How accurately do investors estimate persistence of accruals?

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Abstract
Stock prices reflect persistence differences across accrual types that are categorized in Richardson, Sloan, Soliman, and Tuna (Journal of Accounting and Economics, 2005). Moreover, stock prices reflect short-term persistence differences more accurately than long-term persistence differences. These findings suggest that investors do not fully ignore differential persistence of accrual types, yet investors' short horizon for discriminating across accruals is a potential explanation for the accrual anomaly.

1. Introduction

The accrual anomaly literature starting with Sloan (1996) documents a negative correlation between operating accruals and one-year-ahead stock returns, suggesting that investors do not *fully* understand the lower persistence of operating accruals relative to cash flows during the fiscal year the accruals are recorded. The existing evidence, however, does not explain whether and how investors understand the earnings persistence of accruals. In this paper, I examine the extent of investors' ability to understand accruals during the fiscal year the accruals are recorded.

My empirical analyses use the accrual classification in Richardson, Sloan, Soliman, and Tuna (2005) (hereafter, RSST), which is more comprehensive than the traditional classification that only encompasses operating activities. RSST define changes in all non-cash and non-equity balance sheet items as accruals and distinguish between the reliability characteristics of working capital, non-current operating, and financial accruals as well as the asset and liability components of these accrual types. Given diverse and long-ranging effects of a company's operating, investment, and financing activities on future performance, this classification is well-positioned to explain both short- (i.e., one-year-ahead) and long-term effects of accruals on future earnings. RSST find that accrual types that are assessed to be less reliable are associated

with less persistent earnings *and* lower stock returns during the subsequent year. Consistent with the previous literature, RSST's evidence suggests that investors do not fully understand persistence differences across accrual types. This paper examines the extent to which investors understand the persistence differences across accrual types by comparing company stock returns during the fiscal year that accruals are recorded with short- and long-term earnings persistence that are associated with these accrual types.

The empirical analyses show that stock prices reflect the persistence differences across accrual types during the year accruals are recorded, despite the evidence of overpricing across all accrual types relative to pricing of cash flows. That is, accrual types that are more persistent draw higher contemporaneous stock returns. Furthermore, investors appear to value short-term (one-year-ahead) persistence differences across accrual types more accurately. For instance, investors overvalue one-year-ahead earnings persistence of total accruals by 15% relative to that of cash flows, whereas they overvalue five-year-ahead earnings persistence of accruals by about 30% relative to that of cash flows. Showing that investors can differentiate between persistence differences across accrual types and cash flows does not contradict prior evidence on the accrual anomaly. In that regard, my findings parallel those of Ball and Bartov (1996) about the post-earnings announcement drift anomaly. Ball and Bartov find that investors act as if they are aware of the serial correlation in quarterly earnings but underestimate the magnitude of this correlation. Likewise, I find that investors are aware of the persistence differences across accrual types but that they underestimate the extent of these differences, especially the long-term differences.

My paper contributes to the accrual anomaly literature in two major ways. First, my findings complement Subramanyam (1996) and DeFond and Park (2001), who find that

investors price discretionary (i.e., abnormal) operating accruals in a timely fashion—yet less strongly than non-discretionary (i.e., expected) operating accruals. The ability of discretionary accrual models to divide operating accruals into discretionary and nondiscretionary components is challenged in the literature (Fields, Lys, and Vincent, 2001). My analyses are immune to such specification problems and provide clear evidence that investors understand reliability and thus persistence characteristics of a comprehensive range of accrual types based on RSST's classification. Second, my paper distinguishes between short- and long-term earnings implications and puts forward investors' failure to price long-term implications (i.e., investor myopia) as a potential explanation for the accrual anomaly. In other words, the low stock returns during the year subsequent to the recording year of accruals, which is the traditional evidence for the accrual anomaly, could arise not only because unreliable accruals mean-revert during that year (e.g., via accounting write-offs) but also because the more severe long-term effects of unreliable accruals become clear (e.g., via negative news that are yet to be recorded in the future). This explanation complements Abarbanell and Bernard (2000) and Bushee (2001), who document mixed results for investor myopia.

The rest of this paper is organized as follows. Section 2 presents previous literature and predictions. Section 3 describes the sample. Section 4 presents empirical analyses, and Section 5 concludes.

2. Literature and research design

Accrual accounting depicts the effect of economic events during the period in which these events occur irrespective of the timing of related cash flows, and thus purports to provide a better basis for assessing the entity's past and future performance than information solely about cash receipts and payments during that period (Statement of Financial Accounting

Concepts No. 8, paragraph OB17). However, accruals mean-revert faster than cash flows either due to errors related to managerial subjectivity or due to the transitory nature of company growth (Fairfield, Whisenant, and Yohn, 2003). Consistent with this view, Dechow, Kothari, and Watts (1998) show that accruals are theoretically and empirically less persistent than cash flows.

The accrual anomaly literature documents that investors fail to fully appreciate the less persistent nature of accruals (Sloan, 1996; Pincus et al., 2007). For instance, the extant evidence rejects the null hypothesis of the Mishkin test, which predicts that investors *fully* understand one-year-ahead earnings implications of current accruals and cash flows (Sloan, 1996, p. 305). In other words, investors overvalue accruals, resulting in future stock return reversals that are exploitable by simple trading strategies (Battalio et al., 2011). However, the evidence of stock return reversals does not explain the extent to which investors can distinguish between accruals and cash flows during the year accruals are recorded.

The literature on market pricing of earnings shows that investors react to accruals during the period earnings are recorded. The contemporaneous stock prices encompass information in both cash flows and earnings (Dechow, 1994; Charitou, 1997). Callen and Segal (2004) document that accrual news is not only value-relevant, but also more important in driving contemporaneous stock returns than cash flow news and expected return news. DeFond and Park (2001) find that investors react less strongly to earnings with abnormal accruals. Subramanyam (1996) finds that the discretionary portion to accruals is priced by the stock market, because discretionary accruals, on average, communicate information about future profitability. Overall, the prior literature suggests that investors react to both total and discretionary accruals. However, the extant evidence lacks a direct comparison between the

future implications of accruals and pricing of accruals. Furthermore, extant accrual definition is limited with the working capital (i.e., operating) accruals. In light of RSST's classification of accruals, this paper takes a fresh look at the extent to which investors understand future implications across accrual types with a wider range of reliability and persistence characteristics.

