

Financing Decisions and Discretionary Accruals: Managerial Manipulation or Managerial Overoptimism

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I examine discretionary accruals estimated from cash flow statements for firms obtaining substantial external equity or debt financing. Consistent with earlier studies, I find that discretionary current accruals peak in the year firms obtain equity financing. I also find that both discretionary total accruals and discretionary current accruals peak in the year firms obtain debt financing. Furthermore, my results show that debt financing is associated with significantly higher discretionary accruals than equity financing. Controlling for firm characteristics and other robustness tests confirm the inverse relation between discretionary accruals and a firm's reliance on equity financing instead of debt financing. As preference for debt financing is related to managerial overoptimism while managerial earnings manipulation is more likely before equity financing, my findings are consistent with the hypothesis that managerial overoptimism has a more significant impact on discretionary accruals of firms obtaining substantial financing than managerial earnings manipulation.

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1. Introduction

There is substantial evidence that firms issuing new equity or debt securities exhibit poor stock performance for a number of years following these issues (e.g., Loughran and Ritter, 1995; Spiess and Affleck-Graves, 1995 and 1999; and Datta, Iskandar-Datta, and Raman, 2000). Most studies examining the reasons for abnormal post-issue performance focus on equity issues. Loughran and Ritter (1997) find that a firm's operating performance peaks at the time of public equity issue and suggest that investors may incorrectly expect good operating performance at the time of the issue to continue and pay too much for a firm's shares. Furthermore, Rangan (1998) and Teoh, Welch, and Wong (1998a, 1998b) propose that managers may be manipulating accruals to increase earnings and mislead investors. The authors find that the peak in operating performance at the time of equity issue is due to high discretionary current accruals, and that firms with higher discretionary accruals experience worse post-issue performance. This earnings manipulation hypothesis suggests that managers intentionally mislead investors. Another potential explanation for high discretionary accruals associated with security issues and poor post-issue performance is managerial overoptimism at the time of issues (e.g., Teoh, Welch, and Wong, 1998a). Overoptimistic managers, for example, may use overly generous credit policies and allow inadequate provisions for bad debts because such managers overestimate the expected success of their business strategies. In this paper, I compare discretionary accruals of firms obtaining substantial equity and debt financing to test whether managerial overoptimism or managerial earnings manipulation provide a better explanation for the results.

Managers can benefit the most from earnings manipulation when they rely on external equity financing. The higher the share price, the fewer shares a firm needs to issue to raise the same amount of money. The costs of debt financing are also somewhat lower for firms with better expected operating performance as the risk of default is perceived to be lower. However, the costs of debt financing are significantly less sensitive to the changes in expected future performance than the costs of equity financing. If the earnings manipulation hypothesis explains high discretionary accruals at the time of security issues, discretionary accruals should be higher for firms relying on external equity financing than for firms relying on debt financing.

High discretionary accruals at the time of security issues may also be due to managerial overoptimism. Overoptimism and overconfidence are common among managers. Russo and Schoemaker (1992) test overconfidence among managers from different industries and find that more than 99% of managers are overconfident. Even being smarter does not help to avoid overoptimism; intellectual abilities and overoptimism are positively related (Klaczynski and Fauth, 1996). Recent studies suggest that manager decisions are affected by manager overoptimism and overconfidence (e.g., Heaton 2002; Gervais, Heaton, and Odean, 2003; Malmendier and Tate, 2003 and 2005). While moderate managerial overconfidence may help to counteract the effect of managerial risk aversion and be beneficial to the company as managers are likely to be more risk averse with respect to their company than well-diversified shareholders (Gervais, Heaton, and Odean, 2003), strong managerial overoptimism can lead to poor business decisions and distorted financial statements. Overoptimistic managers may employ overly aggressive business and accounting

strategies that lead to higher discretionary accruals as such managers overvalue the probability of their success. Even without being dishonest, such managers may underestimate the portion of accounts receivable that is uncollectible and the cost of warranty plans. They may also overestimate the degree of completion of their long-term projects and the market value of their assets. Teoh, Welch, and Wong (1998a) discuss in more detail how managers can affect net income by their choice and application of accounting methods and by their choice of timing for asset sales and purchases. The “accrual accounting system” mandated by generally accepted accounting principles (GAAP) requires managers to adjust a firm’s cash flow when calculating net income to reflect the actual condition of the firm. Overoptimistic managers are likely to use cash flow adjustments to reflect their overoptimistic view of the firm.

Myers and Majluf (1984) suggest that managers avoid issuing undepreciated securities to finance projects to avoid transferring value from old to new security holders. As the cost of external equity financing is more sensitive to the market perception of a firm’s value than the cost of debt financing, when managers believe that the market underestimates the value of their firm, they prefer debt financing to external equity financing. Similarly, Heaton (2002) shows that overoptimistic managers prefer debt financing to external equity financing as overoptimistic managers tend to believe that the market underestimates the value of their firms. Believing that the market undervalues their firm’s shares, overoptimistic managers avoid issuing equity when they have other financing choices. Thus, Heaton’s model suggests that managers using external equity financing, on average, are less overoptimistic than managers relying on debt financing. Gombola and Marciukaityte (2005) provide support for Heaton’s model by showing that

high-growth firms relying primarily on debt financing experience worse post-financing stock performance than firms relying on external equity financing. Thus, managers issuing debt are not simply optimistic about their firm's future, they are overoptimistic and more so than the managers issuing equity. Consequently, if overoptimistic managers tend to overstate accruals and avoid external equity financing, the managerial overoptimism hypothesis suggest an inverse relation between discretionary accruals and a firm's preference for external equity financing instead of debt financing.

