***	[−3.10]	−0.027***	[−3.24]	−0.020***	[−2.70]
0.75	0.004	[0.32]	−0.004	[−0.35]	−0.012	[−1.24]
0.90	0.103***	[5.68]	0.088***	[4.98]	0.043***	[2.75]
0.95	0.207***	[6.27]	0.172***	[5.54]	0.088***	[3.26]
0.99	0.740***	[8.91]	0.678***	[7.83]	0.483***	[6.66]

This table reports the NPY × DEBT_FIN interaction coefficient from Fama and MacBeth (1973) quantile regressions at ten quantiles of the conditional return distribution. The sample consists of all non-financial, non-utility U.S. common stocks in the merged CRSP/Compustat database from July 1990 to June 2025, yielding 420 monthly cross-sections. NPY is net payout yield, equal to dividends plus repurchases minus equity issuance net of increases in preferred stock redemption value, scaled by December year $t-1$ market capitalization. DEBT_FIN equals one for firm-years in which the firm simultaneously makes positive total payouts and raises positive net debt, both exceeding $100,000, where net debt issuance is long-term debt issued minus long-term debt retired plus the change in current debt, floored at zero. In each month, a cross-sectional quantile regression at quantile q is estimated; the reported coefficient is the time-series mean of the monthly estimates. Specification 3 uses the Fama and French (1992) control set: Beta, ln(ME), and ln(BM). Specification 4a additionally includes Leverage and Cash. Specification 4b additionally includes Operating Cash Flow (OCF), following Farre-Mensa, Michaely, and Schmalz (2025); Leverage, Cash, and OCF are winsorized at the 1st and 99th percentiles of their annual cross-sectional distributions. t-statistics in brackets are computed using Newey and West (1987) with 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

Figure II
Quantile regression of conditional return distribution.