2.1. Pricing of different accrual types

RSST (2005) document that investors fail to fully understand persistence effects of not only working capital accruals but also other accrual types. The authors classify and rate the degree of reliability of the accrual types as follows: working capital accruals (ΔWC) *medium-reliability*; non-current operating accruals (ΔNCO) *low* to *medium-reliability*; and financial accruals (ΔFIN) *high-reliability*. RSST find that one-year-ahead return reversals are stronger in companies with less reliable accrual types, suggesting that investors fail to fully understand the positive correlation between accrual reliability and earnings persistence. My research design compares stock returns during the year different accrual types are recorded with earnings persistence associated with the accrual types, and enables an explicit testing of how accurately investors price implications of different accrual types.

2.2. Market myopia and the pricing of accruals

The previous literature documents that investors underprice a company's expected long-term earnings relative to its expected short-term earnings. Bushee (2001) finds that institutional investors with short horizons underprice the expected long-term earnings of companies in their portfolios. On the other hand, Abarbanell and Bernard (2000) document some underpricing of long-term earnings yet no consistently profitable trading strategy using the purported market myopia. The authors conclude that some form of measurement error in discount rates or analyst

forecast errors drive the results of underpricing of long-term earnings. My research design focuses on short- and long-term earnings implications across accrual types and enables an explicit testing of the effect of market myopia on the pricing of accruals.

3. Sample

The sample is based on all non-financial U.S. companies over fiscal years 1963 to 2010. The company financials and stock returns are obtained from the CRSP/COMPUSTAT merged industrial and CRSP databases, respectively. The observations with missing data on total assets, total liabilities, current assets, current liabilities, cash, sales, earnings, one-year-ahead earnings, and stock returns are deleted. Other missing financial variables that are used in accrual definitions are set to zero.[1] The final sample consists of 145,853 observations from 14,010 unique companies.

3.1. Stock returns, earnings, and cash flows

Consistent with prior literature, stock returns, R_t, are measured for the year ending three months after a company's fiscal year-end, to allow for the effect of annual earnings announcements on stock returns. Delisting returns are incorporated into stock returns as in Beaver, McNichols, and Price (2009), who show that ignoring delisting returns can change inferences on accounting-based market anomalies. Annual earnings, E_t, are measured as income before extraordinary items for fiscal year *t* deflated by market capitalization at the beginning of year *t*.[2] In order to reduce the effect of outliers, E_t is winsorized at -1 and +1. The number of winsorized observations is less than 0.5% of the sample.

[1] The missing long-term debt, investments and advances, debt in current liabilities, preferred stock, and short-term investments data are set to zero. The alternative of deleting observations does not qualitatively change the results but considerably reduces the number of observations.
[2] Deflation by average total assets (as opposed to market capitalization) yields similar results.

3.2. Accruals

RSST's initial classification defines working capital, non-current operating, and financial accruals with different reliability ratings. The extended classification further divides these accrual types into asset and liability components. Appendix 1 displays RSST's accrual classification, which is summarized below:

i) The working capital accruals (ΔWC) are changes in current operating assets (ΔCOA) net of changes in current operating liabilities (ΔCOL). COA, which are defined as current assets net of cash and short-term investments, are subject to considerable managerial discretion. Thus, ΔCOA are deemed *low-reliability*. COL, which are defined as current liabilities net of short-term financial debt, are measured more accurately than COA. Thus, ΔCOL are deemed *high-reliability*. Overall, ΔWC are rated *medium-reliability*.

ii) The non-current operating accruals (ΔNCO) are changes in non-current operating assets (ΔNCOA) net of changes in non-current operating liabilities (ΔNCOL). NCOA, which are defined as total assets net of current assets, investments, and advances, include considerable subjectivity in their valuation. Thus, ΔNCOA are deemed *low-reliability*. NCOL, which are defined as total liabilities net of current liabilities and long-term debt, have varying degrees of reliability. Thus, ΔNCOL are deemed *medium-reliability*. Overall, ΔNCO are rated *low* to *medium-reliability*.

iii) The financial accruals (ΔFIN) are the sum of changes in short-term investments (ΔSTI), long-term investments (ΔLTI), and financial liability (ΔFINL). Most financial accruals reflect verifiable market-based or contract-based valuations; ΔSTI and ΔFINL are considered *high-reliability*. ΔLTI include accruals of varying reliabilities and are considered *medium-reliability*. Overall, ΔFIN are rated *high-reliability*.

All accrual types are deflated by market capitalization at the beginning of year *t*. In order to reduce the effect of outliers, accrual definitions are winsorized at -1 and +1. The number of winsorized observations is less than 0.5% of the sample for any of the accrual types.

3.3. Descriptive statistics

Table 1 presents descriptive statistics for company financials. Consistent with prior literature, the annual return distribution is skewed. The average (median) R_t is 18.2% (4.4%). Despite the increasing frequency of negative earnings in the recent years, company earnings over the sample period are positive on average. The average (median) E_t is 0.021 (0.054). Similarly, one-year ahead earnings, E_{t+1}, has average (median) of 0.011 (0.053). In order to test earnings persistence over different horizons, future company earnings are summed over three and five years. The sum of company earnings from year 1 to 3, $E_{[t+1,\ t+3]}$, has average (median) of 0.071 (0.166). The sum of company earnings from year 1 to 5, $E_{[t+1,\ t+5]}$ has average (median) of 0.170 (0.289).

Total accruals, $TACC_t$, are the sum of the major accrual types, ΔWC_t, ΔNCO_t, and ΔFIN_t. The average (median) $TACC_t$ is 0.037 (0.041), indicating that the balance sheet accruals sum up to about 4% of a company's market capitalization. Similar to the descriptive statistics in RSST (2005), ΔWC_t and ΔNCO_t have positive averages (medians) of 0.045 (0.020) and 0.014 (0.009), respectively, whereas ΔFIN_t has a negative average (median) of -0.024 (-0.004). Moreover, ΔNCO_t and ΔFIN_t display a greater volatility than ΔWC_t, and therefore make up a large proportion of the cross-sectional volatility in total accruals.

[Insert Table 1 around here]

Table 2 provides correlations of the selected variables. As expected, R_t, E_t, and $TACC_t$ are positively correlated. ΔWC_t and ΔNCO_t are positively correlated, yet both types of accruals

are negatively correlated with ΔFIN_t. Collectively, Tables 1 and 2 indicate that an average company grows its operating and investment activities and finances this growth through liabilities. The correlations of current earnings and accruals with future earnings show that total accruals and different accrual types are less persistent than current earnings.

