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The Persistence and Pricing of the Cash Component of Earnings

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The Persistence and Pricing of the Cash Component of Earnings

Abstract: Following Sloan (1996), numerous studies show that the cash component of earnings is more persistent than the accrual component of earnings. In this paper, we show that the higher persistence of the cash component of earnings is attributable to net cash distributions to equityholders. This result holds despite the fact that net cash distributions to equityholders account for less than one third of the total variation in the cash component of earnings. We also show that investors correctly anticipate the lower persistence of the remaining cash component of earnings, contradicting Sloan's hypotheses that investors naively fixate on earnings.

1. Introduction

This paper examines the information content and market pricing of the cash component of earnings. Dechow (1994) shows that current cash flows provide information about future cash flows and future earnings. She also demonstrates that earnings are superior to cash flows at summarizing information about both future cash flows and future earnings. The primary conclusion from her research is that accounting accruals (the difference between earnings and cash flows) serve to make earnings a superior summary measure of firm performance. Sloan (1996) follows up on this research by showing that the accrual component of earnings is significantly less persistent than the cash component of earnings. He demonstrates that disaggregating and differentially weighting the accrual and cash components of earnings provides even better forecasts of future earnings. Sloan also shows that stock prices act as if investors fixate on earnings, failing to correctly distinguish between the different levels of persistence of these two components of earnings. This leads to an 'accrual anomaly' in stock returns, whereby firms with high (low) accruals tend to have low (high) future stock returns. Subsequent research has extended Sloan's work by providing more detailed analyses of the persistence and pricing of the accrual component of earnings (e.g., Xie, 2001; Fairfield, Whisenant and Yohn, 2003; Richardson, Sloan, Soliman and Tuna, 2004A; Richardson, Soliman, Sloan and Tuna, 2004B).

In contrast to previous research, this paper conducts a detailed investigation of the persistence and pricing of the cash component of earnings. Our investigation decomposes the cash component of earnings into three categories. First, cash can be applied to the balance of cash that is retained by the firm. Second, cash can be applied to

the amount of debt financing that is employed by the firm. Third, cash can be applied to the amount of equity financing that is employed by the firm. We hypothesize that there are systematic differences in the persistence of these three different categories of the cash component of earnings. Consistent with our hypothesis, we find that the higher persistence of cash flows is entirely attributable to cash applied to the amount of equity financing. We also show that stock prices act as if investors anticipate the lower persistence of cash that is applied to debt financing, but overestimate the persistence of cash that is applied to the firm's cash balance. Combining these new results with Sloan's previous accrual results, we conclude that investors overestimate the persistence of earnings that are held within the firm and correctly estimate the persistence of earnings that are distributed to capital providers.

Our findings have three important implications. First, our findings cast doubt on Sloan's (1996) hypothesis that the accrual anomaly arises because investors fixate on earnings. We find that stock prices act as if investors anticipate the lower persistence of cash that is distributed to debtholders. This finding is inconsistent with the simple hypothesis that investors fail to discriminate between the different levels of persistence of the accrual and cash components of earnings. We conjecture that the accrual anomaly is instead driven by hubris concerning new investment opportunities. Managers and investors who are overconfident about a firm's investment opportunities are more likely to retain and reinvest earnings and are less likely to distribute cash to debtholders and equityholders. Consistent with this conjecture, we show that accruals and retained cash flows lead to higher future investment, lower future earnings and lower future stock returns.

Second, our findings offer an alternative interpretation of a large body of finance literature documenting a negative relation between corporate financing activities and future stock returns. In reviewing this literature, Ritter (2003) notes that activities raising new capital are associated with lower future stock returns, while activities distributing capital are associated with higher future stock returns. Bradshaw, Richardson and Sloan (2004) use financial statement data to construct comprehensive measures of corporate financing activities and show that their measures corroborate and extend prior results in this area. Their measures of corporate financing activities are closely related to our measures of the cash distributions to capital providers. We show that after controlling for accruals and retained cash flows, investors appear to correctly price these cash distributions.

Finally, our results have implications for corporate valuation. A common approach to corporate valuation is to discount the expected free cash flows generated by a firm's business operations. An implicit assumption in this approach is that free cash flows represent 'zero net present value' projects regardless of whether they are retained as cash, distributed to debtholders or distributed to equityholders. Our results suggest that this assumption does not hold in practice. In particular, we find that cash retained by the firm tends to be less valuable because it is more likely to be associated with future overinvestment. Our results imply that a superior approach to corporate valuation is to directly discount cash distributions to debt and equity holders, after explicitly modeling the possible overinvestment of retained cash flows.

The remainder of the paper is organized as follows. The next section describes our research design. Section 3 describes our data, section 4 presents our results and section 5 concludes.

2. Research Design

Our research design builds on Sloan (1996), who argues that the key difference between the accrual and cash components of earnings is that the accrual component involves a greater degree of subjectivity. The accrual component of earnings typically incorporates estimates of future cash flows, deferrals of past cash flows, allocations and valuations, all of which involve higher subjectivity than simply measuring periodic cash flows. This leads Sloan to hypothesize that when the accrual component of earnings is unusually high or low, earnings will be less persistent. Sloan finds results consistent with this hypothesis and also shows that stock prices act as if investors do not anticipate the lower persistence of the accrual component of earnings. Sloan concludes that distinguishing between the accrual and cash components of earnings leads to improved forecasts of future earnings and future stock returns.

Sloan (1996) follows the convention in academic research of defining accruals as the change in non-cash working capital less depreciation expense. This convention can be traced back at least as far as Healy (1985) and corresponds closely with the definition of operating accruals used in the FASB's Statement of Financial Accounting Standard Number 95 "Statement of Cash Flows". However, this definition of accruals omits many accruals and deferrals relating to non-current operating assets and liabilities. Subsequent

research by Fairfield et al. (2003) and Richardson et al. (2004A, 2004B) extends Sloan's measure to incorporate all non-cash operating assets and liabilities. Fairfield et al. (2003) motivate this extended measure as a more general measure of 'growth' and show that it generates improved forecasts of future earnings and future stock returns. Richardson et al. (2004A, 2004B) argue that the extended measure provides a more comprehensive measure of accruals and provide supporting evidence.

