Accounting Quality, Stock Price Delay and Future Stock Returns

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Abstract
We test the hypotheses that (i) poor accounting quality is one source of market frictions that contribute to stock price delay, and (ii) the portion of price delay due to poor accounting quality is associated with a stock return premium. Price delay is the average delay with which information is impounded into stock prices (Hou and Moskowitz, 2005). Accounting quality measures are based on the quantitative information in financial statements, and results are robust to use of a qualitative characteristic of annual reports (the FOG readability index of Li, 2008) to measure accounting quality. The results are consistent with our hypotheses, suggesting poor accounting quality is economically costly in that it hinders timely price adjustment and increases the cost of equity.

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1. Introduction

The role of market frictions, such as incomplete information and asymmetric information, in explaining asset prices has attracted much attention in prior research (e.g., Merton, 1987; Easley, Hvidkjaer and O'Hara, 2002; Aboody, Hughes and Liu, 2005; Francis, LaFond, Olsson and Schipper, 2005; Hou and Moskowitz, 2005; Lambert, Leuz and Verrecchia, 2007). This study examines the role of accounting quality in explaining stock market frictions, and the consequences of such association for future stock returns.

We reason that poor accounting quality can contribute to a variety of market frictions such as asymmetric information, incomplete information, parameter uncertainty, illiquidity and short sale constraints. These frictions hinder timely price discovery, and their effect is parsimoniously characterized in Hou and Moskowitz (2005) as the average delay with which information is incorporated into stock prices. Stock price delay can thus be seen as an 'outcome-based' measure of market frictions. We use the summary price delay measure of Hou and Moskowitz (2005) and examine the association between accounting quality, price delay and future returns.

Our notion of accounting quality is broadly the degree of bias and noise in financial statements that results from unusual firm circumstances, managerial opportunism and general business uncertainty. Financial statements incorporate considerable managerial judgment and estimation in a variety of financial accounts. Estimation is much more difficult, and the estimates more noisy, when the firm faces greater business uncertainty or is in unusual circumstances (for example, restructurings). Estimates could also be biased due to managerial opportunism resulting from agency problems. We do not distinguish between the sources or causes of poor accounting quality. Rather, our goal is to examine the consequences of poor accounting quality for stock price delay and future stock returns.

Extensive prior research has documented that financial reports are an important source of information in capital markets. Therefore, more noise and bias in the reported financial statement numbers are likely to retard the price discovery process through a number of market frictions. Poor accounting quality, resulting from earnings management for example, is likely to increase information asymmetry between the firm and outside investors. Poor accounting quality is likely to increase information asymmetry across traders, as information processing skills and private information search become more important when public information is poor. It is likely to increase information asymmetry across stocks (incomplete information) if investors neglect firms with poor information (e.g., Merton, 1987), or if poor information increases uncertainty about valuation parameters (e.g., Barry and Brown, 1984). Poor accounting quality is likely to heighten short sale constraints by reducing supply in the share lending market, if large institutional investors avoid holding poor quality firms. It is also likely to reduce liquidity by increasing adverse selection problems. We therefore expect accounting quality to be negatively associated in the cross-section with price delay, the summary measure of market frictions.

We proxy for accounting quality using the *quantitative* information in financial statements, such as accrual quality (AQ),[1] special items, recent loss frequency and earnings surprise. These variables are motivated in detail in the next section. Consistent with our prediction, we find that firms with poor accrual quality, large negative special items, and more frequent losses have significantly higher stock price delay. The regressions control for firm

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[1] AQ has been used as an accounting quality proxy in several papers, including Francis et al. (2004, 2005), Aboody et al. (2005), Chen, Dhaliwal and Trombley (2007), Chen, Shevlin and Tong (2007), Rajgopal and Venkatachalam (2008), Lee and Masulis (2008), Bhattacharya et al. (2008) and Biddle, Hilary and Verdi (2009).

distress, as well as investor attention and stock liquidity proxies. Results are robust to using AQ as the sole measure of accounting quality.

For further robustness, we also measure accounting quality using the FOG index of Li (2008), which is a measure of the readability of *qualitative* information in annual reports. A number of studies suggest that managers of poorly performing firms obfuscate financial information (e.g., Schrand and Walther, 2000). Obfuscation is likely to make annual reports more difficult to read, and increases investors' information processing costs, potentially leading to more delayed (less timely) incorporation of value-relevant information into stock prices (e.g., Grossman and Stiglitz, 1980; Bloomfield, 2002; Li, 2008). Results indicate that firms with annual reports that are difficult to read, i.e., firms with a high FOG index, have significantly higher price delay.