[Insert Table 2 around here]

4. Empirical analyses

4.1. Earnings persistence of accruals

I start by replicating RSST about the lower persistence of total accruals compared to cash flows. RSST regress future company earnings on current earnings and total accruals and find a positive (negative) coefficient estimate on earnings (total accruals), suggesting that total accruals are less persistent than cash flows. Similarly, in this section, I regress future earnings with different horizons on earnings and total accruals.

$$E_{[t+1,\, t+k]} = \alpha + \beta_1 E_t + \beta_2 TACC_t + \varepsilon_t, \qquad (1)$$

where k=1, 3, and 5.[3] Consistent with the prior literature, I choose five years as the longest future earnings horizon, because the effect of accruals on earnings is indistinguishable after three to five years.[4] To examine the persistence of accruals, Eq. (1) may be the preferable model than an alternative model of regressing future earnings on current cash flows and accruals, because the coefficient on accruals, β_2, can be readily interpreted as the incremental persistence of accruals over the persistence of cash flows, which is proxied by the coefficient on earnings, β_1 (RSST, 2005). Theoretically, if earnings followed a random walk (mean-reverted), then β_1 is expected to be *k* (less than *k*). If accruals were as persistent as (less

[3] For k=1, $E_{[t+1,\, t+1]}$ is equivalent to E_{t+1}.
[4] The untabulated results using ten-year earnings horizon are qualitatively similar to those using five-year horizon.

persistent than) cash flows, then β_2 is expected to be 0 (negative). Similar to RSST, regression analyses in this paper use the Fama and MacBeth (1973) procedure of estimating annual cross-sectional regressions and reporting time-series averages of the resulting regression coefficients.

Panel A of Table 3 provides the estimates of Eq. (1). When the dependent variable is E_{t+1}, the coefficient estimate on E_t is 0.577 and that on $TACC_t$ is -0.045. Both coefficients are significant and similar, though somewhat lower in magnitude, to those in Table 5, Panel A in RSST (2005). The coefficient on E_t is less than 1, suggesting that earnings are mean-reverting. The negative coefficient on $TACC_t$ suggests that the accrual component of earnings is less persistent than the cash flow component of earnings. When the earnings horizon is extended to 3 and 5 years, the signs of the coefficients remain the same; the coefficients on E_t ($TACC_t$) are positive (negative). However, the magnitude of the coefficients on $TACC_t$ relative to those on E_t increases with the earnings horizon. The ratio of the regression coefficients, β_2/β_1, is -8%, -13%, and -17%, for 1, 3, and 5 years, respectively. This result supports the argument that accruals are even less persistent than cash flows for longer horizons and accrual reversals are not limited to the year ahead of the recording of the accruals.

[Insert Table 3 around here]

In the second equation, I distinguish between accrual types using RSST's initial accrual decomposition.

$$E_{[t+1,\, t+k]} = \alpha + \beta_1 E_t + \beta_2 \Delta WC_t + \beta_3 \Delta NCO_t + \beta_4 \Delta FIN_t + \varepsilon_t, \qquad (2)$$

where the persistence coefficients, β_1, β_2, β_3, and β_4, represent the effect of a company's cash flows, and non-current operating, working capital, and financial accruals over k-year-ahead earnings, respectively. Panel B of Table 3 provides the estimates of Eq. (2). When the dependent variable is E_{t+1}, the coefficient estimate on E_t is 0.577 and those on ΔWC_t, ΔNCO_t,

and ΔFIN_t are -0.054, -0.042, -0.022, respectively. All coefficients are statistically significant and similar in sign and order, though somewhat lower in magnitude, to those in Table 5, Panel B in RSST (2005). The negative coefficients on the accrual components indicate that all accrual types are less persistent than the cash flow component of earnings. Furthermore, the coefficients are significantly different from each other. The lower coefficients on ΔWC_t and ΔNCO_t relative to ΔFIN_t are consistent with RSST (2005), who assess non-current operating accruals and working capital accruals to have low to medium reliability and earnings persistence (versus financial accruals with higher reliability). When the earnings horizon is extended to 3 and 5 years, the signs of the coefficients do not change; coefficients on E_t are positive and coefficients on ΔWC_t, ΔNCO_t, and ΔFIN_t are negative. However, the relative magnitude of the coefficients on the accrual types with respect to cash flows increases with the earnings horizon. For ΔWC_t, the ratio of coefficients, β_2/β_1, is -9%, -13%, and -17% for 1, 3, and 5 years, respectively. For ΔNCO_t, the ratio of coefficients, β_3/β_1, is -7%, -13%, and -16% for 1, 3, and 5 years, respectively. For ΔFIN_t, the ratio of coefficients, β_4/β_1, is -4%, -10%, and -14% for 1, 3, and 5 years, respectively. In other words, all the accrual types are even less persistent than cash flows over longer horizons.

In the third equation, I distinguish between the asset and liability components of accrual types using the RSST's extended accrual decomposition.

$$E_{[t+1,\, t+k]} = \alpha + \beta_1 E_t + \beta_2 \Delta COA_t + \beta_3 \Delta COL_t + \beta_4 \Delta NCOA_t + \beta_5 \Delta NCOL_t + \beta_6 \Delta STI_t + \beta_7 \Delta LTI_t + \beta_8 \Delta FINL_t + \varepsilon_t, \quad (3)$$

The less reliable accrual components (asset components versus liability components) are predicted to reduce earnings persistence. Panel C of Table 3 provides the estimates of Eq. (3). The results generally confirm the above prediction. When the dependent variable is E_{t+1}, the

coefficients on ΔCOA_t, $\Delta NCOA_t$, and ΔLTI_t are negative and significant. The coefficients on the accrual liability components, ΔCOL_t, $\Delta NCOL_t$, and $\Delta FINL_t$ are positive and significant. The signs of the coefficients are similar to those in Table 5, Panel C in RSST (2005). Given that working capital liability and non-current operating liability components reduce current earnings, the finding that these components are significantly and positively associated with earnings persistence may seem surprising. RSST (2005) offer and find evidence supporting the following explanation: Holding everything else equal, an increase in operating liabilities indicates healthy companies and higher future earnings. Similar to Panels A and B, coefficients on both asset and liability accrual components increase with earnings horizon faster relative to the coefficients on current earnings.

Overall, the results extend the evidence in RSST (2005). More reliable accruals generally result in more persistent earnings. At the same time, the persistence gap between accruals and cash flows widens with the earnings horizon, suggesting that the accrual anomaly may persist beyond the one-year horizon. The well-known observation of lower one-year-ahead stock returns in relation to higher current accruals is consistent with two distinct scenarios: First, accruals may actually mean-revert (e.g., through write-downs) and negatively surprise investors during the one year following the accruals, suggesting that investors did not understand short-term earnings implications during the year the accruals were recorded. Second, investors may more clearly assess the possibility that accruals will further mean-revert in future years, suggesting that investors did not understand long-term earnings implications during the year the accruals were recorded. In the following sections, I investigate how accurately investors can distinguish between short- and long-term earnings implications of accruals.