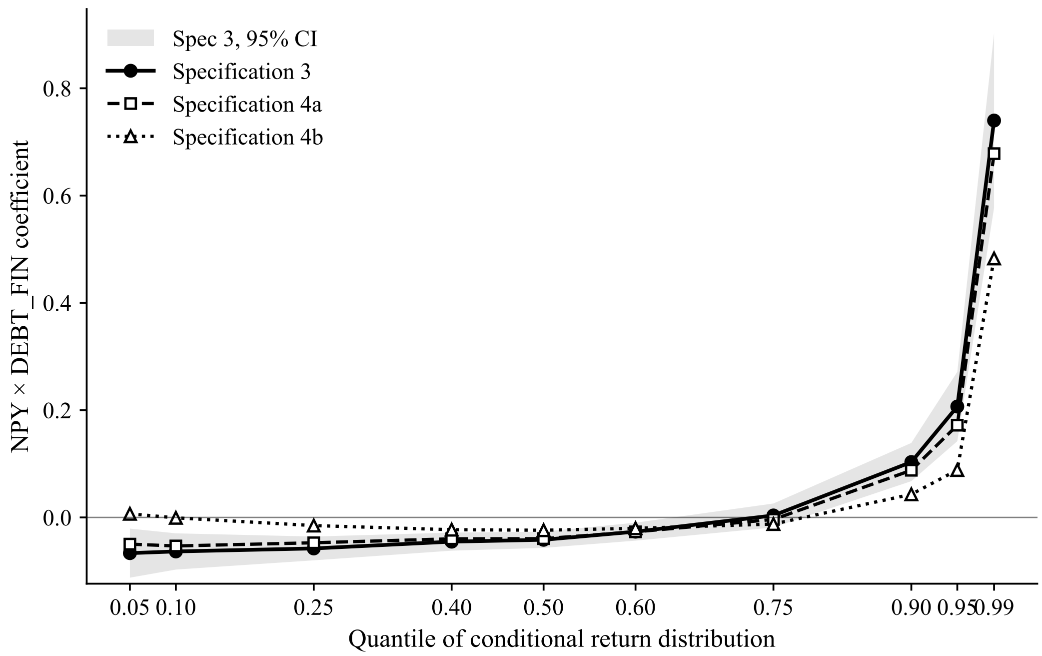

Figure II: Quantile regression of conditional return distribution. This figure plots the time-series mean of monthly Fama–MacBeth (1973) cross-sectional quantile-regression coefficients on the interaction between net payout yield (NPY) and the debt-financing indicator ($DEBT\_FIN$) across quantiles of the conditional return distribution. In each month from July 1990 to June 2025, a cross-sectional quantile regression is estimated at quantile q, and coefficients are averaged over 420 monthly cross-sections. Specification 3 includes the Fama and French (1992) controls (Beta, $\ln(ME)$, $\ln(BM)$), while Specifications 4a and 4b additionally include leverage, cash, and operating cash flow following Farre-Mensa, Michaely, and Schmalz (2025). The shaded area denotes the 95% confidence interval for Specification 3.

The pattern is pronounced. Across the body of the distribution, from the 5th percentile through the 60th percentile, the interaction is negative and significant. In Specifications 3 and 4a, it is statistically significant at all quantiles, with point estimates ranging from -0.026 to -0.067. Specification 4b attenuates the lower-tail coefficients towards insignificance, but preserves the negative interactions in the central quantiles.

In the upper tail the sign reverses sharply. Under Specification 3 the coefficient at the 90th percentile rises to 0.103, at the 95th percentile 0.207, and 0.740 at the 99th percentile. Under Specification 4b the upper-tail values are smaller in magnitude but remain strongly positive. Across all three specifications, the jump from the 95th percentile to the 99th percentile is large, a factor of 3.6 under Specification 3, 3.9 under Specification 4a, and 5.5 under Specification 4b. This pattern indicates that the positive upper-tail effect is not a gradual feature of the right tail of the distribution but is concentrated in the upper 1–2% of monthly returns.

If the upper-tail reversal documented above is responsible for the OLS-LAD divergence, then removing those upper-tail observations should reconcile the two estimators. Table V below provides this test directly.

Table V
NPY × DEBT_FIN Interaction across Top-Trimmed Returns

		OLS			LAD		
Trim	*N kept*	*Spec 3*	*Spec 4a*	*Spec 4b*	*Spec 3*	*Spec 4a*	*Spec 4b*
0%	979,111	0.010	0.009	0.013	−0.042***	−0.040***	−0.024***
		[1.12]	[1.05]	[1.58]	[−5.40]	[−4.90]	[−3.20]
0.5%	973,962	−0.028***	−0.027***	−0.012	−0.047***	−0.046***	−0.027***
		[−3.48]	[−3.45]	[−1.64]	[−6.12]	[−5.75]	[−3.63]
1%	969,059	−0.032***	−0.030***	−0.011	−0.048***	−0.048***	−0.027***
		[−3.66]	[−3.60]	[−1.51]	[−6.00]	[−5.69]	[−3.55]
2.5%	954,388	−0.041***	−0.039***	−0.016**	−0.052***	−0.050***	−0.030***
		[−4.68]	[−4.55]	[−2.06]	[−6.40]	[−5.95]	[−3.88]
5%	929,835	−0.047***	−0.043***	−0.017**	−0.058***	−0.054***	−0.030***
		[−4.76]	[−4.58]	[−1.99]	[−6.49]	[−6.22]	[−3.61]

This table reports the NPY × DEBT_FIN interaction coefficient from Fama and MacBeth (1973) cross-sectional regressions estimated after dropping the top $X\%$ of monthly returns in each cross-section, with X varying from zero (no trimming) to five percent. The sample consists of all non-financial, non-utility U.S. common stocks in the merged CRSP/Compustat database from July 1990 to June 2025, yielding 420 monthly cross-sections. NPY is net payout yield. DEBT_FIN equals one for firm-years in which the firm simultaneously makes positive total payouts and raises positive net debt, both exceeding $100,000. Specification 3 includes Beta, ln(ME), and ln(BM). Specification 4a additionally includes Leverage and Cash. Specification 4b additionally includes OCF. Leverage, Cash, and OCF are winsorized at the 1st and 99th percentiles of their annual cross-sectional distributions. The reported coefficient is the time-series mean of the monthly cross-sectional estimates, with t-statistic in brackets computed using Newey and West (1987) with 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