To understand this extended measure, it is useful to start with the balance sheet identity:

$$\text{Total Assets} = \text{Total Liabilities} + \text{Owners Equity}$$

We next distinguish operating assets and liabilities from financial assets and liabilities. The most common financial asset is the balance of cash and short-term investments (CASH), while the most common financial liability is debt (DEBT), giving us:

$$\text{CASH} + \text{Operating Assets} = \text{DEBT} + \text{Operating Liabilities} + \text{Owners Equity}$$

Referring to the difference between operating assets and operating liabilities as the net operating assets (NOA), denoting owners equity as EQUITY and rearranging yields:

$$\text{NOA} = \text{DEBT} + \text{EQUITY} - \text{CASH}$$

Note that we have grouped the operating accounts on the left and the financial accounts on the right. The NOA expression on the left is the accounting estimate of the net value of the firms operations. Taking the first difference of this equation (with first difference denoted by Δ) gives:

$$\Delta\text{NOA} = \Delta\text{DEBT} + \Delta\text{EQUITY} - \Delta\text{CASH}$$

The expression on the left of this equation represents the comprehensive measure of accounting accruals used in Richardson et al. (2004A) (i.e., ΔNOA = ACCRUALS).

Making some final rearrangements to the right hand side, we invoke standard clean surplus assumptions for changes in equity and changes in debt:

$$\Delta EQUITY = INCOME - DIST\_EQ$$

$$\Delta DEBT = \text{Interest Expense} - \text{Interest Paid} - DIST\_D$$

where INCOME = net income

DIST_EQ = net cash distributions to equityholders

DIST_D = net non-interest cash distributions to debtholders

Substitution, the assumptions that all interest expense is paid in cash and some final re-arrangement yields:

$$INCOME = ACCRUALS + \Delta CASH + DIST\_EQ + DIST\_D$$

We use the above decomposition of net income as the basis for our empirical analysis. Before developing our hypotheses concerning the differential persistence of each of these components, some general observations are useful. First, the final three terms on the right hand side of this equation sum to what is frequently termed 'free cash flow' (FCF).[1] In other words:

$$FCF = \Delta CASH + DIST\_EQ + DIST\_D$$

and so

$$INCOME = ACCRUALS + FCF$$

Note that ACCRUALS, representing the difference between income and free cash flow, provides a comprehensive measure of the component of income that is attributable to the application of accrual accounting. This decomposition of earnings into accruals and free

[1] The standard textbook definition of free cash flow typically includes a tax adjustment relating to the interest tax shield provided by debt. This adjustment is excluded from our measure.

cash flow forms the basis for the empirical analysis in Richardson et al. (2004A, 2004B). These two studies provide a detailed analysis of the persistence and pricing of ACCRUALS. They conclude that less reliable accruals contain more measurement error leading to lower earnings persistence. In this paper, we provide a detailed analysis of the persistence and pricing of the free cash flow component of earnings (FCF). Previous research has treated FCF as a relatively homogenous and reliable component of earnings. In contrast, we identify three distinct categories of FCF and hypothesize that there are systematic differences in the persistence of each of these categories.

First, we hypothesize that the change in the cash balance (ΔCASH) will be the least persistent of the three components of FCF. The basic intuition underlying this prediction is that a dollar of cash on the balance sheet is inherently less reliable than a dollar of cash that has been distributed to capital providers. There are several reasons for the lower reliability of cash on the balance sheet. First, following Jensen (1986) managers may waste excess cash on negative NPV projects. Harford (1999) provides support for Jensen's argument by showing that cash rich firms tend to make value decreasing acquisitions. Moreover, Easterbrook (1984) argues that distributing free cash flow disciplines management by requiring them to justify subsequent capital expenditures to capital market scrutiny.[2]

A second possibility is that the cash balance is misstated as the result of unintentional accounting errors or fraudulent financial reporting. While cash is one of the most objectively measured balance sheet items, it is still subject to misstatement, as

[2] The arguments presented in Myers and Majiluf (1984) make competing predictions. They propose that asymmetric information between managers and investors makes external financing costly. This implies a positive value to cash balances for firms with positive NPV projects.

evidenced by the recent accounting scandal at Parmalat.[3] A third possibility is that the firm has 'window-dressed' the balance sheet in order to improve its perceived financial health. U.S. filers are only required to present their balance sheets four times each year, and managers have opportunities to take temporary steps to improve their financial appearance at these four times. For example, firms can temporarily delay ongoing maintenance and marketing expenditures in the weeks prior to the balance sheet date. Such activities will have the effect of temporarily increasing the cash balance, but the cash balance will fall after the balance sheet date as the firm catches up on these expenditures. Note that the temporary nature of such window dressing means that this cash is not available for payment to capital providers or to earn interest. Our first hypothesis implies that cash distributions to capital providers will be more persistent than cash retained by the firm.

P1: The cash component of earnings that is retained by the firm will be less persistent than the cash component of earnings that is distributed to capital providers.

Our second hypothesis is that cash distributions to equityholders (DIST_EQ) will be more persistent than cash distributions to debtholders (DIST_D). The basis for this hypothesis is that cash distributions to equityholders are more discretionary than cash distributions to debtholders. Debt repayments are typically made according to a preset schedule, so a debt repayment has relatively little signaling value with respect to future profitability. Equity repayments, in contrast, are typically discretionary and so an equity repurchase signals that management expects current profitability to persist into the future

[3] Parmalat imploded in December of 2003 when the company revealed that Bank of America Corp. wasn't holding about $4.9 billion of its funds, as the Italian company had reported in September.

(see Bartov, 1991). Thus far, we have only considered the case of profits and associated positive net distributions to capital providers. The other case is that of firms experiencing losses and associated negative net distributions to capital providers (i.e., capital raising). In this case, a similar logic applies, in that losses that are expected to persist into the future are more likely to be funded by equity than debt. Debtholders lend with the objective of receiving a fixed set of future principal and interest payments, and are unlikely to lend if there is a strong likelihood that the firm will experience sustained losses. Equity financing is more likely when there is high risk and the possibility of continued losses, because the costs of financial distress are lower for equity and equityholders keep the upside associated with high-risk investments. Our second hypothesis implies that cash distributions to equityholders will be more persistent than cash distributions to debtholders.