4.2. Market response to accruals

I investigate the extent to which investors understand total accruals using the following regression:

$$R_t = \alpha + \gamma_1 E_t + \gamma_2 TACC_t + \varepsilon_t \quad (4)$$

The independent variables in Eq. (4) are the same as those in Eq. (1), enabling a direct comparison between the coefficient estimates of the two models. Table 4, Column 1 provides the estimates of Eq. (4). The coefficient on E_t is 0.888 and that on $TACC_t$ is 0.098. Both coefficients are statistically significant. The overpricing of accruals is evident, given that the coefficient on $TACC_t$ in the earnings persistence model (Eq. (1)) is negative and that in the market response model (Eq. (4)) is positive.

I investigate the extent to which investors understand accrual types in RSST's initial accrual decomposition using the following regression:

$$R_t = \alpha + \gamma_1 E_t + \gamma_2 \Delta WC_t + \gamma_3 \Delta NCO_t + \gamma_4 \Delta FIN_t + \varepsilon_t, \quad (5)$$

Table 4, Column 2 provides the coefficient estimates of Eq. (5) and t-statistics for the difference between the coefficients. The coefficients on E_t, ΔNCO_t, and ΔFIN_t are statistically significant and 0.917, 0.088, and 0.181, respectively. The coefficient on ΔWC_t is not significant. The results suggest that non-current operating accruals and financial accruals are priced incrementally over cash flows. Furthermore, financial accruals are priced significantly more favorably than non-current operating accruals.

I investigate the extent to which investors understand accrual types in RSST's extended accrual decomposition using the following regression:

$$R_t = \alpha + \gamma_1 E_t + \gamma_2 \Delta COA_t + \gamma_3 \Delta COL_t + \gamma_4 \Delta NCOA_t + \gamma_5 \Delta NCOL_t + \gamma_6 \Delta STI_t + \gamma_7 \Delta LTI_t + \gamma_8 \Delta FINL_t + \varepsilon_t, \quad (6)$$

Table 4, Column 3 provides the coefficient estimates of Eq. (6) and t-statistics for the difference between the coefficients. The coefficients on E_t, ΔCOA_t, ΔCOL_t, and $\Delta FINL_t$ are statistically significant and 0.845, 0.070, 0.377, and -0.217, respectively. The coefficients on $\Delta NCOA_t$, $\Delta NCOL_t$, ΔSTI_t, and ΔLTI_t are not significant at 5% level. The results on the pricing of extended accrual types clarify the results on the pricing of initial accrual types. Both working capital asset accruals (e.g., changes in inventory and receivables) and working capital liability accruals (e.g., changes in payables) are priced incrementally over cash flows. The seemingly surprising result about working capital liability accruals is potentially due to investors favorably pricing growth companies with working capital liability accruals, which relate positively to future earnings (as described in Section 4.1). In contrast, the coefficient on financial liability accruals is negative, suggesting that financial liability accruals are priced incrementally negatively over cash flows.

[Insert Table 4 around here]

4.3. Relative pricing values

If investors can accurately price accrual types, contemporaneous stock returns in response to a specific accrual type should be in line with future earnings persistence of that accrual type. Accordingly, this section compares the annual market response coefficients in Eq.'s (4), (5), and (6) with the annual earnings persistence coefficients in Eq.'s (1), (2), and (3). I define the relative pricing value of an accrual type using the relation between its market response and earnings persistence coefficients and by comparing this relation with that of current earnings (which is econometrically equivalent to cash flows). While this approach of determining pricing accuracy is new, it is akin to the analyses in equity valuation studies that compare current returns with expected future earnings (Frankel and Lee, 1998; Francis, Olsson,

and Oswald, 2000) and with realized future earnings (Collins, Kothari, Shanken, and Sloan, 1994; Lundholm and Myers, 2002).

The pricing definition is 'relative', because it does not measure an absolute pricing accuracy but it benchmarks the pricing of accruals with respect to pricing of cash flows. The premise behind this comparison is that if accruals were priced similarly to cash flows, then we would not observe the accrual anomaly. This comparison is performed independently each year and the resulting annual relative pricing values are averaged over sample years.

Total accruals

The relative pricing value (Π) of an accrual type in a year is defined as the ratio of the market response coefficient to earnings persistence coefficient on the accrual type in that year, divided by the same ratio on E_0. For total accruals, Π_TACC_t is computed as $(\gamma_2+\gamma_1)/(\beta_2+\beta_1)$ divided by γ_1/β_1 using the coefficients in Eq.'s (1) and (4). The numerator includes $(\gamma_2+\gamma_1)$ and $(\beta_2+\beta_1)$, because γ_1 (β_1) represents the effect of cash flows and γ_2 (β_2) represents the incremental effect over the cash flows. A relative pricing value of one suggests that the accrual type is priced similarly to cash flows during that year. A relative pricing value that is greater (smaller) than one suggests that the accrual type is overpriced (underpriced) relative to cash flows during that year. By changing the horizon of the earnings persistence coefficient, I also distinguish between the effects of short- and long-term investor horizon on the pricing of accrual types.

Table 5, Panel A presents average Π_TACC_t's separately when earnings persistence is computed using one-, three-, and five-year horizons (i.e., k=1, 3, and 5). Average Π_TACC_t's are 1.145 (t=3.43), 1.247 (t=5.41), and 1.312 (t=5.77) for k=1, 3, and 5, respectively. All relative pricing values are statistically significantly greater than one. Consistent with prior literature, the findings suggest that total accruals are overpriced with respect to cash flows.

Furthermore, the overpricing is exacerbated over longer horizons. While investors overprice one-year-ahead persistence of total accruals by 14.5%, they overprice five-year-ahead persistence by 31.2%. The last column shows that the difference between the relative pricing values computed using earnings of the subsequent year and earnings of subsequent five years is statistically significant.

[Insert Table 5 around here]

Initial accrual decomposition

I repeat the same analysis for the initial accrual decomposition. Specifically, Π_WC_t is computed as $(\gamma_2+\gamma_1)/(\beta_2+\beta_1)$ divided by γ_1/β_1 using the annual coefficients in Eq. (2) and (5). Similarly, Π_NCO_t is computed as $(\gamma_3+\gamma_1)/(\beta_3+\beta_1)$ divided by γ_1/β_1, and Π_FIN_t is computed as $(\gamma_4+\gamma_1)/(\beta_4+\beta_1)$ divided by γ_1/β_1. By changing the horizon of the earnings persistence coefficient, I distinguish between the effect of earnings horizon on the valuation of accruals.