At 0.5% trimming, the OLS flips sign and reaches significance in Specification 3 and 4a, and at 2.5% trimming Specification 4b follows the same pattern. The OLS and LAD estimates do not disagree whether debt-financing firms earn lower returns conditional on a given level of *NPY*. They agree that this conditional discount exists and that it is sizable. The OLS estimate is held positive in the untrimmed sample by the upper 0.5% of monthly returns, where the *NPY*-return relationship reverses for debt-financing firms. Once those returns are excluded, OLS and LAD agree on the sign and rough magnitude of the conditional *NPY*-return relation.

Once the upper 0.5% of monthly returns is excluded, OLS and LAD agree on both the sign and rough magnitude of the conditional discount on *NPY*. The OLS-LAD disagreement is not a disagreement about whether debt-financing firms earn lower returns conditional on *NPY*. Instead, it is about how a small set of extreme positive returns weights into the conditional mean.

D Persistent versus Occasional Debt-Financing

Section B documents that the cross-sectional *NPY*-return relationship is weaker for firms that debt-finance their payouts. This subsection examines whether the effect concentrates among firms with a persistent history of debt-financing, following the persistence channel that Farre-Mensa et al. (2025) document at the announcement frequency.

Following Section III.A.5, the $NPY \times DEBT\_FIN$ interaction is replaced with separate $NPY \times$ Persistent and $NPY \times$ Occasional interactions, with internally funded firms as the reference category.

Table VI below reports the results. Under LAD, the *NPY* interaction is negative and statistically significant for both subgroups. In Specification 3, the persistent interaction is -0.050 ($t = -3.02$) vs. -0.035 ($t = -3.11$) for occasional debt-financers. Specification 4a shows a similar pattern (-0.044 vs. -0.035), and Specification 4b attenuates both interactions to -0.031 ($t = -1.90$) and -0.019 ($t = -1.90$). Across all three specifications, point estimates are larger in magnitude for persistent debt-financers, between 26 and 64% larger than for occasional debt-financers.

However, a formal Wald test of the differential between the persistent and occasional interactions cannot reject equality at conventional significance levels. Table VII below reports tests of the linear restriction $b(NPY \times \text{Persistent}) = b(NPY \times \text{Occasional})$ under both estimators. The largest absolute t-statistic on the differential is -0.86 (Specification 3 LAD). The point estimates are larger in magnitude for persistent debt-financers across all specifications, but the standard errors on the differential are wide enough that the persistence dimension cannot be statistically distinguished from a pooled *DEBT_FIN* effect. The persistent and occasional subgroups contain 60,921 and 113,795 firm-month observations respectively. Based on the estimated standard error of the differential, an effect of approximately 0.048 would be detectable at 80% power. The observed gap of 0.015 is substantially below this threshold. In other words, despite the differences in point estimates, we cannot statistically distinguish persistent from occasional debt-financers in their conditional *NPY* discount.

The implied *NPY*-return slope is markedly smaller for both debt-financing subgroups than for internally funded firms. Adding the interaction coefficient to the baseline *NPY* coefficient yields point estimates of approximately 0.002 for persistent debt-financers and 0.017