We subsequently examine whether firms with high accounting-induced delay have higher future stock returns arising from investor neglect (e.g., Hou and Moskowitz, 2005) or information risk (e.g., Diamond and Verrecchia, 1991; Easley and O'Hara, 2004; Francis et al., 2005).[2] Investor neglect and information risk are both likely to partially stem from poor accounting quality. We estimate accounting-induced delay, D_{Acct}, as the fitted portion of stock price delay due to accounting quality. In Fama-MacBeth (1973) regressions of one-year-ahead monthly excess stock returns on a number of firm characteristics known to predict returns, including size, book-to-market ratio, accruals and return momentum, we find that both total delay, denoted D, and D_{Acct} have significantly positive predictive ability. This suggests firms

[2] The theoretical model in Hughes et al. (2007) suggests information risk is diversifiable, while the empirical evidence in Core et al. (2008) and Mohanram and Rajgopal (2009) suggests accrual quality and information asymmetry do not command a return premium.

with high stock price delay in general, and firms with high accounting-induced delay in particular, have higher future stock returns.

To test the robustness of the cross-sectional return regressions above, we also conduct time-series asset pricing tests of return predictability following Fama and French (1993). One key difference between these two methodologies is that the cross-sectional return regressions control for firm characteristics that predict future returns, while the Fama-French (1993) tests control for risk factor betas under the theory that returns depend on covariances (betas). Under the Fama and French (1993) approach, we examine alphas to a hedge portfolio long (short) in firms with good (poor) accounting quality. We sort firm-years into quintiles of accounting delay, D_{Acct}, and quintiles of non-accounting delay, $D_{NonAcct,}$ where the latter is defined as the difference between D and D_{Acct}. The intersection of these sorts results in 25 portfolios, for which we estimate calendar-time Fama and French (1993) regressions. If there is an accounting-induced delay premium in stock returns we expect significantly positive alphas for high D_{Acct} minus low D_{Acct} portfolios. We find that high D_{Acct} minus low D_{Acct} portfolios have significantly positive alphas in the highest $D_{NonAcct}$ quintile, and high $D_{NonAcct}$ minus low $D_{NonAcct}$ portfolios have significantly positive alphas in the highest D_{Acct} quintile. This suggests accounting and non-accounting delay command a return premium when they are both severe.

This paper contributes to the literature by documenting that poor accounting quality is economically costly in that it retards the speed of price discovery and increases the cost of equity. This result suggests that reporting improvements such as improved accrual estimation, enhanced disclosures and more readable annual reports are likely to yield economic benefits to firms.

The rest of this paper proceeds as follows. Section 2 motivates the accounting quality proxies and describes the measurement of price delay. Section 3 examines the cross-sectional relation between price delay and accounting quality. Section 4 examines the relation between future returns and the accounting quality component of price delay. Section 5 describes a number of robustness tests. Section 6 concludes. The Appendix presents variable definitions.

2. Measuring Accounting Quality and Price Delay

In Section 2.1 we motivate our accounting quality proxies. We then describe the measurement of price delay in Section 2.2 and of accrual quality in Section 2.3. Section 2.4 describes our data and sample.

2.1. Accounting Quality

Financial statements contain numerous estimates. We refer to the degree of noise and bias in these estimates as accounting quality. The sources of noise and bias could be unusual firm circumstances, general business uncertainty and managerial opportunism, but we do not discriminate between them as our goal is to examine the *consequences* of poor accounting quality. Unusual firm circumstances inherently increase the difficulty in estimation because of their infrequent nature. Financial statements in such circumstances, as well as under general business uncertainty, are likely to have more noise and estimation errors. Managerial opportunism, driven by agency problems, introduces systematic bias into the estimates. Since extensive research has overwhelmingly documented that financial reports are an important source of information for capital markets, we expect poor accounting quality reduces the quality of the firm's information environment and exacerbates market frictions such as asymmetric information, incomplete information, illiquidity, short sales constraints and noise trading.[3]

A number of papers provide evidence of a direct link between accounting quality and the firm's information environment. The evidence in Bhattacharya, Desai and Venkataraman (2008) suggests poor earnings quality firms have a higher information asymmetry component of the bid-ask spread and higher information asymmetry around earnings announcements, while the evidence in Lobo, Song and Stanford (2006) suggests analyst forecasts for poor earnings quality firms have larger forecast errors and greater forecast dispersion.