Table 5, Panel B presents average relative pricing values and t-statistics for the difference across relative pricing values of different accrual types. When only one-year-ahead persistence is considered, average Π_WC_t, Π_NCO_t, and Π_FIN_t are 1.175 (t=1.75), 1.182 (t=4.74), and 1.036 (t=0.24). If investors have a short horizon (i.e., one year), they overprice the persistence of working capital and non-current operating accruals, but not financial accruals. When three-year-ahead persistence is considered, average Π_WC_t, Π_NCO_t, and Π_FIN_t are 1.150 (t=3.37), 1.250 (t=6.20), and 1.261 (t=5.25). When five-year-ahead persistence is considered, average Π_WC_t, Π_NCO_t, and Π_FIN_t are 1.208 (t=4.18), 1.291 (t=5.96), and 1.323 (t=5.62). The relative pricing values uniformly increase and deviate from one for longer earnings horizons. The *t*-statistics in the last column suggest that differences in relative pricing values are significantly different for all accrual types when one-year-ahead earnings versus up

to five-year-ahead earnings are used. Furthermore, differences in the relative pricing values across accrual types are statistically significant over longer horizons.

Extended accrual decomposition

I repeat the same analysis for the extended accrual decomposition. Specifically, Π_COA_t is computed as $(\gamma_2+\gamma_1)/(\beta_2+\beta_1)$ divided by γ_1/β_1 using the annual coefficients in Eq.'s (3) and (6). $\Pi_\Delta COL_t$, $\Pi_\Delta NCOA_t$, $\Pi_\Delta NCOL_t$, $\Pi_\Delta STI_t$, $\Pi_\Delta LTI_t$, and $\Pi_\Delta FINL_t$ are defined similarly. Since the extended accrual decomposition separates working capital, non-current operating, and financial accruals into their components, this section will focus on the relative pricing within the major accrual types.

Table 5, Panel C presents average relative pricing values and t-statistics for the difference across pricing values of different accrual types. When only one-year-ahead persistence is considered, average Π_COA_t, $\Pi_\Delta COL_t$, $\Pi_\Delta NCOA_t$, $\Pi_\Delta NCOL_t$, $\Pi_\Delta STI_t$, $\Pi_\Delta LTI_t$, and $\Pi_\Delta FINL_t$ are 1.161 (t=3.21), 1.207 (t=3.39), 1.104 (t=3.38), 1.018 (t=0.33), 1.297 (t=2.87), 1.136 (t=1.29), and 0.939 (t=0.48). For non-current operating and financial accruals, the liability components have lower relative pricing values than the asset components, although the difference is marginally significant only for financial accruals. When five-year-ahead persistence is considered, average Π_COA_t, $\Pi_\Delta COL_t$, $\Pi_\Delta NCOA_t$, $\Pi_\Delta NCOL_t$, $\Pi_\Delta STI_t$, $\Pi_\Delta LTI_t$, and $\Pi_\Delta FINL_t$ are 1.279 (t=5.19), 1.216 (t=6.74), 1.190 (t=4.79), 0.893 (t=2.11), 3.373 (t=1.25), 1.204 (t=2.30), and 0.754 (t=5.56). The *t*-statistics in the last column suggest that, for all accrual types except STI_t, the differences in relative pricing values are significantly different when one-year-ahead earnings versus up to five-year-ahead earnings are used. This suggests stronger overpricing of accrual types over longer earnings horizons. Similar to the results with short-term persistence, asset accrual components are overpriced less than the

liability components for all three major accrual types. The differences are statistically significant for non-current operating accruals and financial accruals. In fact, $\Pi_\Delta NCOL_t$ and $\Pi_\Delta FINL_t$ are significantly less than 1, suggesting underpricing of the persistence implications of these liability components.

4.4. Sensitivity checks

The empirical analyses in this paper perform cross-sectional regressions of future earnings and contemporaneous returns on accrual types for each year and compare the annual coefficients of the two regressions. Interpreting coefficients on financial variables in value-relevance regressions as informative about the relevance of those variables requires that either the confounding factors influencing the coefficients are absent or their effects are adequately controlled for (Kothari and Shanken, 2003). In this section, I discuss the validity of my procedure and provide sensitivity tests.

Differences in company characteristics

The Fama and MacBeth (1973) procedure of estimating annual cross-sectional regressions and reporting time-series averages of the regression coefficients control for serial correlation across observations as well as potential confounding factors unique to specific years. Furthermore, the relative pricing values compare the coefficient estimates of accrual types with those of earnings, thereby controlling for any factors that similarly affect both accrual types and cash flows. However, companies' accrual compositions are shaped by various operating characteristics, such as life cycle, business seasonality, and competition, that may also correlate with current returns and future earnings. Such endogenous relations may result in biased coefficient estimates in the market response and earnings persistence models, thereby resulting in misleading relative pricing values. To address the possibility of operating

characteristics biasing the above findings, I control for size, book-to-market ratio, quarterly earnings volatility, and industry membership (based on two-digit SIC codes) individually as follows: At the beginning of each sample year, I form deciles based on each control variable, and, for each decile, compute averages of all the regression variables used in Eq.'s (1) to (6), i.e., returns, earnings, future earnings, and accrual types. I then subtract from the regression variables their respective decile averages. Finally, I reperform the regression analyses and recompute relative pricing values using the adjusted regression variables. This approach potentially controls for the effect of the company characteristics on the regression coefficients and relative pricing values. The untabulated relative pricing values for each of the four control variables are similar to those that are tabulated.

Corporate events

Accrual computations from the balance sheet may be unreliable for companies with merger, acquisition, and restructuring activities (Collins and Hribar, 2002; Zach, 2003). The findings do not change qualitatively when companies issuing securities or experiencing mergers and restructurings are omitted from the analysis, or when working capital accruals are defined from the statement of cash flows when available.[5]

Realized (versus expected) earnings

The use of contemporaneous stock returns as dependent variables in Eq.'s (4) to (6) is superior to the alternative dependent variable (future stock returns), because it does not make any assumptions about the timing of return reversals. This method assumes that investors have the perfect foresight of future earnings and ignores future earnings surprises. I release this

[5] The corporate events are identified following Zach (2003). Specifically, a merger is assumed if a related note exists in Compustat footnote item 2 or if there is a change in goodwill value. Equity issuance is assumed if cash flows from equity financing are greater than 10% of lagged total assets. Debt issuance is assumed if cash flows from debt financing are greater than 10% of lagged total assets. Restructurings are assumed if negative special items exceed 1% of lagged total assets.

assumption by including future stock returns, $R_{[t+1,\ t+k]}$, in Eq.'s (1) to (3) to proxy for future earnings surprises (Collins et al., 1994; Lundholm and Myers, 2002). The untabulated results are qualitatively similar to the reported results, suggesting that investors' expectations about future earnings realizations are not due to earnings surprises that investors could not have anticipated in year *t*.