I test whether earnings manipulation or managerial overoptimism is a more important factor affecting the size of discretionary accruals for firms obtaining substantial financing by comparing discretionary accruals for firms that finance their growth with external equity and debt. The earnings manipulation hypothesis predicts higher discretionary accruals for equity-financing firms, while the managerial overoptimism hypothesis predicts higher discretionary accruals for debt-financing firms. Following Hribar and Collins (2002) recommendation, I estimate discretionary accruals from cash flow statements. Hribar and Collins show that discretionary accruals estimated using the balance sheet approach are positively biased when firms are involved in mergers or acquisitions. My sample of firms obtaining substantial financing is likely to include a significant number of such firms.

To create a sample of firms with substantial external financing during one fiscal year, I identify the top 25% based on their external financing obtained during that year (Year 0) normalized by beginning total assets. Firms obtaining substantial financing are especially suitable for the analysis in this paper as the effects of earnings manipulation and managerial overoptimism are likely to be stronger for high-growth firms. High-

growth firms derive a substantial part of their value from highly uncertain growth opportunities, making it harder for investors to assess the value of high-growth firms and easier for managers of these firms to mislead investors. Furthermore, high-growth firms can be expected to be managed by more overoptimistic managers than slower growing firms as overoptimistic managers believe that they have more good projects available to them than less optimistic managers do.

The external-financing sample covers a fourteen-year period from 1988 to 2001. From this sample, I identify equity- and debt-financing samples. Firms with equity financing at least twice exceeding debt financing compose the equity-financing sample and firms with debt financing at least twice exceeding equity financing compose the debt-financing sample.

Consistent with Teoh, Welch, and Wong (1998b), I find that mean discretionary current accruals peak in the year firms obtain substantial equity financing and reach 1.98%. I also find that both discretionary total accruals and discretionary current accruals peak in the year firms obtain substantial debt financing. The mean discretionary total accruals reach 2.49% and, the mean discretionary current accruals reach 4.35%. Furthermore, I find that both discretionary total accruals and discretionary current accruals are significantly higher for firms obtaining debt financing than for firms obtaining equity financing. This finding is consistent with the hypothesis that managerial overoptimism provides a better explanation for high discretionary accruals of firms obtaining substantial financing than managerial earnings manipulation.

Controlling for firm characteristics, I confirm the inverse relation between discretionary accruals and the percentage of equity financing in external financing. Firms

preferring equity to debt tend to have lower discretionary total accruals and lower discretionary current accruals. The results are similar with both winsorized and unwinsorized discretionary accrual values. Furthermore, the inverse relation between discretionary accruals and the percentage of equity financing in external financing is highly significant for the 1988-1994 subperiod and the 1995-2001 subperiod.

As small firms may have limited access to external financing and may not be able to choose the type of financing, I reexamine the relation between discretionary accruals and a firm's preference for equity financing instead of debt financing for a sample excluding small firms. This restriction has no significant effect on the results. Furthermore, I use discretionary accruals estimated relative to the accruals of firms matched by industry and performance. Again, I find a significant inverse relation between discretionary accruals and a firm's preference for equity financing instead of debt financing. All findings in this study confirm the hypothesis that managerial overoptimism is a significant factor affecting discretionary accruals of firms obtaining substantial financing.

The earning manipulation hypothesis and the managerial overoptimism hypothesis are not mutually exclusive hypotheses. A manager can be overoptimistic and dishonest at the same time. Thus, the study results do not suggest that managers never manipulate earnings to mislead investors. However, the results are consistent with the hypothesis that, for firms obtaining substantial financing, manager overoptimism has a stronger effect on discretionary accruals than manager dishonesty. Although, it is possible that a negative relation between discretionary accruals and the preference for equity financing instead of debt financing is due to some other variable that I do not

control for in this study, I do not know any theory that could suggest such a variable and explain my results without relying on managerial overoptimism.

This study contributes to the literature in three important ways. First, I show that discretionary accruals peak not only at the time of equity financing, but also at the time of debt financing. Second, I show that discretionary accruals are significantly higher for firms obtaining substantial debt financing than for firms obtaining substantial equity financing. Third, based on the results in the study, I suggest that managerial overoptimism is a significant factor distorting financial statements of firms.

The rest of this paper is organized as follows. The next section describes the sample and methodology. Section 3 presents and discusses empirical results. Section 4 concludes.