Other papers indirectly suggest a positive association between accounting quality and information environment quality, by providing evidence of a relation between poor accounting quality and the consequences of a poor information environment. Lee and Masulis (2008) hypothesize and find that poor accounting quality firms have higher SEO flotation costs in terms of underwriting fees, negative SEO announcement effects and higher probability of withdrawal. Rajgopal and Venkatachalam (2008) document that the temporal increase in idiosyncratic stock return volatility over the last forty years is associated with a deterioration in accounting quality, consistent with the hypothesis that low quality financial reporting and disclosures increase information asymmetries, uncertainty and return volatility (Diamond and Verrecchia, 1991; Healy, Hutton and Palepu, 1999). Finally, several papers (e.g., Aboody *et al.*, 2005; Chen, Shevlin and Tong, 2007; Francis *et al.*, 2005; Chen, Dhaliwal and Trombley, 2007; Ogneva, 2008) provide evidence that poor earnings quality firms have higher costs of equity, suggesting

[3] For example, former SEC Chairman Arthur Levitt, in remarks to the Inter-American Development Bank on Sep. 29, 1997, suggested that "high quality accounting standards … improve liquidity.."

that the return premium is compensation for information asymmetries resulting from poor earnings quality.

In summary, we expect poor accounting quality degrades the quality of information that is relevant and material to timely stock price discovery. We use four financial statement-based proxies for accounting quality – accruals quality, the frequency of recent losses, special items and earnings surprise. In robustness tests described in Section 5.2, we also use a measure of the qualitative characteristics of non-financial statement information in annual reports to proxy for accounting quality.

Accrual Quality (AQ). Accruals are estimates of non-cash earnings resulting from timing differences between the provision or consumption of goods and services and the receipt or disbursement of cash for those goods or services. Accruals reverse once the associated cash is received or disbursed. Therefore, accrual quality is defined as the uncertainty associated with the accrual-to-cash flow mapping. We use the AQ measure of Francis et al. (2005), which is the variability of accruals unexplained by the Dechow and Dichev (2002) model, as one proxy for accounting quality. Firms with high AQ have poor accounting quality, since AQ increases with large unexplained changes, both positive and negative, in accruals. AQ has been used as an accounting quality proxy in several papers, including Francis et al. (2004, 2005), Aboody et al. (2005), Chen, Dhaliwal and Trombley (2007), Chen, Shevlin and Tong (2007), Rajgopal and Venkatachalam (2008), Lee and Masulis (2008), Bhattacharya et al. (2008) and Biddle, Hilary and Verdi (2009).

AQ captures both unintentional estimation error in financial reports and managerial opportunism. Doyle, Ge and McVay (2007) and Ashbaugh-Skaife, Collins, Kinney and LaFond (2008) both provide evidence that firms with poor internal controls, that are more likely to have estimation errors in financial reports, have high AQ. Hutton, Marcus and Tehranian (2008) and Dechow, Ge, Larson and Sloan (2009) provide evidence that versions of AQ are associated with a higher likelihood of restatements and material misstatements in financial reports. In addition, managers have incentives to manage earnings either upward or downward (Watts and Zimmerman, 1986), so high AQ is likely to be associated with managerial opportunism. We therefore expect a positive relation between AQ and stock price delay.

Loss Frequency. Losses are unusual in that persistent losses are not sustainable. The literature on earnings management suggests managers vigorously exercise discretion to avoid losses (e.g., Burgstahler and Dichev, 1997), so persistent losses represent an unusual economic event for the firm. Such circumstances are likely to be associated with heightened information asymmetry as well as parameter uncertainty. In addition, institutional investors are an important source of supply in the share lending market (e.g., D'Avolio, 2002), and if institutional investors avoid loss firms then stocks of loss firms may face higher short sale constraints. We measure the relative frequency of annual losses in the last three years (number of loss years divided by three) and expect a positive relation between loss frequency (denoted 'Loss') and price delay.[4]

Special Items. Special items include restructuring charges and write-offs, for example. Special items are likely to arise when the firm is discontinuing certain operations or has suffered large declines in asset values due to uncertainty about future prospects. Financial statements likely contain more estimation error in such circumstances. We therefore expect firms with more negative special items (SI) to have higher price delay, implying a negative relation between the two variables.

[4] Results are robust to using a loss dummy that equals 1 for loss firm-years and 0 otherwise.

Earnings Surprise. Earnings surprises (both negative and positive) increase uncertainty and signal unexpected events severe enough that they cannot be smoothed. Therefore, circumstances where an earnings surprise becomes unavoidable are likely to be associated with more noisy and biased financial statements. Under such circumstances information processing skills of investors assume greater importance and, therefore, information asymmetry is likely to increase, as is valuation parameter uncertainty. We therefore expect a positive relation between the absolute value of earnings surprise (ES) and price delay.