Decile regressions

Correlated omitted variables and measurement errors may confound the coefficient estimates in the earnings persistence and market response models. Furthermore, because they include ratios of point estimates, the relative pricing values may have skewed distributions. The (untabulated) median relative pricing values are similar in magnitude and statistically significantly greater one, alleviating the concern on skewed distributions of the ratios. To mitigate potential biases, I also perform decile regressions for the earnings persistence and market response models, and compute relative pricing values using coefficients from the decile regressions. The (untabulated) regression results are not significantly different than those that are reported.

5. Conclusion

The literature on the accrual anomaly shows that investors do not fully understand persistence of accruals. The literature on market's pricing of earnings documents that investors price total operating accruals as well as the discretionary segment of the operating accruals (Dechow, 1994; Subramanyam, 1996). However, the evidence in both strands of literature does not fully explain how accurately investors understand future earnings implications of accruals. Furthermore, the accruals definition in the prior literature ignores companies'

financial and investment activities, which generally affect long-term future earnings. In light of RSST's (2005) comprehensive classification of accruals that uses changes in all non-cash and non-equity balance sheet items, this paper takes a fresh look at the extent and determinants of how investors understand the future earnings implications of accruals.

I document the following results. First, despite the evidence of overpricing for all accrual types, investors appear to distinguish between the reliability and persistence differences across major accrual types, i.e., non-current operating accruals, working capital accruals, and financial accruals. That is, accrual types that are more reliable and persistent draw higher contemporaneous stock returns. The results are generally consistent when asset and liability accrual components, which have different reliability and persistence characteristics, are considered. Second, investors appear to value short-term (one-year-ahead) persistence effects of accrual types more accurately relative to the long-term effects. For example, investors overvalue one-year-ahead earnings persistence of total accruals by 15% relative to cash flows, whereas they overvalue five-year-ahead earnings persistence of accruals by about 30% relative to cash flows.

Showing that investors differentiate between value implications of different accrual types and cash flows does not contradict the evidence about the accrual anomaly. Rather, the findings in this paper identify investors' short-term investment horizon as a potential explanation for the mispricing for a comprehensive range of accrual types.

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Appendix 1. Categorization of accruals

Non-cash assets			Liabilities		
	Initial (extended) classification	Reliability rating		Initial (extended) classification	Reliability rating
Short-term investments	ΔFIN (ΔSTI)	High	Debt in current liabilities	ΔFIN (ΔFINL)	High
Receivables	ΔWC (ΔCOA)	Low	Accounts payable	ΔWC (ΔCOL)	High
Inventory	ΔWC (ΔCOA)	Low	Income taxes payable	ΔWC (ΔCOL)	High
Other current assets	ΔWC (ΔCOA)	Low	Other current liabilities	ΔWC (ΔCOL)	High
PP&E	ΔNCO (ΔNCOA)	Low	Long-term debt	ΔFIN (ΔFINL)	High
Investments - Equity method	ΔNCO (ΔNCOA)	Low	Other liabilities	ΔNCO (ΔNCOL)	Medium
Investments - Other	ΔFIN (ΔLTI)	Medium	Deferred taxes	ΔNCO (ΔNCOL)	Medium
Intangibles	ΔNCO (ΔNCOA)	Low	Minority interest	ΔNCO (ΔNCOL)	Medium
Other assets	ΔNCO (ΔNCOA)	Low	Preferred stock	ΔFIN (ΔFINL)	High

The appendix displays the categorization of balance sheet accruals in Richardson, Sloan, Soliman, and Tuna (2005). The initial classification divides accruals into three major types: Working capital accruals, non-current operating accruals, and financial accruals. The extended classification divides major accrual types into asset and liability components. The reliability rating denotes RSST's assessment of the extent to which accrual types accurately and verifiably measure what they purport to measure.

Working capital accruals, ΔWC, are defined as the change in current operating assets, ΔCOA, less the change in current operating liabilities, ΔCOL. COA is defined as current assets (Compustat item 'act') – cash and short-term investments ('che'). COL is defined as current liabilities ('lct') – debt included in current liabilities ('dlc'). Overall, ΔWC has a *medium-reliability* rating.

Non-current operating accruals, ΔNCO, are defined as the change in non-current operating assets, ΔNCOA, less the change in non-current operating liabilities, ΔNCOL. NCOA is defined as total assets ('at') – current assets ('act') – investments and advances ('ivao'). NCOL is defined as total liabilities ('lt') – current liabilities ('lct') – long-term debt ('dltt'). Overall, ΔNCO has a *low to medium-reliability* rating.

Financial accruals, ΔFIN, are defined as the change in short-term investments, ΔSTI, plus the change in long-term investments, ΔLTI, less the change in financial liabilities, ΔFINL. STI is defined as the short-term investments ('ivst'). LTI is defined as long-term investments ('ivao'). FINL is defined as the sum of debt in current liabilities ('dlc'), long-term debt ('dltt'), and preferred stock ('pstk'). Overall, ΔFIN has a *high-reliability* rating.

Table 1. Descriptive statistics

	N	Mean	Std Dev	Q1	Q2	Q3
R_t	145,853	0.182	0.884	-0.231	0.044	0.373
E_t	145,853	0.021	0.194	-0.010	0.054	0.101
E_{t+1}	145,853	0.011	0.213	-0.018	0.053	0.100
$E_{[t+1,\ t+3]}$	118,919	0.071	0.470	-0.032	0.166	0.294
$E_{[t+1,\ t+5]}$	96,890	0.170	0.650	0.005	0.289	0.491
$TACC_t$	145,853	0.037	0.233	-0.022	0.041	0.111
ΔWC_t	145,853	0.014	0.192	-0.026	0.009	0.060
ΔCOA_t	145,853	0.042	0.228	-0.011	0.022	0.093
ΔCOL_t	145,853	0.030	0.162	-0.010	0.014	0.058
ΔNCO_t	145,853	0.045	0.242	-0.016	0.020	0.091
$\Delta NCOA_t$	145,853	0.054	0.246	-0.011	0.024	0.101
$\Delta NCOL_t$	145,853	0.011	0.091	-0.001	0.001	0.014
ΔFIN_t	145,853	-0.024	0.266	-0.093	-0.004	0.050
ΔSTI_t	145,853	0.004	0.108	0.000	0.000	0.000
ΔLTI_t	145,853	0.002	0.073	0.000	0.000	0.000
$\Delta FINL_t$	145,853	0.029	0.248	-0.026	0.000	0.075