Table VI
Persistent versus Occasional Debt-Financing

	OLS			LAD		
Variable	(1) Spec 3	(2) Spec 4a	(3) Spec 4b	(4) Spec 3	(5) Spec 4a	(6) Spec 4b
NPY	0.021***	0.020***	0.013**	0.052***	0.047***	0.026***
	(0.008)	(0.007)	(0.006)	(0.006)	(0.006)	(0.005)
	[2.79]	[2.80]	[2.16]	[8.40]	[8.08]	[4.99]
NPY × *Persistent*	0.004	0.005	0.010	−0.050***	−0.044**	−0.031*
	(0.019)	(0.019)	(0.018)	(0.017)	(0.017)	(0.016)
	[0.22]	[0.25]	[0.53]	[−3.02]	[−2.56]	[−1.90]
NPY × *Occasional*	0.013	0.011	0.015	−0.035***	−0.035***	−0.019*
	(0.011)	(0.011)	(0.010)	(0.011)	(0.011)	(0.010)
	[1.18]	[1.05]	[1.42]	[−3.11]	[−3.22]	[−1.90]
Persistent	−0.001	0.000	0.000	0.000	0.001	0.001*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	[−0.78]	[0.04]	[0.33]	[0.18]	[0.73]	[1.68]
Occasional	−0.001	−0.001	−0.001	0.001**	0.002***	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	[−1.58]	[−1.02]	[−0.67]	[2.06]	[2.89]	[3.55]
Months	420	420	420	420	420	420

This table reports Fama and MacBeth (1973) cross-sectional regressions of monthly stock returns in which the NPY × DEBT_FIN interaction is replaced with two separate interactions: NPY × Persistent and NPY × Occasional. The sample consists of all non-financial, non-utility U.S. common stocks in the merged CRSP/Compustat database from July 1990 to June 2025, yielding 420 monthly cross-sections; firms with fewer than five fiscal years of history strictly preceding year t are excluded. Persistent debt-financers are firm-years in which the firm has DEBT_FIN = 1 in year t and in at least three of years $t-5$ through $t-1$. Occasional debt-financers are firm-years in which the firm has DEBT_FIN = 1 in year t but in fewer than three of years $t-5$ through $t-1$. The reference category is firm-years with DEBT_FIN = 0 (internally funded). Specification 3 includes Beta, ln(ME), and ln(BM) following Fama and French (1992). Specification 4a additionally includes Leverage and Cash. Specification 4b additionally includes OCF. Leverage, Cash, and OCF are winsorized at the 1st and 99th percentiles. Only the coefficients of interest are reported; the controls listed above enter the relevant specifications but are suppressed for clarity. Columns (1)–(3) report OLS estimates; columns (4)–(6) report LAD estimates. Standard errors in parentheses and t-statistics in brackets are based on Newey and West (1987) standard errors with 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

Table VII
Wald Test for Equality of Persistent and Occasional NPY Interactions

	OLS			LAD		
Specification	*Difference*	*SE*	*t-statistic*	*Difference*	*SE*	*t-statistic*
Spec 3	−0.009	0.019	−0.44	−0.015	0.018	−0.86
Spec 4a	−0.006	0.019	−0.34	−0.009	0.018	−0.50
Spec 4b	−0.005	0.019	−0.25	−0.012	0.018	−0.66

This table reports tests of the linear restriction $b(\text{NPY} \times \text{Persistent}) = b(\text{NPY} \times \text{Occasional})$ from Fama and MacBeth (1973) cross-sectional regressions in which the NPY × DEBT_FIN interaction is replaced with two separate interactions, NPY × Persistent and NPY × Occasional. The sample consists of all non-financial, non-utility U.S. common stocks in the merged CRSP/Compustat database from July 1990 to June 2025, yielding 420 monthly cross-sections; firms with fewer than five fiscal years of history strictly preceding year t are excluded. Persistent debt-financers are firm-years in which the firm simultaneously makes positive total payouts and raises positive net debt (both exceeding $100,000) in year t and in at least three of years $t-5$ through $t-1$. Occasional debt-financers are firm-years that satisfy the same payout and net debt conditions in year t but in fewer than three of years $t-5$ through $t-1$. Specification 3 includes Beta, ln(ME), and ln(BM) following Fama and French (1992). Specification 4a additionally includes Leverage and Cash. Specification 4b additionally includes OCF. The reported difference is the time-series mean of the monthly cross-sectional coefficient differences, with Newey and West (1987) standard errors using 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

for occasional debt-financers under Specification 3 LAD, compared to 0.052 for internally funded firms. Specifications 4a and 4b produce similar patterns. Although the difference between persistent and occasional point estimates is not statistically distinguishable, both groups exhibit a meaningfully attenuated NPY-return relationship relative to the internally funded reference group. Under OLS, both interactions are small, positive, and insignificant in the untrimmed sample, consistent with the broader OLS-LAD divergence documented in Section C. Appendix Table AIII re-estimates the split-interaction specifications after top-trimming and confirms that both the persistent and occasional OLS interactions follow the same sign-flip pattern documented in Table V, turning negative and significant once a small fraction of upper-tail returns is removed. The LAD interactions are stable across trim levels for both subgroups.