2. Sample and Methodology

2.1. Sample

To obtain the external-financing sample, I use the following steps. I start with all firm-years included in both Research Insight and CRSP databases during 1988 to 2001 fiscal years and estimate one-year equity financing as a change in common equity (item 60) minus a change in retained earnings (item 36) and debt financing as a change in total debt (total long-term debt (item 9) plus debt in current liabilities (item 34)). External financing is a sum of equity and debt financing. I normalize it using the beginning total assets. When normalized external financing cannot be calculated for a particular firm-year or a particular fiscal year is not equal to twelve months, I exclude that firm-year

from further consideration. To identify the firms that obtained substantial financing during a fiscal year, I find the top 25% of firm-years based on the normalized external financing. This procedure generates a sample with 19,879 firm-years. The fiscal year during which a firm's external financing is estimated is defined as the event year (Year 0).

I limit the sample to firm-years with the data necessary to estimate discretionary total accruals for Year 0. Furthermore, I exclude from the sample regulated utilities (SIC codes 4910-4949), depository institutions (SIC codes 6000-6099), and holding or other investment offices (SIC codes 6700-6799). As I examine the five-year post-financing period, I require that events for the same firm are at least five years apart. If a firm has more than one event in any five-year period, I include only the earliest one, limiting the sample to 8,307 events.

The equity-financing sample includes firm-years with external equity financing at least twice as high as debt financing during Year 0 (3,738 firm-years), and the debt-financing sample includes firm-years with debt financing at least twice as high as equity financing (3,592 firm-years). This sample identification procedure allows me to examine a firm's overall financing policy during one year instead of relying on a single event. A firm that makes equity issue may also make an even larger debt issue the same year. The procedure used in this paper allows me to exclude such firms from the equity-financing sample.

Table 1 describes the distribution of external-, equity-, and debt-financing samples by fiscal year. If a firm's fiscal year ends in the first five months, the fiscal year is treated as belonging to the previous calendar year (consistent with Research Insight). I

find that all samples are well distributed across time with none of the years including more than 12% of the events in any sample. Table 2 shows the ten most frequent industries (defined by the two-digit Standard Industrial Classification (SIC) code) in the financing samples. More than 5% of the external-financing firms belong to each of the following industries: business services, electronic and other electric equipment, chemicals and allied products, industrial machinery and equipment, and instruments and related products.

Table 3 presents select characteristics of financing firms. All variables in this table are estimated at the beginning of or during Year 0. Firm characteristics vary substantially across financing samples. Debt-financing firms tend to be larger than equity-financing firms. The mean market value of equity at the beginning of the event year is \$908M for debt-financing firms and \$634M for equity-financing firms. Following Loughran and Ritter's (1997) study, I estimate the market-to-book ratio as shares (item 54) multiplied by price (item 199) and divided by book value of equity (item 60). The mean market-to-book ratio is higher for the equity-financing sample (5.35) than for the debt-financing sample (2.63). Debt-financing firms are more leveraged, even at the beginning of the event year; their mean debt-to-asset ratio is 0.24, versus 0.17 for equity-financing firms.

Table 3 also shows that all firms raise significant amounts of external financing during the event year. External financing normalized by beginning total assets is higher for equity-financing firms; the mean (median) relative financing for these firms is 1.38 (0.77) and 0.71 (0.54) for debt-financing firms. To address the issue of different firm characteristics across the samples, I perform tests controlling for these characteristics.

Furthermore, I find that equity-financing firms tend to rely very strongly on external equity financing. The mean (median) equity financing to total financing ratio for these firms is 1.06 (1.00) during the event year. The mean (median) debt financing to total financing ratio for debt-financing firms is 0.95 (0.98).

2.2. Estimation of Discretionary Accruals

Hribar and Collins (2002) suggest that accruals measures estimated using balance sheet items (e.g., Teoh, Welch, and Wong, 1998a and 1998b) may be biased when firms undergo mergers and acquisitions or discontinue some of their operations and suggest using accruals measures estimated from cash flow statements. Following the methodology used in their paper, I estimate total accruals for each firm j in year t ($TACC_{j,t}$):

$$TACC_{j,t} = EXBI_{j,t} - CFO_{j,t}, \quad (2)$$

where $EXBI_{j,t}$ is earnings before extraordinary items and discontinued operations (item 123) and $CFO_{j,t}$ is operating cash flow from continuing operations (item 308 minus item 124). Following Kothari, Leone, and Wasley (2005), I exclude observations where the absolute value of total accruals exceeds the value of total assets at the beginning of the year, as such values are likely to be due to recording mistakes.

I obtain discretionary total accruals using a modified version of the Jones (1991) model. Following Teoh, Welch, and Wong (1998b), I normalize each variable using total

assets at the beginning of the year. Each year, for each two-digit SIC code, excluding sample firms, I estimate ordinary least squares regression:

$$TACC_{j,t} / TA_{j,t-1} = \mathbf{a}_0 (1 / TA_{j,t-1}) + \mathbf{a}_1 (\Delta S_{j,t} / TA_{j,t-1}) + \mathbf{a}_2 (PPE_{j,t} / TA_{j,t-1}) + \mathbf{e}_{j,t}, \quad (3)$$