The sample includes all non-financial U.S. companies with non-missing financials between years 1963 and 2010. R_t is the stock returns for the year ending three months after a company's fiscal-year end. E_t is income before extraordinary items (Compustat item 'ib') deflated by market capitalization at the beginning of fiscal year *t*. E_{t+1} is income before extraordinary items during year *t*+1 deflated by market capitalization at the beginning of fiscal year *t*+1. $E_{[t+1,\ t+3]}$ ($E_{[t+1,\ t+5]}$) is cumulative income before extraordinary items for years *t*+1 to *t*+3 (*t*+5) deflated by the market capitalization at the beginning of the respective fiscal years. Accruals are defined based on RSST (2005). Total accruals, $TACC_t$, is the sum of the three major accrual types: non-current operating accruals, ΔNCO_t, working capital accruals, ΔWC_t, and financial accruals, ΔFIN_t. Each major accrual type consists of asset and liability components, which differ in their reliability ratings. All major accrual types and their components are deflated by market capitalization at the beginning of fiscal year *t*. Working capital accruals, ΔWC_t, are the change in current operating assets, ΔCOA_t, less the change in current operating liabilities, ΔCOL_t. COA_t is defined as current assets ('act') less cash and short-term investments ('che'). COL_t is defined as current liabilities ('lct') less debt included in current liabilities ('dlc'). Non-current operating accruals, ΔNCO_t, are the change in non-current operating assets, $\Delta NCOA_t$, less the change in non-current operating liabilities, $\Delta NCOL_t$. $NCOA_t$ is defined as total assets ('at') less current assets ('act') and investments and advances ('ivao'). $NCOL_t$ is defined as total liabilities ('lt') less current liabilities ('lct') and long-term debt ('dltt'). The financial accruals, ΔFIN_t, are defined as the change in short-term investments, ΔSTI_t, plus the change in long-term investments, ΔLTI_t, less the change in financial liabilities, $\Delta FINL_t$. STI_t is defined as the short-term investments ('ivst'). LTI_t is defined as long-term investments ('ivao'). $FINL_t$ is defined as the sum of debt in current liabilities ('dlc'), long-term debt ('dltt'), and preferred stock ('pstk'). To mitigate the effect of outliers, earnings and deflated accruals are winsorized at +1 and -1.

Table 2. Correlations across stock returns, earnings, cash flows, and accrual types

	R_t	E_t	$TACC_t$	ΔWC_t	ΔNCO_t	ΔFIN_t	E_{t+1}	$E_{[t+1,\ t+3]}$	$E_{[t+1,\ t+5]}$
R_t		0.111	0.118	0.014	0.021	0.067	0.146	0.083	0.028
E_t	0.368		0.544	0.245	0.296	0.025	0.495	0.443	0.399
$TACC_t$	0.218	0.532		0.361	0.464	0.126	0.241	0.167	0.131
ΔWC_t	0.024	0.231	0.371		0.153	-0.450	0.094	0.065	0.056
ΔNCO_t	0.070	0.279	0.419	0.166		-0.598	0.106	0.061	0.054
ΔFIN_t	0.101	0.050	0.159	-0.371	-0.498		0.049	0.042	0.024
E_{t+1}	0.284	0.636	0.280	0.103	0.135	0.050		0.747	0.624
$E_{[t+1,\ t+3]}$	0.187	0.575	0.226	0.088	0.112	0.026	0.796		0.880
$E_{[t+1,\ t+5]}$	0.117	0.527	0.199	0.081	0.113	0.006	0.695	0.890	

The table presents Pearson (above diagonal) and Spearman (below diagonal) correlation coefficients among selected financial variables. The correlations are significant at the 1% level. Table 1 presents variable definitions.

Table 3. Earnings persistence of accruals

Panel A. Persistence of total accruals

	Dependent variable		
	E_{t+1}	$E_{[t+1,\ t+3]}$	$E_{[t+1,\ t+5]}$
Intercept	0.021	0.092	0.193
	(4.82)	(5.89)	(7.40)
E_t	0.577	1.352	1.833
	(25.07)	(20.68)	(18.91)
$TACC_t$	-0.045	-0.178	-0.308
	(-10.12)	(-18.06)	(15.60)
Adj. R^2	39.1%	30.6%	24.6%

Panel B. Persistence of accrual types based on initial accrual decomposition

	Dependent variable		
	E_{t+1}	$E_{[t+1,\ t+3]}$	$E_{[t+1,\ t+5]}$
Intercept	0.022	0.092	0.193
	(5.02)	(5.94)	(7.42)
E_t	0.577	1.342	1.812
	(24.51)	(20.27)	(18.56)
ΔWC_t	-0.054	-0.179	-0.312
	(-9.88)	(-14.85)	(-11.82)
ΔNCO_t	-0.042	-0.174	-0.283
	(-8.42)	(-14.63)	(-9.87)
ΔFIN_t	-0.022	-0.133	-0.254
	(-5.54)	(-12.21)	(-10.39)
Adj. R^2	39.5%	30.7%	24.8%
t-statistic ($\Delta WC_t = \Delta NCO_t$)	2.23	0.41	1.16
t-statistic ($\Delta WC_t = \Delta FIN_t$)	6.68	4.97	3.65
t-statistic ($\Delta NCO_t = \Delta FIN_t$)	6.34	4.00	1.51

Panel C. Persistence of accrual types based on extended accrual decomposition			
	Dependent variable		
	E_{t+1}	$E_{[t+1,\ t+3]}$	$E_{[t+1,\ t+5]}$
Intercept	0.021	0.091	0.191
	(4.80)	(5.85)	(7.33)
E_t	0.572	1.333	1.807
	(24.37)	(20.12)	(18.87)
ΔCOA_t	-0.046	-0.168	-0.311
	(-7.34)	(-12.57)	(-11.80)
ΔCOL_t	0.076	0.172	0.285
	(8.89)	(10.75)	(9.93)
$\Delta NCOA_t$	-0.044	-0.165	-0.256
	(-5.75)	(-13.58)	(-10.15)
$\Delta NCOL_t$	0.063	0.236	0.424
	(4.06)	(7.67)	(7.49)
ΔSTI_t	-0.094	-0.360	-0.681
	(-1.33)	(-1.51)	(-1.67)
ΔLTI_t	-0.034	-0.159	-0.282
	(-4.19)	(-7.00)	(-7.61)
$\Delta FINL_t$	0.014	0.109	0.208
	(2.06)	(10.50)	(10.69)
Adj. R^2	40.5%	31.1%	25.4%
t-statistic ($\Delta COA_t = \Delta COL_t$)	8.98	13.85	11.98
t-statistic ($\Delta NCOA_t = \Delta NCOL_t$)	4.99	11.20	9.61
t-statistic ($\Delta STI_t = \Delta FINL_t$)	1.53	1.96	2.18
t-statistic ($\Delta LTI_t = \Delta FINL_t$)	4.10	9.96	10.56