Together, these results show that both persistent and occasional debt-financers exhibit a negative conditional NPY-return relationship relative to internally funded firms once the upper-tail outliers documented in Section C are accounted for, either through LAD estimation or through top-trimming under OLS. The persistence dimension itself, however, does not produce a statistically distinguishable differential at the monthly cross-sectional frequency.

Our null differential result does not extend the announcement-return finding of Farre-Mensa et al. (2025) to the cross-sectional return predictability setting. They document that, at the announcement level, the market reacts less positively to repurchases by persistent debt-financers than to repurchases by occasional ones, suggesting investors do condition their interpretation of payouts on the firm's debt financing history. Our test of the same distinction at the monthly cross-sectional frequency does not detect a corresponding differential. The implied NPY discount is not statistically distinguishable between the two subgroups. The two findings are, however, not in conflict. The announcement-return effect Farre-Mensa et al.

(2025) documented is concentrated around a specific event window, and reflects immediate price adjustments to new information about a particular payout. Our test averages NPY-return relationships across all months and across all firm-months in our sample, and is therefore not designed to detect event-localized effects of this kind. The persistence-related differential they identify may operate at the announcement frequency without translating into a difference at the monthly cross-sectional frequency.

V Conclusion

In this thesis, we revisit the cross-sectional pricing of payout yields and ask whether the predictive power of NPY is conditional on how payouts are financed. We extend the cross-sectional analysis of Boudoukh et al. (2007) to June 2025 and introduce a debt-financing variable in the spirit of Farre-Mensa et al. (2025). The variable indicates firm-years in which positive payouts and positive net debt issuance occur simultaneously, capturing firms whose payouts could not have been sustained without external financing. We further extend Farre-Mensa et al. (2025)'s finding of persistent debt financers delivering lower returns from the announcement window into a cross-sectional asset pricing setting.

We find that the unconditional NPY continues to outperform in the cross-section, complementing Eaton and Paye (2017)'s replication in the time-series. The predictive power of NPY is weaker for firms that finance their payouts with debt. Under LAD, the interaction term between NPY and debt-financing is negative, significant and robust. Under OLS in the untrimmed sample the same interaction is small, positive and insignificant. We trace the divergence to the conditional return distribution of debt-financing firms which is sharply right-skewed. Quantile regression shows that the interaction is negative through the body of the distribution and turns positive only in the upper tail and trimming 0.5% of the highest monthly returns reverses the OLS interaction to negative and significant. The interaction is therefore a property of the conditional return distribution rather than of the estimator. Point estimates are larger for persistent than for occasional debt-financers across all specifications, but a Wald test cannot reject equality.

Standard treatments of NPY assume the cross-sectional relation between payout yield and return is homogeneous across firms. Our evidence suggests that it is conditional on the funding source of the payout. This has direct implications for asset pricing tests that use NPY as a characteristic or control because it may understate the relevant signal for internally funded firms while overstating it for debt-financing firms. The monthly cross-section shows no corresponding differential between occasional and persistent debt financers. This does not contradict the finding of Farre-Mensa et al. (2025), as their event-window test and our monthly cross-section measure different objects, and the persistence channel may operate at the announcement frequency without translating into a measurable monthly differential.

Our results leave open why the conditional relation between NPY and returns differs for debt-financing firms. Future research on the economic mechanisms underlying this relation and on the right-skewness of the return distribution for debt-financing firms can provide new insights into the relationship. Distinguishing between persistent and occasional debt-financers using alternative designs may further clarify whether these firms systematically differ in their motives.