where $TA_{j,t-1}$ is total assets (item 6) at the beginning of year t , $\Delta S_{j,t}$ is a change in sales (item 12) during year t , and $PPE_{j,t}$ is the gross property, plant, and equipment (item 7). To obtain reliable estimates, I require at least 10 firms in each two-digit SIC code group. Using the estimated coefficients from Equation 3, I obtain nondiscretionary total accruals for each sample firm i in year t ($NDTA_{i,t}$):

$$NDTA_{i,t} = \hat{\mathbf{a}}_0 (1 / TA_{i,t-1}) + \hat{\mathbf{a}}_1 ((\Delta S_{i,t} - \Delta TR_{i,t}) / TA_{i,t-1}) + \hat{\mathbf{a}}_2 (PPE_{i,t} / TA_{i,t-1}), \quad (4)$$

where $\Delta TR_{i,t}$ is a change in trade receivables (item 151). Then, I estimate discretionary total accruals for firm i in year t ($DTA_{i,t}$):

$$DTA_{i,t} = TACC_{i,t} / TA_{i,t-1} - NDTA_{i,t}. \quad (5)$$

Following Hribar and Collins (2002), I also estimate current accruals from cash flow statements for each firm j in year t ($ACC_{j,t}$):

$$ACC_{j,t} = -(CHGAR_{j,t} + CHGINV_{j,t} + CHGAP_{j,t} + CHGTAX_{j,t} + CHGOTH_{j,t} + DEP_{j,t}), \quad (6)$$

where $CHGAR_{j,t}$ is the decrease (increase) in accounts receivable (item 302), $CHGINV_{j,t}$ is the decrease (increase) in inventory (item 303), $CHGAP_{j,t}$ is the increase (decrease) in accounts payable (item 304), $CHGTAX_{j,t}$ is the increase (decrease) in taxes payable (item 305), $CHGOTH_{j,t}$ is the net change in other current assets (item 307), and $DEP_{j,t}$ is depreciation expense (item 125). Following Kothari, Leone, and Wasley (2005), I exclude observations where the absolute value of current accruals exceeds the value of total assets at the beginning of the year.

I use the same procedure to estimate discretionary current accruals as I used for discretionary total accruals. Each year, for each two-digit SIC code, excluding sample firms, I estimate ordinary least squares regression:

$$ACC_{j,t} / TA_{j,t-1} = \mathbf{a}_0 (1 / TA_{j,t-1}) + \mathbf{a}_1 (\Delta S_{j,t} / TA_{j,t-1}) + \hat{\mathbf{a}}_2 (PPE_{j,t} / TA_{j,t-1}) \quad (6)$$

Using the estimated coefficients from Equation 6, I obtain nondiscretionary current accruals for each sample firm i in year t ($NDCA_{i,t}$):

$$NDCA_{i,t} = \hat{\mathbf{a}}_0 (1 / TA_{i,t-1}) + \hat{\mathbf{a}}_1 ((\Delta S_{i,t} - \Delta TR_{i,t}) / TA_{i,t-1}) + \hat{\mathbf{a}}_2 (PPE_{i,t} / TA_{i,t-1}) \quad (7)$$

Then, I estimate discretionary current accruals for each sample firm i in year t ($DCA_{i,t}$):

$$DCA_{i,t} = ACC_{i,t} / TA_{i,t-1} - NDCA_{i,t} \quad (8)$$

3. Empirical Results

3.1. Discretionary Accruals for Equity- and Debt-Financing Samples

To test whether earnings manipulation or managerial overoptimism is a more significant factor distorting discretionary accruals of firms obtaining substantial financing, I examine discretionary total accruals and discretionary current accruals for the three years before and the five years following the financing year for equity- and debt-financing samples. The results are presented in Table 4. Following other discretionary accrual studies (e.g., Teoh, Welch, and Wong, 1998b; Kothari, Leone, and Wasley, 2005), discretionary accruals are winsorized at the top 1% and the bottom 1%. Winsorizing does not have significant effect on my results.

Teoh, Welch, and Wong (1998b) examine discretionary accruals estimated from balance sheet data for a sample of seasoned equity offerings. They find that discretionary current accruals peak in the year of the offering and median firm accruals reach 2.5% of total assets, significant at the 1% level. Teoh, Welch, and Wong find no evidence of positive discretionary long-term accruals at the time of equity offerings; the median discretionary long-term accruals are -1.2%, significant at the 1% level.

As discretionary accruals calculated from balance sheet data are likely to be affected by estimation problems (Hribar and Collins, 2002), I examine discretionary total accruals and discretionary current accruals estimated from cash flow statements. My equity-financing sample is different from the samples of seasoned equity offerings used in earlier studies as it includes firms obtaining both public and private external common-equity financing, excludes firms that also obtain a substantial amount of debt financing

during the same year, and includes only firms obtaining substantial equity financing. In Panel A of Table 4, I examine discretionary total accruals and discretionary current accruals for the three years before to the five years following the equity-financing year. I find negative discretionary total accruals for the whole period examined, providing no evidence of earnings manipulation before or at the time of equity financing. However, consistent with Teoh, Welch, and Wong's (1998b) findings and the earnings manipulation hypothesis, I find that discretionary current accruals peak in Year 0. The mean (median) discretionary current accruals for equity-financing sample in Year 0 are 1.98% (0.44%), significant at the 1% level. The difference in total and current discretionary accruals is consistent with the Teoh, Welch, and Wong finding of negative discretionary long-term accruals for the three years before to the three years following seasoned equity offerings. Other studies (e.g., Guenther, 1994) also find that current accruals are more likely to be manipulated by managers than long-term accruals; the current accruals are likely to be easier to manipulate than the long-term accruals to time their change before certain corporate events.