2.2. Measuring Price Delay

Market frictions delay the incorporation of value-relevant information into stock prices and hinder timely stock price discovery. Stock price delay can thus be seen as an 'outcome-based' measure of market frictions. Delay therefore has the advantage that it captures the effect of market frictions that 'matter' or that are consequential. Delay also has the advantage that it captures the effect of market frictions that may not have been explicitly considered by the researcher otherwise.

Following Hou and Moskowitz (2005), we calculate the average delay with which information is impounded into stock prices by first regressing stock returns for each firm on contemporaneous and four lagged market returns as follows:

$$r_{i,t} = \alpha_i + \beta_i R_{m,t} + \sum_{n=1 \text{ to } 4} \delta_{i,n} R_{m,t-n} + \varepsilon_{i,t} \qquad (1)$$

where $r_{i,t}$ is the return on stock i and $R_{m,t}$ is the market return in period t. If the stock price response to information is delayed, some of the $\delta_{i,n}$ will differ from zero and lagged returns will add explanatory power to the regression. Equation (1) is estimated as above (unrestricted regression), as well as with the restriction that all $\delta_{i,n}$ are zero (restricted regression). Price delay, D, is then calculated as one minus the ratio of the restricted to the unrestricted R^2:

$$D = 1 - (R^2_{restricted} / R^2_{unrestricted}) \qquad (2)$$

D is similar to an F-test of the joint significance of the lagged terms in (1). D is larger when the proportion of return variation explained by the lagged terms in (1) is higher, so price delay is increasing in D.

Equation (1) is estimated using weekly returns from $July_{t-1}$ to $June_t$, to calculate D_t. Lower return frequencies (such as monthly) are not used since most stocks complete their response to information within a month, while higher return frequencies (such as daily) introduce market microstructure problems such as non-synchronous trading and bid-ask bounce (Hou and Moskowitz, 2005).

Equation (1) uses market returns as the news to which stock i responds. The intuition is that, upon receipt of systematic news that is impounded in market returns, investors attempt to estimate the implications of this news for a given firm's cash flows. Our hypothesis is that the quality of the firm's accounting information is relevant in re-assessing the firm's future cash flows as a result of market-wide news. Poor accounting quality retards the speed of this re-assessment process and therefore delays the incorporation of market-wide news into firm-specific stock price. In robustness tests reported in Section 5.3, we also estimate a second delay measure, D_fs, in which firm-specific news is the stimulus to which investors respond.

To reduce estimation error, the delay measure is estimated at the portfolio-level. We first calculate firm-level delay measures, and sort firms into deciles of size in June of year t and then into deciles of firm-level delay in June of year t within each size decile. This yields 100 portfolios in June of year t. We use post-formation portfolio returns to estimate the portfolio delay, and assign the portfolio delay to each firm in the portfolio. Since firms switch portfolios from year to year, each firm's level of delay varies over time. This procedure is analogous to the method commonly used to calculate portfolio betas (e.g., Fama and French, 1992).

2.3. Measuring Accrual Quality (AQ)

Following Francis et al (2005), AQ is the variability of unexplained accruals from the Dechow and Dichev (2002) and McNichols (2002) models. Specifically, the following cross-sectional model is estimated annually:

$$CAcc_t = \gamma_{1,t} + \gamma_{2,t}\,CFO_{t-1} + \gamma_{3,t}\,CFO_t + \gamma_{4,t}\,\Delta rev_t + \gamma_{5,t}\,PPE_t + e_t \qquad (3)$$

CAcc is current accruals or the change in working capital, CFO is operating cash flows, Δrev is the change in revenues, PPE is property, plant and equipment, and all variables are scaled by total assets. Firm subscripts are suppressed for convenience. Model (3) is estimated separately for each of the 48 industry groups defined in Fama and French (1997), if the industry has at least 20 firms in year t. The AQ metric in year t for firm j is the standard deviation, over the last 5 years, of firm j's unexplained current accruals (the residuals from (3)). A high AQ implies high uncertainty in the accrual to cash flow mapping, so high AQ represents poor accrual quality. Note that AQ pertains to the variability, rather than the level, of unexplained accruals.[5]

2.4. Data and Sample

We obtain returns and liquidity measures from CRSP, accounting data from Compustat, analyst coverage and earnings surprise data from IBES and institutional ownership and mutual

[5] In contrast to Francis et al. (2005), we do not include one-year-ahead operating cash flows as an independent variable in equation (3) to avoid look-ahead bias in our future stock returns tests.

fund data from Thomson Financial. IBES annual data is available from 1976 and institutional ownership data is available from 1981, so our sample covers 1981 to 2006 and has 29,345 observations. All variable definitions are presented in the Appendix.