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Appendices

Appendix A: Tables

Table AI
Alternative DEBT_FIN Thresholds: Robustness

Panel A: Ordinary Least Squares (OLS)

	$k = 0.10$			$k = 0.25$			$k = 0.50$		
Variable	Spec 3	Spec 4a	Spec 4b	Spec 3	Spec 4a	Spec 4b	Spec 3	Spec 4a	Spec 4b
NPY	0.023***	0.022***	0.015***	0.023***	0.022***	0.015***	0.023***	0.022***	0.016***
	[3.29]	[3.34]	[2.88]	[3.28]	[3.33]	[2.88]	[3.33]	[3.40]	[2.96]
$NPY \times DEBT\_FIN^k$	0.010	0.009	0.013	0.011	0.011	0.014*	0.010	0.010	0.014
	[1.10]	[1.05]	[1.58]	[1.18]	[1.16]	[1.68]	[1.00]	[0.99]	[1.47]
$DEBT\_FIN^k$	−0.001	−0.000	−0.000	−0.001	−0.000	−0.000	−0.001*	−0.001	−0.000
	[−1.51]	[−0.58]	[−0.12]	[−1.62]	[−0.64]	[−0.16]	[−1.87]	[−1.00]	[−0.51]

Panel B: Least Absolute Deviation (LAD)

	$k = 0.10$			$k = 0.25$			$k = 0.50$		
Variable	Spec 3	Spec 4a	Spec 4b	Spec 3	Spec 4a	Spec 4b	Spec 3	Spec 4a	Spec 4b
NPY	0.056***	0.051***	0.028***	0.055***	0.050***	0.027***	0.055***	0.050***	0.027***
	[9.12]	[8.95]	[5.69]	[8.76]	[8.80]	[5.56]	[8.89]	[8.65]	[5.58]
$NPY \times DEBT\_FIN^k$	−0.041***	−0.038***	−0.023***	−0.034***	−0.032***	−0.014**	−0.034***	−0.030***	−0.013*
	[−5.30]	[−4.81]	[−3.16]	[−4.42]	[−4.12]	[−2.01]	[−4.38]	[−3.68]	[−1.69]
$DEBT\_FIN^k$	0.001	0.001**	0.002***	0.001	0.001***	0.002***	0.001*	0.002***	0.002***
	[1.24]	[2.55]	[4.01]	[1.44]	[3.06]	[4.31]	[1.79]	[3.07]	[4.39]

This appendix table re-estimates Specifications 3, 4a, and 4b from Table II using alternative definitions of DEBT_FIN that impose stricter thresholds on the ratio of net debt issuance to total payout. $\text{DEBT\_FIN}^k = 1$ if both NDI > \$100,000 and TP > \$100,000 and NDI/TP $\geq k$, with $k \in \{0.10, 0.25, 0.50\}$. Panel A reports estimates from monthly OLS cross-sections; Panel B reports estimates from monthly LAD cross-sections. Each cell reports the coefficient (with significance stars) above the t-statistic in brackets. Only the coefficients of interest are reported; Beta, ln(ME), ln(BM), Leverage, Cash, and OCF are included as in Table II but suppressed for clarity. Variable definitions and sample construction are identical to those in Table II. t-statistics are computed using Newey and West (1987) with 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

Table AII
Industry Fixed Effects: Robustness

	OLS			LAD		
Variable	(1) Spec 3	(2) Spec 4a	(3) Spec 4b	(4) Spec 3	(5) Spec 4a	(6) Spec 4b
NPY	0.024***	0.023***	0.015***	0.051***	0.047***	0.024***
	(0.007)	(0.007)	(0.005)	(0.005)	(0.005)	(0.004)
	[3.59]	[3.52]	[3.07]	[9.38]	[8.94]	[6.06]
NPY × *DEBT_FIN*	0.007	0.007	0.012	−0.039***	−0.036***	−0.021***
	(0.009)	(0.009)	(0.008)	(0.009)	(0.008)	(0.008)
	[0.75]	[0.80]	[1.42]	[−4.58]	[−4.36]	[−2.72]
DEBT_FIN	−0.000	0.000	0.000	0.001	0.001**	0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
	[−0.66]	[0.03]	[0.47]	[1.40]	[2.17]	[3.38]
FF12 industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Months	420	420	420	420	420	420