P2 *The cash component of earnings that is distributed to equityholders is more persistent than the cash component of earnings that is distributed to debtholders.*

Our predictions thus far pertain to the persistence of the cash component of earnings. We now turn to the pricing of the cash component of earnings. Sloan hypothesizes that investors 'fixate' on earnings and fail to take account of the differing levels of persistence of the accrual and cash components of earnings. Following Sloan's hypothesis, we predict that investors fail to take into account the different levels of persistence of the different categories of the cash component of earnings:

P3 *The earnings expectations embedded in stock prices fail to fully reflect the lower persistence of cash that is retained by the firm and the higher persistence of cash that is distributed to equityholders.*

3. Data

Our empirical tests employ data from two sources. Financial statement data are obtained from the *Compustat* annual database and stock return data are obtained from the *CRSP* monthly stock returns files. Our sample period covers all firm-years with available data on *Compustat* and *CRSP* for the period 1950-2003. We eliminate firm-year observations with insufficient data on *Compustat* to compute the primary financial statement variables used in our tests.[4] These criteria yield final sample sizes of 254,596 firm-year observations with non-missing financial statement and 150,837 firm-year observations with both non-missing financial statement data and stock return data.

As discussed in section 2, we conduct a four-way decomposition of net income as follows:

$$\begin{aligned} \text{INCOME} &= \text{ACCRUALS} + \text{FCF} \\ &= \text{ACCRUALS} + \Delta\text{CASH} + \text{DIST} \\ &= \text{ACCRUALS} + \Delta\text{CASH} + \text{DIST\_EQ} + \text{DIST\_D} \end{aligned}$$

where

INCOME = annual net income (Compustat data item 18).

ACCRUALS = total annual accruals, defined as the change in non-cash assets less the change in non-debt liabilities. Non-cash assets is calculated as total

[4] Specifically, we require availability of Compustat data items 1, 6, 9, 12, 32, 34, and 181 in both the current and previous year and data item 18 in the current year in order to keep a firm-year in the sample. If data item 34 is missing, we set this item equal to zero, because Compustat coded this item more sporadically in the early part of the sample period.

assets (Compustat data item 6) less cash and short-term investments (Compustat item 1). Non-debt liabilities is calculated as total liabilities (Compustat data item 181) less debt (Compustat data item 9 plus Compustat data item 34).

FCF = annual free cash flow, defined as ΔCASH + DIST_EQ + DIST_D.

ΔCASH = change in the annual cash balance, where cash is defined as cash and short-term investments (Compustat data item 1).

DIST = annual net distributions to capital providers, defined as DIST_EQ + DIST_D.

DIST_EQ = annual net distributions to equityholders, defined as the reduction in equity plus INCOME. Equity is calculated as total assets (Compustat data item 6) less total liabilities(Compustat data item 181).

DIST_D = annual net distributions to debtholders, defined as the reduction in debt. Debt is calculated as long-term debt (Compustat data item 9) plus short-term debt (Compustat data item 34).

As in previous research, we deflate each of these components of earnings by average total assets, where assets is measured using Compustat data item 6.[5] Consistent with previous research, we winsorize each deflated component of earnings at +1 and –1 in order to eliminate the influence of extreme outliers. To preserve the additivity of our decomposition on net income, we conduct the winsorization on ACCRUALS, ΔCASH, DIST_EQ and DIST_D and then aggregate each of these winsorized components to construct DIST, FCF and INCOME.[6] Table 1 summarizes our variables definitions and associated computations.

Our stock return tests use data from the *CRSP* monthly files. Stock returns are measured using compounded buy-hold size-adjusted returns, inclusive of dividends and

[5] Barth and Kallapur (1996) show that deflation can introduce biases into regression coefficients when the deflator measures the true underlying scale variable with error. Such biases may be present in our analysis. However, we have no reason to believe that any such biases would differentially affect the cash flow and accrual components of earnings.

other distributions. The size-adjusted return is calculated by deducting the value-weighted average return for all firms in the same size-matched decile, where size is measured as the market capitalization at the beginning of the return cumulation period. Returns are calculated for a twelve-month period beginning four months after the end of the fiscal year.[7] For firms that are delisted during our future return window, we calculate the remaining return by first applying *CRSP*'s delisting return and then reinvesting any remaining proceeds in the *CRSP* value-weighted market index.[8] This mitigates concerns with potential survivorship biases.

A potential shortcoming of our earnings component measurement procedures is that they use balance sheet data. Hribar and Collins (2002) point out that the use of balance sheet data can introduce errors into the measurement of accruals, particularly in the presence of mergers and acquisitions. Moreover, additional shortcomings arise with our computations for net cash distributions to debt and equityholders. Clean surplus assumptions are required for both of these computations, and the debt distribution computation also assumes that all interest is paid in cash as opposed to capitalized and added to the balance of debt. To confirm the robustness of our results with respect to these shortcomings, we derived corresponding data from the statement of cash flows rather than the balance sheet. The above problems are mitigated using statement of cash flow data. Note, however, that cash flow data is only available starting in 1988, and is not available on *Compustat* for many firms (e.g., firms in the financial sector). Thus, the

[6] Inferences regarding the relative persistence and pricing of the different components of earnings are qualitatively similar without winsorization. The winsorized results, however, have lower standard errors.
[7] This is standard in the literature, as firms generally file Form 10-K's within four months after the end of the fiscal year (see Alford et al. 1994).
[8] Firms that are delisted for poor performance (delisting codes 500 and 520-584) frequently have missing delisting returns (see Shumway 1997). We control for this potential bias by applying delisting returns of –100% in such cases. Our results are qualitatively similar if we make no such adjustment.

use of statement of cash flow data limits our sample size. Using the cash flow data we compute INCOME as Compustat item 123, ACCRUALS as item 123 less item 308 less item 311, ΔCASH as item 274, DIST_EQ as item 108 less item 115 less item 127 and DIST_D as item 313 less DIST_EQ. All variables are again deflated by average total assets and winsorized. The resulting sample sizes are less than half the sample sizes obtained using the balance sheet approach. Nevertheless, results using these statement of cash flow-based measures are qualitatively similar to the results using the balance sheet measures.

4. Results

We present our results in four sections. Section 4.1 begins with descriptive statistics for our cash flow decompositions. Section 4.2 presents tests of our predictions concerning the relative magnitudes of the persistence coefficients on the components of earnings. Section 4.3 presents pricing tests, providing evidence on the extent to which investors appear to understand the relative magnitudes of the persistence coefficients. Finally, section 4.4 presents additional tests designed to corroborate interpretations of the earlier results.