Consistent with Hribar and Collins' (2002) suggestion that discretionary accruals estimated from balance sheet data may be biased and their finding that discretionary current accruals estimated from cash flow statements are lower than discretionary current accruals estimated from balance sheet data for a sample of seasoned equity offerings, I find that discretionary total and current accruals are somewhat lower in my study than in Teoh, Welch, and Wong's study. The difference in my and Teoh, Welch, and Wong's findings may also be due to sample differences.

In Panel B of Table 4, I examine discretionary total accruals and discretionary current accruals for the three years before to the five years following the debt-financing year. I find that both discretionary total accruals and discretionary current accruals peak in Year 0 when firms obtain substantial debt financing with the mean (median) discretionary total accruals reaching 2.49% (1.87%) and the mean (median) discretionary current accruals reaching 4.35% (3.13%), significant at the 1% level. Furthermore, in Year 0, mean discretionary total accruals for the debt-financing sample are higher than mean discretionary total accruals for the equity-financing sample; and mean discretionary current accruals for the debt-financing sample are higher than mean discretionary current accruals for the equity-financing sample, both significant at the 1% level (not presented in a table). Thus, although I find some support for the earnings manipulation hypothesis as discretionary current accruals peak in the year firms obtain substantial equity financing, overall, the results are consistent with the hypothesis that managerial overoptimism has a stronger effect on the size of discretionary accruals than managerial earnings manipulation.

3.2. Regression Results

Table 3 reveals that firms relying on equity and debt financing have very different characteristics. As discretionary accruals might be affected by these characteristics, it is important to control for them when examining the relation between a firm's financing preference and its discretionary accruals. I use the logarithm of ratio of external financing to assets, the logarithm of market value of equity, the debt-to-asset ratio, and the market-to-book ratio as controlling variables. Fast-growing firms and firms with high

market-to-book ratios may be less transparent to investors making it easier for managers to manipulate earnings. Larger firms may be followed more closely by investors and analysts making it harder for managers to mislead investors. The debt-to-asset ratio may depend on a firm's access to debt market and it may also proxy for how well investors and analysts are informed about the firm.

In Table 5, I use ordinary least-squares regression analysis to examine the relation between a firm's preference for equity financing instead of debt financing and its discretionary accruals in Year 0 while controlling for firm characteristics. Panel A and Panel B are constructed in the same way, except for the dependent variable. In Panel A, I examine discretionary total accruals, and in Panel B, I examine discretionary current accruals. All models, except Model 4, use winsorized discretionary accrual values. Model 1 and Model 4 include the full sample of external-financing firms. To insure that the results are applicable to the whole sample period, I examine two subperiods. In Model 2, I examine the sample restricted to the period 1988-1994, and in Model 3, I examine the sample restricted to the period 1995-2001. As some small firms have very limited access to external financing, their managers cannot freely choose between debt and equity financing but instead have to rely on the financing that they can obtain. To insure that firms with very limited access to external financing are not affecting the results, in Model 5, I examine only firms belonging to the top three size (capitalization) quartiles in the CRSP database. Furthermore, in Model 6, I examine discretionary accruals estimated relative to those of industry- and performance-matched firms. I match by the two-digit SIC code and return on assets in Year 0. Kothari, Leone, and Wasley

(2005) suggest that such matching enhances the reliability of the results, although, possibly at the price of reduced power of the tests.

To proxy for a firm's preference for equity financing instead of debt financing, I use the ratio of equity financing to external financing in Year 0.¹ If earnings manipulation intended to mislead investors has a more significant effect on discretionary accruals than managerial overoptimism, I expect the estimated coefficients for the ratio of equity financing to external financing to be positive. If managerial overoptimism has a more significant effect, I expect these coefficients to be negative.

All six models in Panel A and Panel B of Table 5 confirm the inverse relation between discretionary accruals and the percentage of equity financing in external financing, significant at the 5% or higher level. This relation is significant at the 1% level for the full external financing sample (Model 1) and the subperiods (Models 2 and 3) for both discretionary total accruals (Panel A) and discretionary current accruals (Panel B). Comparison of Models 1 and 4 in both panels show that winsorizing only slightly increases the statistical significance of the results. Excluding small firms in Model 5 of Panel A and Panel B also does not have a significant effect on the results, suggesting that my earlier findings were not driven by small firms. Furthermore, Model 6 in both panels shows that estimating discretionary accruals as a difference between discretionary accruals of a sample firm and a matching firm does not eliminate the inverse relation between discretionary accruals and the ratio of equity financing to external financing.

¹ I also used a dummy variable equal to one when a firm belongs to the equity-financing sample and equal to zero otherwise to proxy for a firm's preference for equity financing instead of debt financing; however, as the results were essentially the same, I do not present them in a table.