This appendix table re-estimates Specifications 3, 4a, and 4b from Table II with Fama-French 12 industry fixed effects (Manufacturing as the reference category) added as additional regressors in each monthly cross-section. Only the coefficients of interest are reported; Beta, ln(ME), ln(BM), Leverage, Cash, and OCF are included as in Table II but suppressed for clarity. In columns (1)–(3), the monthly cross-sectional regression is estimated by OLS; in columns (4)–(6), it is estimated by LAD. Variable definitions and sample construction are identical to those in Table II. t-statistics in brackets are based on Newey and West (1987) standard errors with 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

Table AIII
Persistent versus Occasional Debt-Financing across Top-Trimmed Returns

Panel A: Ordinary Least Squares (OLS)

	Specification 3		Specification 4a		Specification 4b	
Trim	*Persistent*	*Occasional*	*Persistent*	*Occasional*	*Persistent*	*Occasional*
0%	0.004	0.013	0.005	0.011	0.010	0.015
	[0.22]	[1.18]	[0.25]	[1.05]	[0.53]	[1.42]
1%	−0.046**	−0.024**	−0.042**	−0.024**	−0.022	−0.008
	[−2.53]	[−2.19]	[−2.35]	[−2.20]	[−1.27]	[−0.77]
5%	−0.072***	−0.034***	−0.064***	−0.032***	−0.035**	−0.009
	[−3.78]	[−2.73]	[−3.40]	[−2.70]	[−2.01]	[−0.87]
10%	−0.076***	−0.029**	−0.065***	−0.027**	−0.035**	−0.002
	[−3.97]	[−2.22]	[−3.51]	[−2.13]	[−2.02]	[−0.21]

Panel B: Least Absolute Deviation (LAD)

	Specification 3		Specification 4a		Specification 4b	
Trim	*Persistent*	*Occasional*	*Persistent*	*Occasional*	*Persistent*	*Occasional*
0%	−0.050***	−0.035***	−0.044**	−0.035***	−0.031*	−0.019*
	[−3.02]	[−3.11]	[−2.56]	[−3.22]	[−1.90]	[−1.90]
1%	−0.062***	−0.039***	−0.057***	−0.040***	−0.041***	−0.025**
	[−3.72]	[−3.36]	[−3.46]	[−3.64]	[−2.61]	[−2.38]
5%	−0.077***	−0.047***	−0.069***	−0.044***	−0.045***	−0.029***
	[−4.69]	[−3.83]	[−4.16]	[−3.71]	[−2.74]	[−2.65]
10%	−0.073***	−0.042***	−0.066***	−0.037***	−0.040**	−0.021*
	[−4.22]	[−3.34]	[−4.02]	[−3.18]	[−2.50]	[−1.91]

This table reports the NPY × Persistent and NPY × Occasional interaction coefficients from Fama and MacBeth (1973) cross-sectional regressions estimated after dropping the top $X\%$ of monthly returns in each cross-section, with X varying from zero (no trimming, the baseline reported in Table VI) to ten percent. Panel A reports OLS estimates; Panel B reports LAD estimates. Persistent and Occasional debt-financing groups are defined as in Table VI. Specifications 3, 4a, and 4b follow Table II. Each cell reports the coefficient and the t-statistic (in brackets). Variable definitions and sample construction are identical to those in Tables II and VI. t-statistics are computed using Newey and West (1987) with 12 lags. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels.

Appendix B: Use of artificial intelligence (AI)

Artificial intelligence was used as a supportive tool in the preparation of this thesis. The most frequently used large language model was Claude Opus 4.7, which assisted with grammar, code development and debugging, and information searches. All AI-generated output was carefully reviewed and edited.