4.1 Descriptive Statistics

We begin by presenting univariate statistics and pair-wise correlations for our key variables. We organize these descriptive statistics around the earnings decompositions that we use to motivate our empirical analysis. Panel A of table 2 contains univariate statistics for the components of our earnings decompositions. The mean and median

values for ACCRUALS and ΔCASH are both positive, indicating that firms have been growing by retaining earnings over our sample period. Conversely, the mean values of DIST, DIST_EQ and DIST_D are all negative, indicating that firms have raised more capital than they have distributed over our sample period. Overall, firms have been growing their asset bases by both retaining earnings and raising new capital. The standard deviations of the earnings components provide evidence on the relative importance of each component in contributing to overall variation in earnings. The standard deviations of ACCRUALS and FCF are 0.252 and 0.287 respectively. For the decomposition of FCF, the standard deviations of ΔCASH and DIST are 0.177 and 0.297 respectively, while the standard deviations of DIST_EQ and DIST_D are 0.243 and 0.185 respectively. These standard deviations indicate that each of the cash categories represents an economically significant source of variation in earnings. It is not the case that variation in earnings is dominated by one category of the cash component of earnings.

Panel B of table 2 contains pairwise Pearson correlations for the earnings components. Consistent with Dechow (1994), there is a strong negative correlation between ACCRUALS and FCF (-0.533). Moving across the ACCRUALS row, we see that this negative correlation is entirely attributable to the DIST as opposed to the ΔCASH component of FCF. Drilling down one more level, we also see that the negative correlation is much stronger for DIST_D (-0.477) than for DIST_EQ (-0.273). It appears that the proceeds from debt financing are more likely to fund operating expenditures that are capitalized on the balance sheet, while the proceeds from equity financing are more likely to be either deposited in cash or used to fund operating expenditures that are

immediately charged to net income. This is consistent with the idea that debtholders often require their borrowings to be secured by operating assets. The next row lists the correlations between FCF and each of the categories in our decomposition of FCF. FCF is most highly correlated with DIST_D (0.594) and least highly correlated with ΔCASH (0.251). These consistent positive correlations indicate that all three categories represent important sources of variation in FCF. The next row reveals a strong negative correlation between ΔCASH and DIST that is almost completely attributable to the DIST_EQ category of DIST. This latter correlation indicates that proceeds of equity issuances are more likely to be retained as cash. Debt issuances in contrast, are more likely to be immediately invested in operating assets (as indicated by their high correlation with ACCRUALS). There is also evidence of a negative correlation between DIST_EQ and DIST_D (-0.056), which is indicative of refinancing activity between these two categories. The final column of the correlation table corroborates many of the well stock return anomalies. ACCRUALS are negatively correlated with future ARET (-0.080), while FCF is positively correlated with future ARET (0.056). Turning to the different components of FCF, we see that the overall positive correlation is entirely attributable to DIST (0.073), with ΔCASH significantly negatively related to FCF (-0.035). Within the individual categories of DIST, both DIST_EQ and DIST_D are significantly positively related to future ARET (correlations of 0.055 and 0.045 respectively).

4.2 Persistence Results

Table 3 presents our analysis of the persistence of the accrual and cash flow components of earnings (using annualized regressions following the approach of Fama

and Macbeth, 1973). Section 2 generates two key predictions concerning these persistence coefficients. First, retained cash flows, ΔCASH are expected to be less persistent than the distributed cash flows, DIST. Second, cash flows distributed to equityholders, DIST_EQ, are expected to be more persistent than cash flows distributed to debtholders, DIST_D. The first column in table 3 reports results for a simple net income autoregression. Note that INCOME is deflated by total assets, so this variable can be interpreted as an accounting rate of return and the coefficient on INCOME can be interpreted as the persistence of the rate of return. Consistent with Sloan (1996), INCOME is slowly mean reverting with a persistence parameter of 0.657. The second column of table 3 reports results for the persistence of the accrual and cash components of earnings. Consistent with Sloan (1996) and Fairfield et al. (2003), the coefficient on ACCRUALS (0.606) is significantly smaller than the coefficient on FCF (0.681), confirming that the accrual component of earnings is less persistent than the cash flow component of earnings.

Column 3 of table 3 begins our new decomposition of the cash flow component of earnings. In this column, we conduct the initial decomposition of FCF into ΔCASH and DIST to test our prediction that ΔCASH is less persistent than DIST. Consistent with this prediction, the persistence coefficient on ΔCASH (0.627) is significantly smaller than the coefficient on DIST (0.706). The final column of table 3 completes the decomposition of FCF by decomposing DIST into DIST_EQ and DIST_D to test our prediction that DIST_EQ is more persistent than DIST_D. Consistent with this prediction, the persistence coefficient on DIST_EQ (0.745) is significantly larger than the persistence coefficient on DIST_D (0.616). This final regression indicates that the higher persistence

of the cash flow component of earnings is entirely attributable to DIST_EQ. The persistence coefficients on DIST_D and ΔCASH are similar in magnitude to the persistence coefficient on ACCRUALS. Thus, Sloan's (1996) characterization of the cash component of earnings as relatively homogenous and persistent is misleading. Cash flows are only more persistent when they are distributed to equityholders, and as indicated by the correlations in table 2, such cash flows account for less than a third of the variation in total cash flows.[9] The remaining cash flows, represented by ΔCASH and DIST_D, have similar low persistence to ACCRUALS.

4.3 Pricing Results

In this section, we investigate whether stock prices act as if investors anticipate the implications of accrual reliability for earnings persistence. Following Sloan (1996), we use Mishkin's (1983) econometric framework that allows us to simultaneously estimate the actual persistence of the various components of earnings, along with the corresponding persistence parameters that are reflected in stock prices. See Mishkin (1983) and Sloan (1996) for a complete explanation of this procedure. The results are presented in table 4. Note that the table 4 sample differs the table 3 sample due to the requirement of stock return availability. For this reason, the actual persistence parameters are somewhat different from those in table 3.

Panel A of table 4 presents results for the basic net income autoregression specification that we previously saw in column 1 of table 3. The persistence coefficient on INCOME, α_1, is 0.567. This is significantly lower than the 0.657 reported in table 3.

[9] Table 2 lists the correlation between FCF and DIST_EQ as 0.546, indicating that DIST_EQ explains only 29.8% of the variation in FCF.