The panels present coefficient estimates of regressing future earnings on current earnings and accrual types. T-statistics are reported in parentheses below the coefficients. Panel A uses total accruals, Panel B accruals from the initial accrual decomposition, and Panel C accruals from the extended accrual decomposition. All regression models use the Fama and MacBeth (1973) procedure of estimating annual cross-sectional regressions and reporting time-series averages of the resulting coefficients and adjusted R^2's. The average coefficients are tested for equality at the end of the panels. Table 1 presents variable definitions.

Table 4. Market response to accruals

	Dependent variable		
	R_t	R_t	R_t
Intercept	0.059	0.060	0.056
	(1.91)	(1.97)	(1.83)
E_t	0.888	0.917	0.845
	(8.53)	(8.98)	(9.18)
$TACC_t$	0.098		
	(4.11)		
ΔWC_t		0.018	
		(0.65)	
ΔNCO_t		0.088	
		(3.99)	
ΔFIN_t		0.181	
		(5.65)	
ΔCOA_t			0.070
			(2.79)
ΔCOL_t			0.377
			(10.67)
$\Delta NCOA_t$			0.019
			(1.01)
$\Delta NCOL_t$			0.085
			(1.71)
ΔSTI_t			-0.185
			(-0.41)
ΔLTI_t			0.043
			(0.76)
$\Delta FINL_t$			-0.217
			(-6.30)
Adj. R^2	10.4%	11.3%	13.2%
t-statistic ($\Delta WC_t = \Delta NCO_t$)		3.79	
t-statistic ($\Delta WC_t = \Delta FIN_t$)		5.08	
t-statistic ($\Delta NCO_t = \Delta FIN_t$)		3.51	
t-statistic ($\Delta COA_t = \Delta COL_t$)			6.11
t-statistic ($\Delta NCOA_t = \Delta NCOL_t$)			1.25
t-statistic ($\Delta STI_t = \Delta FINL_t$)			0.07
t-statistic ($\Delta LTI_t = \Delta FINL_t$)			3.48

The table presents coefficient estimates of regressing current stock returns on current earnings and different accrual types. T-statistics are reported in parentheses below the coefficients. Column 1 uses total accruals only, Column 2 accruals from the initial accrual decomposition, and Column 3 accruals from the extended accrual decomposition. All regression models use the Fama and MacBeth (1973) procedure of estimating annual cross-sectional regressions and reporting time-series averages of the resulting coefficients and adjusted R^2's. The average coefficients are tested for equality at the end of the panels. Table 1 presents variable definitions.

Table 5. Relative pricing values of accruals with respect to cash flows

Panel A. Relative pricing values of total accruals

	Horizon			
	1 year	3 years	5 years	*t*-statistic (1 year = 5 years)
Π_TACC_t	1.145 (3.43)	1.247 (5.41)	1.312 (5.77)	8.03

Panel B. Relative pricing values of accrual types based on initial accrual decomposition

	Horizon			
	1 year	3 year	5 year	*t*-statistic (1 year = 5 years)
Π_WC_t	1.175 (1.75)	1.150 (3.37)	1.208 (4.18)	6.52
Π_NCO_t	1.182 (4.74)	1.250 (6.20)	1.291 (5.96)	5.94
Π_FIN_t	1.036 (0.24)	1.261 (5.25)	1.323 (5.62)	7.34
t-statistic ($\Delta WC_t = \Delta NCO_t$)	0.08	3.36	2.39	
t-statistic ($\Delta WC_t = \Delta FIN_t$)	0.92	0.39	0.96	
t-statistic ($\Delta NCO_t = \Delta FIN_t$)	0.60	4.13	4.04	

Panel C. Relative pricing values of accrual types based on extended accrual decomposition

	Horizon			
	1 year	3 year	5 year	*t*-statistic (1 year = 5 years)
Π_COA_t	1.161 (3.21)	1.204 (4.46)	1.279 (5.19)	6.47
Π_COL_t	1.207 (3.39)	1.252 (8.20)	1.216 (6.74)	2.55
Π_NCOA_t	1.104 (3.38)	1.156 (4.87)	1.190 (4.79)	5.52
Π_NCOL_t	1.018 (0.33)	0.924 (1.70)	0.893 (2.11)	2.58
$\Pi_\Delta STI_t$	1.297 (2.87)	1.389 (4.57)	3.373 (1.25)	1.10
$\Pi_\Delta LTI_t$	1.136 (1.29)	1.136 (1.76)	1.204 (2.30)	3.63
$\Pi_\Delta FINL_t$	0.939 (0.48)	0.774 (5.34)	0.754 (5.56)	7.15
t-statistic ($\Delta COA_t = \Delta COL_t$)	0.48	1.03	1.11	
t-statistic ($\Delta NCOA_t = \Delta NCOL_t$)	1.33	3.82	4.08	
t-statistic ($\Delta STI_t = \Delta FINL_t$)	1.78	5.28	1.37	
t-statistic ($\Delta LTI_t = \Delta FINL_t$)	1.89	3.31	3.70	

The panels present average relative pricing values (Π) for different accrual types. The relative pricing value for an accrual type in a year is the ratio of the sum of the coefficient on accrual type and earnings in the market response model (Table 4) to the sum of the coefficient on the accrual type and earnings in the earnings persistence model (Table 3) for that year, divided by the respective ratio of E_t. If the earnings persistence of an accrual type is priced similarly as that of E_t, the relative pricing value will take the value of 1. A relative pricing value that is greater (less) than 1 indicates overpricing (underpricing) of that accrual type with respect to current earnings (equivalently, cash flows). Panel A presents average relative pricing values for total accruals only, Panel B for accruals based on initial accrual decomposition, and Panel C for accruals based on extended accrual decomposition. The parentheses below the average relative pricing values present *t*-statistics testing whether the averages are statistically different from 1. T-statistics at the end of the panels test for equality across relative pricing values for different accrual types. T-statistics on the last columns of the panels test significances in differences between the average relative pricing values using earnings with one-year and five-year horizons. Table 1 presents variable definitions.