Thus, controlling for firm characteristics and robustness tests confirm the inverse relation between discretionary accruals and a firm's preference for equity financing instead of debt financing. These findings are consistent with the hypothesis that managerial overoptimism has a more significant effect on the size of discretionary accruals than managerial earnings manipulation.

Furthermore, all six models in Panel A of Table 5 show that discretionary total accruals are lower for larger firms. Also, in all six models in Panel B of Table 5, I find lower discretionary current accruals for larger firms. The significance of other controlling variables varies in the examined models.

Examining the correlations among the independent variables used in the regressions, I find that these correlations are between -0.06 and 0.24 (not presented in a table). To insure that there are no problems due to multicollinearity, I estimate condition indexes for Model 1 in Panel A and Panel B. In both cases, I find that the highest condition index is below 8, indicating no problems due to multicollinearity (not presented in a table).

4. Conclusions

In this paper, I examine discretionary accruals of firms obtaining substantial equity or debt financing. Although, I find some evidence supporting the hypothesis that managers manipulate earnings before equity issues to obtain a better offer price as discretionary current accruals peak at the time of equity financing, I find even stronger evidence supporting the managerial overoptimism hypothesis. Both discretionary total

accruals and discretionary current accruals peak at the time firms obtain substantial debt financing. Furthermore, discretionary accruals are significantly higher at the time of debt financing than at the time of equity financing. Controlling for firm characteristics, I again find an inverse relation between discretionary accruals and a firm's preference for equity financing instead of debt financing. All robustness tests confirm this relation. These findings are consistent with the hypothesis that managerial overoptimism has a stronger impact on discretionary accruals of firms obtaining substantial financing than managerial earnings manipulation.

This study contributes to understanding of factors affecting discretionary accruals of a firm. Managerial earnings manipulation is not the only factor distorting a firm's financial statements; in some cases, managerial overoptimism affects financial statements more than managerial dishonesty. Better understanding of the factors distorting a firm's financial statements is important as it can help investors to use the information about a firm's discretionary accruals more effectively when pricing a firm's shares. Furthermore, understanding of factors affecting discretionary accruals can help to develop strategies to improve discretionary accruals accounting.

The findings in this study also may help understand poor stock performance after security issues. As earlier studies show that the size of discretionary accruals is related to post-issue stock performance (e.g., Teoh, Welch, and Wong, 1998b), my findings suggest that managerial overoptimism may be a significant factor explaining poor stock performance after security issues. This proposition is consistent with Gombola and Marciukaityte (2005) finding that high-growth firms obtaining debt financing

underperform high-growth firms obtaining external equity financing for a number of post-financing years.

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Table 1. Chronological Distribution of Financing Samples

Year	External-financing sample		Equity-financing sample		Debt-financing sample	
	Number of events	Percent of events	Number of events	Percent of events	Number of events	Percent of events
1988	715	8.6	215	5.8	415	11.6
1989	609	7.3	185	4.9	360	10.0
1990	380	4.6	135	3.6	204	5.7
1991	304	3.7	154	4.1	102	2.8
1992	389	4.7	202	5.4	146	4.1
1993	537	6.5	297	7.9	181	5.0
1994	650	7.8	294	7.9	271	7.5
1995	688	8.3	311	8.3	299	8.3
1996	722	8.7	366	9.8	269	7.5
1997	730	8.8	318	8.5	320	8.9
1998	717	8.6	247	6.6	387	10.8
1999	675	8.1	331	8.9	264	7.3
2000	699	8.4	425	11.4	202	5.6
2001	492	5.9	258	6.9	172	4.8
Total	8,307	100.0	3,738	100.0	3,592	100.0

I create the external-financing sample using the following steps: (1) identify firm-years included in both CRSP and Research Insight databases during 1988 to 2001; (2) exclude firm-years with the fiscal year not equal to 12 months and firm-years with a normalized external financing variable ($\text{external financing} / \text{beginning total assets}$) not available; (3) limit the set to the top 25% based on the external financing; (4) if the variables necessary to calculate discretionary total accruals are not available, exclude the firm; (5) exclude regulated utilities (SIC codes 4910-4949), depository institutions (SIC codes 6000-6099), and holding or other investment offices (SIC codes 6700-6799); and (6) if the same firm is included more than once in any five-year period, include only the earliest firm-year. The fiscal year during which the firm's external financing is estimated is defined as the event year (Year 0). I estimate equity financing as a change in common equity minus a change in retained earnings during Year 0, and I estimate debt financing as a change in total debt during Year 0. External financing is a sum of equity and debt financing. The equity-financing sample includes firms with external equity financing exceeding debt financing at least twice during Year 0, and the debt-financing sample includes firms with debt financing exceeding external equity financing at least twice during Year 0. This table reports the distribution of events for each sample by fiscal year.