The difference arises because the stock return sample is more heavily weighted to the latter half of the sample period, and earnings persistence has dropped significantly in recent decades. Panel A also reports the persistence parameter that is implied by stock prices, α_1^*. Note that the Mishkin procedure imputes the expectation embedded in stock returns by regressing future stock returns on future income and current income. If investors correctly anticipate the persistence of current income, then the implied persistence parameter (α_1^*)should equal the actual persistence parameter (α_1). Instead, we see that the implied persistence parameter is 0.682. This result contrasts with Sloan's finding that investors correctly anticipate the overall persistence of income, instead suggesting that investors overestimate the persistence of income. It appears that investors have been slow to anticipate the declining levels of earnings persistence that have been experienced since Sloan's original study.[10]

Panel B of table 4 presents results for the persistence of the ACCRUAL and FCF components of earnings. ACCRUALS are significantly less persistent than FCF, with persistence coefficients of 0.488 and 0.598 respectively. Turning to the implied persistence coefficients in stock prices, we see that investors appear to significantly overestimate the persistence of ACCRUALS, with an implied persistence coefficient of 0.846 versus the actual persistence coefficient of 0.488. On the other hand, there is no significant evidence that investors overestimate the persistence of FCF, with an implied persistence coefficient of 0.626 versus the actual persistence coefficient of 0.598.[11] Jointly interpreting the results in panels A and B, it appears that investors have

[10] Sloan's original study uses data from 1962 through 1990. The persistence of earnings has averaged only 0.52 from 1991 through 2002.

[11] In unreported tests, we confirm that we are unable to reject the constraint of equality between the actual and implied persistence coefficients on FCF at conventional levels of statistical significance.

overestimated the persistence of earnings in recent years, and this overestimation stems from even greater overestimation of the persistence of the accrual component of earnings than documented in Sloan's earlier research. An important implication of this result is that it calls into question Sloan's primary conclusion that investors fixate on earnings and fail to distinguish between the accrual and cash flow components of earnings. Instead, it appears that investors distinguish between the two components, but then significantly overweight the less persistent component of earnings. Consistent with this alternative hypothesis, unreported tests show that we are easily able to reject the constraint that $\alpha_1^* = \alpha_2^*$ at conventional levels of statistical significance. Investors appear to value accruals more highly than the cash flows, despite the fact that they are intrinsically less valuable than cash flows.

Panel C of table 4 presents results for our initial decomposition of FCF into ΔCASH and DIST. Consistent with our first prediction and the results in table 3, the actual persistence parameter on ΔCASH (0.457) is smaller than the persistence coefficient on DIST (0.652). The corresponding implied persistence parameters in stock prices are 0.623 for ΔCASH and 0.627 for DIST. Investors act as if both of these categories of cash flows have the same level of persistence, failing to anticipate the lower persistence of ΔCASH. Note, however, that the implied persistence coefficient on ACCRUALS (α_1^*=0.846) is still significantly higher than the implied persistence coefficients on all the cash components of earnings, which is inconsistent with both Sloan's conclusion and our third prediction that investors simply fixate on earnings and weight all components equally.

Turning finally to panel D of table 4, we present results for the full decomposition of the cash flow component of earnings. Consistent with our second prediction and the results in table 3, the persistence parameter on DIST_EQ (0.713) is significantly greater than the persistence parameter on DIST_D (0.459). The corresponding implied persistence parameters from the stock return regressions are 0.681 for DIST_EQ and 0.461 for DIST_D. Stock prices act as if investors correctly anticipate the higher persistence of cash distributed to equityholders and the lower persistence of cash distributed to debtholders. However, investors continue to overestimate the persistence of ACCRUALS (α_1=0.473; α_1^*=0.785) and ΔCASH (α_2=0.503; α_2^*=0.658). The overall picture that emerges from table 4 is that investors overestimate the persistence of profitability associated with retained capital, represented by ACCRUALS and ΔCASH, and correctly estimate the persistence of profitability associated with distributed capital, represented by DIST_EQ and DIST_D. These results are inconsistent with Sloan's conclusion and our prediction 3 that investors simply fixate on earnings and fail to distinguish between accruals and cash flows. This prediction imposes the constraint that the four implied persistence coefficients in panel D of table 4 are equal, a constraint that is easily rejected by the data. An alternative interpretation that is consistent with the data is that the results are driven by managerial and investor hubris concerning future investment opportunities. If managers and investors are overoptimistic about the investment opportunities of certain firms, these firms will invest more capital and have less sustainable profitability.

Table 5 summarizes the economic significance of the predictable stock returns associated with each component of earnings. Observations are ranked on each

component of earnings in each calendar year and are then allocated in equal numbers to decile portfolios based on these ranks. Equal weighted future size-adjusted annual stock returns are computed for each portfolio, along with the return for a hedge portfolio consisting of a long position in the highest decile and a short position in the lowest decile. For ACCRUALS, there is a strong negative and monotonic relation across deciles, yielding a hedge portfolio return of -21.0%. For FCF, there is a strong positive and monotonic relation across deciles, yielding a hedge portfolio return of 14.8%. Focusing on the components of FCF, we see that the positive relation between FCF and future returns is entirely attributable to DIST (hedge return of 16.8%) and is almost equally shared by DIST_EQ (hedge return of 11.1%) and DIST_D (hedge return of 12.4%). In contrast, the hedge portfolio return for ΔCASH is weakly negative, with a hedge portfolio return of -4.3%. It is useful to reconcile the hedge portfolio returns in table 5 with the pricing results in table 4. The negative hedge portfolio returns to ACCRUALS and ΔCASH in table 5 are consistent with the evidence in table 4 that investors overestimate the persistence of these components of earnings. However, the positive stock returns associated with DIST, DIST_EQ and DIST_D are at first glance inconsistent with the evidence in table 4 that investors correctly price these components. This inconsistency arises because the tests in table 4 are multivariate tests that incorporate correlations between the components of earnings. Referring back to panel B of table 2, we see that both ACCRUALS and ΔCASH are negatively correlated with DIST, DIST_EQ and DIST_D. The positive hedge portfolio returns associated with DIST, DIST_EQ and DIST_D arise from their negative correlations with ACCRUALS and ΔCASH. The results in table 4 tell us that the predictable stock returns are entirely attributable to

investor overestimation of ACCRUALS and ΔCASH. After controlling for this effect, DIST, DIST_EQ and DIST_D have no incremental explanatory power with respect to future stock returns.

4.4 Additional Tests

This section presents some additional tests that are designed to provide insights into our earlier predictions and results. The additional tests take the form of regressions of each of the respective components of future earnings on the components of current earnings. Before taking a look at the results, we summarize what we hope to learn from these tests. First, the tests help to corroborate the reasoning behind our prediction that retained cash flows are less persistent than distributed cash flows. The main line of reasoning behind this prediction is that retained cash flows (ΔCASH) will be associated with future overinvestment. If this is the case, then we should see a strong positive relation between the ΔCASH component of current earnings and the ACCRUAL component of future earnings (to the extent that capitalized expenditures captured in ΔNOA is a good proxy for over-investment).[12] Second, the tests help to corroborate the reasoning behind our prediction that cash flows distributed to debtholders are less persistent than cash flows distributed to equityholders. The main line of reasoning behind this prediction is that distributions to debtholders (DIST_D) are less discretionary and hence less likely to signal a sustained change in profitability. If this is the case, then we should see a relatively weak relation between the DIST_D component of current earnings and the DIST_D component of future earnings and a relatively strong relation

between the DIST_EQ component of current earnings and the DIST_EQ component of future earnings.

Turning to the results in table 6, we see that both the above predictions are confirmed by the data. We report the regressions in two panels. Panel A disaggregates FCF into ΔCASH and DIST. Panel B further disaggregates DIST into DIST_EQ and DIST_EQ. Starting in column (2) of panel A, we see that ΔCASH has the strongest relation with future accruals. ΔCASH has a coefficient of 0.475 versus coefficients of 0.398 on ACCRUALS and 0.249 on DIST. Turning next to column (4) in panel A, we see that current DIST is the most important determinant of future DIST, confirming the intuition that distributions to capital providers signal sustained future distributions. Finally, columns (8) and (9) in panel B of table 6 demonstrate that the strong relation between current DIST and future DIST is entirely attributable to the strong relation between current DIST_EQ and future DIST_EQ. In fact the relation between current DIST_D and future DIST_D is negative. The overall picture that emerges is that earnings attributable to ACCRUALS and ΔCASH signal sustained future overinvestment, while earnings attributable to DIST_EQ signal sustained future distributions to equityholders.

5. Conclusion and Implications

In this paper, we provide a detailed investigation of the persistence and pricing of the cash component of earnings. Our investigation distinguishes between three different

[12] There is considerable evidence suggesting the capital expenditures are associated with poor future stock performance consistent with these measures capturing over-investment (e.g., Titman, Wei and Xie 2003 and Fairfield, Whisenant and Yohn, 2003).

categories of cash. First, cash can be retained by the firm in its cash balance. Second, cash can be distributed to debtholders. Third, cash can be distributed to equityholders. Consistent with our predictions, we find that the higher persistence of the cash component of earnings is entirely attributable to cash that is distributed to equityholders. We also show that stock prices act as if investors correctly anticipate the persistence of earnings that is distributed to debt and equity holders, but overestimate the persistence of earnings that is retained on the balance sheet. We conclude that investors and managers are more likely to overoptimistic about the investment opportunities of firms that retain the most capital.

Our results provide an alternative interpretation of the results in Sloan (1996). Sloan argues that the lower persistence of accruals arises because accruals are more subjective and hence more susceptible to measurement error. An alternative interpretation is that accruals measure changes in invested capital and changes in invested capital are associated with overinvestment. Note that these alternative interpretations are not mutually exclusive and probably co-exist. Indeed, since GAAP accounting requires the immediate impairment of unprofitable investments, one could argue that the two interpretations are indistinguishable.

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Table 1
Variable Definitions

Variable	Formula (C=Compustat data item)	Detailed Definition
Average Assets$_t$	$\frac{(C6_t + C6_{t-1})}{2}$	Average total assets for year t
Net Income$_t$ (INCOME$_t$)	$\frac{C18_t}{\text{Average Assets}}$	Income before extraordinary items
Total Accruals$_t$ (ACCRUALS$_t$)	$\frac{(\Delta C6 - \Delta C1) - (\Delta C181 - \Delta C9 - \Delta C34)}{\text{Average Assets}}$ (Note: $\Delta C = C_t - C_{t-1}$)	Total accruals, defined as the change in non-cash assets less the change in non-debt liabilities
Free Cash Flows$_t$ (FCF$_t$)	INCOME$_t$ - ACCRUALS$_t$	Free cash flows, defined as income less total accruals
Change in Cash Balance$_t$ (ΔCASH$_t$)	$\frac{\Delta C1}{\text{Average Assets}_t}$	The change in the balance of cash and short-term investments
Net Distributions to Capital Providers$_t$ (DIST$_t$)	$-\left[\frac{(\Delta C9 + \Delta C34) + (\Delta 6 - \Delta C181 - C18)}{\text{Average Assets}}\right]$	Net capital distributions to debt and equity holders
Net Debt distributions (DIST_D)	$-\left[\frac{(\Delta C34 + \Delta C9)}{\text{Average Assets}}\right]$	Net capital distributions to debt holders
Net Equity distributions (DIST_EQ)	$-\left[\frac{(\Delta C6 - \Delta C181 - C18)}{\text{Average Assets}}\right]$	Net capital distributions to equity holders
Abnormal Stock Return (ARET$_{t+1}$)	Annual buy-hold stock return calculated starting four months after the fiscal year-end, less the corresponding return on the equal weighted CRSP market index.	

Table 2

Descriptive statistics on income, the accrual and cash flow components of income and abnormal stock returns for a sample of 254,596 firm-year observations obtained from Compustat and CRSP between 1950 and 2003.