Table 2. Industry Distribution of Financing Samples

Industry	SIC code	External-financing sample		Equity-financing sample		Debt-financing sample	
		Number of events	Percent of events	Number of events	Percent of events	Number of events	Percent of events
Business services	73	1,161	14.0	785	21.0	258	7.2
Electronic and other electric equipment	36	909	10.9	484	12.9	324	9.0
Chemicals and allied products	28	703	8.5	433	11.6	199	5.5
Industrial machinery and equipment	35	615	7.4	276	7.4	267	7.4
Instruments and related products	38	572	6.9	316	8.5	202	5.6
Oil and gas extraction	13	415	5.0	155	4.1	189	5.3
Communications	48	390	4.7	121	3.2	206	5.7
Wholesale trade--durable goods	50	321	3.9	107	2.9	177	4.9
Health services	80	311	3.7	127	3.4	139	3.9
Engineering and management services	87	209	2.5	131	3.5	59	1.6
Other		2,701	32.5	803	21.5	1,572	43.8
Total		8,307	100.0	3,738	100.0	3,592	100.0

This table reports the distribution of events across two-digit Standard Industrial Classification (SIC) codes. The external-financing sample includes firms that obtained significant one-year external financing during 1988 to 2001. The equity-financing sample includes firms with external equity financing exceeding debt financing at least twice during Year 0, and the debt-financing sample includes firms with debt financing exceeding external equity financing at least twice during Year 0.

Table 3. Characteristics of Financing Samples

	External-financing sample		Equity-financing sample		Debt-financing sample	
	Mean	Median	Mean	Median	Mean	Median
Market value of equity, \$M	856.59	70.48	633.69	66.98	908.26	72.68
Market-to-book of equity	3.93	2.51	5.35	3.52	2.63	1.92
Debt-to-asset ratio	0.21	0.14	0.17	0.07	0.24	0.19
External financing / total assets	1.04	0.63	1.38	0.77	0.71	0.54
Equity financing / ext. financing	0.56	0.52	1.06	1.00	0.05	0.02
Debt financing / ext. financing	0.44	0.48	-0.06	0.00	0.95	0.98

The external-financing sample includes firms that obtained significant one-year external financing during 1988 to 2001. The equity-financing sample includes firms with external equity financing exceeding debt financing at least twice during Year 0, and the debt-financing sample includes firms with debt financing exceeding external equity financing at least twice during Year 0. All variables in this table are estimated at the beginning of or during Year 0. External financing is estimated as a sum of equity and debt financing. Equity financing is a change in common equity minus a change in retained earnings, and debt financing is a change in total debt.

Table 4. Discretionary Total Accruals of Financing Firms

Fiscal year	-3	-2	-1	0	1	2	3	4	5
Panel A: Equity-financing sample									
Discretionary total accruals									
Mean, percent	-3.04***	-2.88***	-2.39***	-3.55***	-4.74***	-5.18***	-3.92***	-4.61***	-4.46***
<i>t</i> -statistic	-6.41	-6.78	-6.43	-8.27	-13.62	-14.30	-10.56	-10.91	-9.92
Median, percent	-1.25***	-1.58***	-1.27***	-2.48***	-2.60***	-2.94***	-2.77***	-2.08***	-2.74***
<i>p</i> -value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
N	1,063	1,288	1,715	3,738	3,271	2,734	2,169	1,759	1,456
Discretionary current accruals									
Mean, percent	-0.61	-0.68	-1.12**	1.98***	-0.29	-0.70*	-0.83**	-1.24***	-1.34***
<i>t</i> -statistic	-1.08	-1.38	-2.39	4.28	-0.71	-1.67	-1.96	-2.54	-2.88
Median, percent	-0.21	-0.78**	-0.54**	0.44***	-0.58	-0.78**	-0.90***	-0.99***	-0.68***
<i>p</i> -value	0.248	0.043	0.030	0.009	0.131	0.024	0.004	0.001	0.004
N	594	728	1,003	2,063	1,711	1,271	1,028	857	695

Table 4. (continued)

Fiscal year	-3	-2	-1	0	1	2	3	4	5
Panel B: Debt-financing sample									
Discretionary total accruals									
Mean, percent	-0.47	0.25	0.14	2.49***	-2.00***	-2.06***	-1.68***	-1.87***	-1.42***
<i>t</i> -statistic	-1.49	0.90	0.55	7.88	-8.23	-7.87	-6.35	-6.19	-4.16
Median, percent	-0.25	0.02	0.02	1.87***	-1.52***	-1.24***	-1.16***	-1.22***	-1.14***
<i>p</i> -value	0.115	0.858	0.376	0.000	0.000	0.000	0.000	0.000	0.000
N	1,441	1,704	2,228	3,592	3,175	2,716	2,298	1,896	1,508
Discretionary current accruals									
Mean, percent	0.40	0.94**	0.66*	4.35***	-1.34***	-1.01***	-0.67*	-0.78*	0.37
<i>t</i> -statistic	0.88	2.16	1.66	9.83	-3.55	-2.69	-1.67	-1.66	0.74
Median, percent	-0.02	-0.05	0.08	3.13***	-1.32***	-0.91***	-0.92***	-0.85**	0.10
<i>p</i> -value	0.638	0.480	0.224	0.000	0.000	0.001	0.003	0.011	0.605
N	621	720	955	1,532	1,256	1,029	818	641	521

This table reports discretionary accruals before and following the year of obtaining substantial financing (Year 0) for equity-financing sample (Panel A) and debt-financing sample (Panel B). The equity-financing sample includes firms with external equity financing exceeding debt financing at least twice during Year 0, and the debt-financing sample includes firms with debt financing exceeding external equity financing at least twice during Year 0. Discretionary total accruals and discretionary current accruals are estimated from cash flow statements. The accruals are scaled by total assets at the beginning of the year and winsorized at the top 1% and the bottom 1%. I use *t*-tests for the means and Wilcoxon sign-rank test *p*-values for the medians.