Panel A: Univariate Statistics

Variables	Mean	Std. Dev	Lower Quartile	Median	Upper Quartile	Obs.
$INCOME_t$	-0.017	0.262	-0.011	0.034	0.076	253,876
$ACCRUALS_t$	0.053	0.252	-0.033	0.040	0.136	254,596
FCF_t	-0.071	0.287	-0.124	-0.013	0.055	253,876
$\Delta CASH_t$	0.018	0.177	-0.020	0.001	0.033	254,596
$DIST_t$	-0.088	0.297	-0.117	-0.010	0.039	253,876
$DIST\_EQ_t$	-0.063	0.243	-0.030	0.000	0.023	253,876
$DIST\_D_t$	-0.025	0.185	-0.062	0.000	0.023	254,596
$ARET_{t+1}$	0.009	0.747	-0.340	-0.079	0.201	152,105

Panel B: Pairwise Correlations

	$ACCRUALS_t$	FCF_t	$\Delta CASH_t$	$DIST_t$	$DIST\_EQ_t$	$DIST\_D_t$	$ARET_{t+1}$
$INCOME_t$	**0.376**	**0.584**	**0.282**	**0.395**	**0.336**	**0.194**	**-0.019**
$ACCRUALS_t$	**1.000**	**-0.533**	**0.008**	**-0.519**	**-0.273**	**-0.477**	**-0.080**
FCF_t		**1.000**	**0.251**	**0.816**	**0.546**	**0.594**	**0.056**
$\Delta CASH_t$			**1.000**	**-0.355**	**-0.431**	**-0.003**	**-0.035**
$DIST_t$				**1.000**	**0.784**	**0.575**	**0.073**
$DIST\_EQ_t$					**1.000**	**-0.056**	**0.055**
$DIST\_D_t$						**1.000**	**0.045**
$ARET_{t+1}$							**1.000**

Note: Correlations significant at the 0.0001 level are bolded.

Table 3

Regressions analyzing the persistence of the accrual and cash flow components of net income. Statistics reported are the weighted means from annual cross-sectional regressions (associated t-statistics in parentheses). Sample consists of 254,596 firm-year observations obtained from Compustat between 1950 and 2003.

$$INCOME_{t+1} = \alpha_0 + \alpha_1 INCOME_t + \upsilon_t \quad (1)$$

$$INCOME_{t+1} = \alpha_0 + \alpha_1 ACCRUALS_t + \alpha_2 FCF_t + \upsilon_t \quad (2)$$

$$INCOME_{t+1} = \alpha_0 + \alpha_1 ACCRUALS_t + \alpha_2 \Delta CASH_t + \alpha_3 DIST_t + \upsilon_t \quad (3)$$

$$INCOME_{t+1} = \alpha_0 + \alpha_1 ACCRUALS_t + \alpha_2 \Delta CASH_t + \alpha_3 DIST\_EQ_t + \alpha_4 DIST\_D_t + \upsilon_t \quad (4)$$

	(1)	(2)	(3)	(4)
Intercept	0.002 (0.91)	0.007 (3.34)	0.010 (5.65)	0.011 (6.34)
$INCOME_t$	0.657 (35.29)			
$ACCRUALS_t$		0.606 (27.95)	0.624 (32.18)	0.600 (27.22)
FCF_t		0.681 (38.82)		
$\Delta CASH_t$			0.627 (26.15)	0.644 (30.17)
$DIST_t$			0.706 (45.10)	
$DIST\_EQ_t$				0.745 (55.20)
$DIST\_D_t$				0.616 (24.17)
Adjusted R^2	0.424	0.437	0.451	0.464

Note: Definitions of variables are provided in Table 1, Panel A.

Table 4

Simultaneous non-linear least squares estimation of the persistence parameters for the accrual and cash flow components of net income and the corresponding implied persistence parameters that are embedded in stock returns. Sample consists of 150,837 firm-year observations obtained from Compustat and CRSP between 1950 and 2003.

Panel A:

$$INCOME_{t+1} = \alpha_0 + \alpha_1 INCOME_t + \upsilon_t$$

$$Ret_{t+1} = \beta(INCOME_{t+1} - \alpha_0 - \alpha_1^* INCOME_t) + \varepsilon_t$$

Parameter	Estimate	Standard Error
α_1	0.567	0.002
β	0.890	0.012
α_1^*	0.682	0.013

Test of market efficiency: $\alpha_1 = \alpha_1^*$
Likelihood ratio statistic: 81.18
Marginal significance level: 0.000

Panel B:

$$INCOME_{t+1} = \alpha_0 + \alpha_1 ACCRUALS_t + \alpha_2 FCF_t + \upsilon_t$$

$$Ret_{t+1} = \beta(INCOME_{t+1} - \alpha_0^* - \alpha_1^* ACCRUALS_t - \alpha_2^* FCF_t) + \varepsilon_t$$

Parameter	Estimate	Standard Error
α_1	0.488	0.003
α_2	0.598	0.002
β	0.854	0.013
α_1^*	0.846	0.016
α_2^*	0.626	0.014

Test of market efficiency: $\alpha_1 = \alpha_1^*$ and $\alpha_2 = \alpha_2^*$
Likelihood ratio statistic: 950.08
Marginal significance level: 0.000

Panel C:

$$INCOME_{t+1} = \alpha_0 + \alpha_1 ACCRUALS_t + \alpha_2 \Delta CASH_t + \alpha_3 DIST_t + \upsilon_t$$

$$Ret_{t+1} = \beta(INCOME_{t+1} - \beta_0^* - \alpha_1^* ACCRUALS_t - \alpha_2^* \Delta CASH_t - \alpha_3^* DIST_t) + \varepsilon_t$$

Parameter	Estimate	Standard Error
α_1	0.530	0.003
α_2	0.457	0.003
α_3	0.652	0.002
β	0.855	0.016
α_1^*	0.846	0.013
α_2^*	0.623	0.017
α_3^*	0.627	0.014

Test of market efficiency: $\alpha_1 = \alpha_1^*$ and $\alpha_2 = \alpha_2^*$ and $\alpha_3 = \alpha_3^*$

Likelihood ratio statistic: 1,117.85

Marginal significance level: 0.000

Panel D:

$$INCOME_{t+1} = \alpha_0 + \alpha_1 ACCRUALS_t + \alpha_2 \Delta CASH_t + \alpha_3 DIST\_EQ_t + \alpha_4 DIST\_D_t + \upsilon_t$$

$$Ret_{t+1} = \beta(INCOME_{t+1} - \alpha_0^* - \alpha_1^* ACCRUALS_t - \alpha_2^* \Delta CASH_t - \alpha_3^* DIST\_EQ_t - \alpha_4^* DIST\_D_t) + \varepsilon_t$$

Parameter	Estimate	Standard Error
α_1	0.473	0.003
α_2	0.503	0.003
α_3	0.713	0.003
α_4	0.459	0.019
β	0.886	0.013
α_1^*	0.785	0.016
α_2^*	0.658	0.016
α_3^*	0.681	0.013
α_4^*	0.461	0.004

Test of market efficiency: $\alpha_1 = \alpha_1^*$ and $\alpha_2 = \alpha_2^*$ and $\alpha_3 = \alpha_3^*$ and $\alpha_4 = \alpha_4^*$

Likelihood ratio statistic: 1,201.72

Marginal significance level: 0.000

Note: Definitions of variables are provided in Table 1, Panel A.