***, **, and * indicate statistical significance at the 1, 5, and 10% levels (two-tail tests).

Table 5. Ordinary Least-Squares Regression Analysis of a Relation Between Discretionary Accruals and a Firm's Preference for Equity Financing Instead of Debt Financing

Panel A: Dependent variable: Discretionary total accruals						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	0.0395*** (4.95)	0.0597*** (5.01)	0.0150 (1.37)	0.0405*** (4.27)	0.0619*** (5.84)	0.1274*** (14.43)
Equity financing / external financing	-0.0567*** (-11.09)	-0.0494*** (-6.46)	-0.0581*** (-8.44)	-0.0604*** (-9.91)	-0.0564*** (-10.01)	-0.0234*** (-4.14)
Log of ratio of external financing to assets	-0.0199*** (-6.40)	-0.0029 (-0.56)	-0.0268*** (-6.85)	-0.0187*** (-5.07)	-0.0252*** (-7.53)	0.0071** (2.08)
Log of market value of equity	-0.0089*** (-6.94)	-0.0044** (-2.05)	-0.0081*** (-4.69)	-0.0083*** (-5.41)	-0.0135*** (-8.00)	-0.0178*** (-12.51)
Debt-to-asset ratio	0.0017 (0.14)	-0.0339* (-1.89)	0.0199 (1.20)	-0.0072 (-0.50)	0.0001 (0.01)	-0.0068 (-0.51)
Market-to-book ratio	-0.0002*** (-2.84)	-0.0002** (-2.30)	-0.0001* (-1.93)	-0.0002** (-2.48)	-0.0001*** (-2.85)	-0.0001 (-1.56)
Number of observations	7,457	3,171	4,286	7,457	5,621	7,433

Table 5. (continued)

Panel B: Dependent variable: Discretionary current accruals						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	0.0887*** (9.18)	0.1063*** (6.72)	0.0732*** (5.89)	0.0873*** (8.37)	0.1066*** (8.32)	0.1673*** (11.00)
Equity financing / external financing	-0.0289*** (-4.78)	-0.0313*** (-3.20)	-0.0261*** (-3.41)	-0.0285*** (-4.37)	-0.0307*** (-4.78)	-0.0229** (-2.40)
Log of ratio of external financing to assets	-0.0067* (-1.83)	0.0171** (2.53)	-0.0174*** (-4.03)	-0.0064 (-1.62)	-0.0137*** (-3.54)	0.0080 (1.41)
Log of market value of equity	-0.0124*** (-7.42)	-0.0073** (-2.35)	-0.0128*** (-6.15)	-0.0125*** (-6.95)	-0.0163*** (-7.62)	-0.0212*** (-8.08)
Debt-to-asset ratio	-0.0208 (-1.29)	-0.0301 (-1.16)	-0.0172 (-0.83)	-0.0147 (-0.84)	-0.0239 (-1.38)	-0.0324 (-1.28)
Market-to-book ratio	-0.0001* (-1.82)	-0.0002** (-2.54)	-0.0000 (-0.13)	-0.0001* (-1.72)	-0.0001* (-1.92)	-0.0000 (-0.05)
Number of observations	3,558	1,487	2,071	3,558	2,609	2,076

This table examines the relation between discretionary total accruals (Panel A) or discretionary current accruals (Panel B) and a firm's preference for equity financing during the significant financing year (Year 0), while controlling for other variables. Discretionary accruals are estimated from cash flow statements. In all models, except Model 4, discretionary accruals are winsorized at the top 1% and the bottom 1%. In Model 1 and Model 4, I examine the full external-financing sample. In Model 2, I restrict the sample to the period 1988-1994 and, in Model 3, I restrict the sample to the period 1995-2001. Model 5 excludes firms belonging to the smallest size (capitalization) quartile in the CRSP database at the beginning of Year 0. In Model 6, I estimate discretionary accruals of financing firms relative to those of matched firms and examine all firms for which this variable is available. I match firms by the two-digit SIC code and return on assets in Year 0. To proxy for a firm's preference for equity financing instead of debt financing, I use the ratio of equity financing to external financing. Equity financing is calculated as a change in common equity minus a change in retained earnings. External financing is as a sum of equity financing and debt financing (change in total debt). All types of financing are estimated during Year 0. The total assets, the logarithm of market value of equity, the debt ratio (total debt / total assets), and the market-to-book equity ratio are estimated at the beginning of Year 0. *T*-statistics are reported in parentheses.

***, **, and * indicate statistical significance at the 1, 5, and 10% levels (two-tail test).