Table 5

Descriptive statistics for portfolios of firm-years formed on decile rankings of net income and the accrual and cash flow components of net income. Sample consists of 150,837 firm-year observations obtained from Compustat and CRSP between 1950 and 2003.

Panel A: Mean value of ranking variable for each decile

	Ranking Variable						
Decile Rank	INCOME	$ACCRUALS_t$	FCF_t	$\Delta CASH_t$	$DIST_t$	$DIST\_EQ_t$	$DIST\_D_t$
1 (low)	-0.453**	-0.351**	-0.613**	-0.212**	-0.669**	-0.531**	-0.363**
2	-0.105**	-0.089**	-0.240**	-0.054**	-0.268**	-0.160**	-0.123**
3	-0.021**	-0.029**	-0.125**	-0.021**	-0.123**	-0.044**	-0.063**
4	0.014**	0.003	-0.064**	-0.007**	-0.058**	-0.010**	-0.030**
5	0.030**	0.030**	-0.027**	0.000	-0.022**	0.001	-0.010**
6	0.043**	0.057**	0.002	0.006**	0.001	0.007**	-0.001
7	0.058**	0.090**	0.027**	0.015**	0.019**	0.013**	0.007**
8	0.076**	0.137**	0.056**	0.035**	0.040**	0.023**	0.023**
9	0.104**	0.220**	0.099**	0.080**	0.073**	0.041**	0.057**
10 (high)	0.218**	0.501**	0.281**	0.321**	0.240**	0.152**	0.244**

Panel B: Mean values of future annual abnormal stock returns (ARET) for each decile

	Ranking Variable						
Decile Rank	INCOME	$ACCRUALS_t$	FCF_t	$\Delta CASH_t$	$DIST_t$	$DIST\_EQ_t$	$DIST\_D_t$
1 (low)	0.039	0.111**	-0.073**	0.027	-0.095**	-0.079**	-0.077**
2	0.025	0.076**	-0.036**	0.010	-0.048**	-0.021	-0.027**
3	0.028	0.048**	-0.021*	0.010	-0.029**	0.010	-0.008
4	0.015	0.036**	-0.004	0.018*	0.005	0.035**	0.002
5	0.007	0.016	0.005	-0.001	0.010	0.028**	0.011
6	0.006	0.010	0.011	-0.004	0.036**	0.043**	0.020
7	0.004	-0.009	0.020*	0.014	0.037**	0.026	0.029**
8	-0.007	-0.009	0.046**	0.015	0.038**	0.010	0.032**
9	-0.004	-0.055**	0.058**	0.023*	0.056**	0.005	0.054**
10 (high)	-0.005	-0.099**	0.075**	-0.015	0.073**	0.032**	0.047**
10 - 1	-0.044	-0.210**	0.148**	-0.043	0.168**	0.111**	0.124**

Notes: Definitions of variables are provided in Table 1

* Significantly different from 0 at the 5% level using Fama MacBeth t-statistic

** Significantly different from 0 at the 5% level using Fama MacBeth t-statistic

Table 6

Regressions analyzing the relation between the accrual and cash flow components of current net income and the accrual and cash flow components of future net income. Statistics reported are the weighted means from annual cross-sectional regressions (associated t-statistics in parentheses). Sample consists of 254,596 firm-year observations obtained from Compustat between 1950 and 2003.

$$INCOME_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST_t + \mu_t \quad (1)$$

$$ACCRUALS_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST_t + \mu_t \quad (2)$$

$$\Delta CASH_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST_t + \mu_t \quad (3)$$

$$DIST_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST_t + \mu_t \quad (4)$$

Panel A	Dependent Variable			
	(1) $INCOME_{t+1}$	(2) $ACCRUALS_{t+1}$	(3) $\Delta CASH_{t+1}$	(4) $DIST_{t+1}$
Intercept	0.010 (5.65)	0.031 (8.62)	0.007 (4.98)	-0.028 (-7.60)
$ACCRUALS_t$	0.624 (32.19)	0.398 (12.14)	0.049 (4.53)	0.176 (6.75)
$\Delta CASH_t$	0.626 (26.16)	0.475 (13.99)	-0.104 (-8.27)	0.256 (11.26)
$DIST_t$	0.706 (45.10)	0.249 (8.43)	0.034 (2.87)	0.422 (14.78)
Adjusted R^2	0.451	0.080	0.037	0.116

$$INCOME_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST\_EQ_t + \gamma_4 DIST\_D_t + \mu_t \quad (5)$$

$$ACCRUALS_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST\_EQ_t + \gamma_4 DIST\_D_t + \mu_t \quad (6)$$

$$\Delta CASH_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST\_EQ_t + \gamma_4 DIST\_D_t + \mu_t \quad (7)$$

$$DIST\_EQ_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST\_EQ_t + \gamma_4 DIST\_D_t + \mu_t \quad (8)$$

$$DIST\_D_{t+1} = \gamma_0 + \gamma_1 ACCRUALS_t + \gamma_2 \Delta CASH_t + \gamma_3 DIST\_EQ_t + \gamma_4 DIST\_D_t + \mu_t \quad (9)$$

Panel B	Dependent Variable				
	(5) $INCOME_{t+1}$	(6) $ACCRUALS_{t+1}$	(7) $\Delta CASH_{t+1}$	(8) $DIST\_EQ_{t+1}$	(9) $DIST\_D_{t+1}$
Intercept	0.010 (6.34)	0.032 (8.77)	0.007 (5.01)	-0.013 (-5.51)	-0.015 (-7.55)
$ACCRUALS_t$	0.600 (27.21)	0.422 (12.44)	0.051 (4.79)	0.293 (19.41)	-0.168 (-11.11)
$\Delta CASH_t$	0.644 (30.17)	0.471 (13.57)	-0.105 (-7.97)	0.326 (19.03)	-0.049 (-4.09)
$DIST\_EQ_t$	0.745 (55.20)	0.183 (7.33)	0.028 (2.08)	0.531 (25.85)	0.001 0.084)
$DIST\_D_t$	0.616 (24.17)	0.328 (9.69)	0.041 (3.81)	0.343 (21.94)	-0.099 (-5.90)
Adjusted R^2	0.464	0.088	0.041	0.196	0.039

Note: Definitions of variables are provided in Table 1, Panel A.

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