Table 1 shows descriptive statistics for our sample. The mean delay, D, is 0.093, implying a 9.3% decline in R^2 when equation (1) is restricted by not including lagged terms, relative to the unrestricted model. This indicates the presence of fairly substantial stock price delay. The median D is 0.042, suggesting the median firm is not substantially delayed, or equivalently that the median firm is fairly informationally efficient. Therefore, a subset of firms in the cross-section appears to be substantially delayed, but the majority of firms are fairly informationally efficient. This result, and the distribution of D, is consistent with Hou and Moskowitz (2005).

Also in Table 1, the mean accrual quality, AQ, is 0.039 and its distribution is similar to that reported in Francis et al. (2005). The mean of special items, SI, is -0.013 or -1.3% of total assets. The mean absolute earnings surprise normalized by the five-year standard deviation of surprises, ES, is 1.942. The mean relative loss frequency, Loss, is 0.199, suggesting the average firm has a 19.9% probability of a loss in the last three years. Table 2 reports means of annual cross-sectional correlations between the various variables used in this paper. The Pearson correlation between AQ and Loss is 0.25, suggesting firms with poor accrual quality are more likely to experience losses, while the correlation between Loss and SI is -0.21, suggesting loss firms have more negative special items. The low correlations between our accounting quality proxies suggest that they capture non-overlapping information.

3. The Relation between Accounting Quality and Price Delay

We rank firm-years into quintiles of stock price delay annually and examine the univariate relation between the delay ranking, our accounting quality variables and various control variables suggested as cross-sectional determinants of delay in Hou and Moskowitz (2005). The objective is to examine whether there are any potential non-linearities in the relation between delay and our accounting quality variables.

Table 3 shows that the mean accrual quality (AQ) is monotonically increasing in delay, suggesting more delayed firms have worse accrual quality. Loss is monotonically increasing in delay, suggesting more delayed firms are more likely to have experienced recent losses. Earnings surprise (ES) is monotonically increasing in delay, while special items (SI) are weakly monotonically decreasing, suggesting that firms with large earnings surprises and large negative special items are more delayed. In summary, Table 3 documents that the relations between our accounting quality variables and stock price delay are monotonic and in the predicted directions.

Turning to the non-accounting quality variables in Table 3, a number of variables that proxy for investor attention vary monotonically in the predicted direction with stock price delay. More delayed firms are covered by fewer analysts (Analyst), have lower levels of institutional ownership (InstOwn), fewer employees (Empl) and lower levels of advertising (Adv). Further, the most delayed quintile of firms is associated with a reduction in the breadth of mutual fund ownership (CBreadth), suggesting an increase in short sales constraints (Chen, Hong and Stein, 2002). A number of variables that proxy for stock liquidity also vary monotonically (or nearly so) with stock price delay. More delayed firms are more likely to be traded on the NASDAQ

(NASDAQ), have lower stock turnover (Turn) and fewer trading days or more non-trading days (Traday).[6]

As a proxy for economic distress in Table 3 we use BSM, the probability of default, measured as the value of the firm's assets falling below the value of its liabilities, based on the Black-Scholes-Merton option pricing model (Black and Scholes, 1973; Merton, 1974). BSM is a market-based distress measure that has been shown in Hillegeist et al. (2004) to have higher information content than accounting-based distress measures. In addition, using accounting-based distress measures in studying the effect of accounting variables on price delay may confound inferences about the relative roles of distress versus accounting. Table 3 shows BSM is monotonically increasing in delay, suggesting that distressed firms are more delayed. Overall, Table 3 does not indicate the presence of any non-linearities between delay and its various determinants that we examine.

To test multivariate relations, we estimate pooled (cross-sectional and time-series) regressions of stock price delay on accounting quality, including controls for firm distress, liquidity and investor attention variables.

$$D_{i,t} = a_t + b_{1,t}\, AQ_{i,t} + b_{2,t}\, Loss_{i,t} + b_{3,t}\, SI_{i,t} + b_{4,t}\, ES_{i,t} + \sum_{j>4} b_{j,t}\, Controls_{j,i,t} + e_{i,t} \quad (4)$$

Table 4 shows the coefficients from estimation of equation (4), along with t-statistics based on standard errors clustered by firm and year to control for cross-sectional and serial correlation

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[6] We note that in comparing Table 3 to Hou and Moskowitz (2005, Table 1, p.686), the results are qualitatively similar but the magnitudes differ because of sample differences. In particular, our calculation of AQ and ES requires that our sample firms survive five years, and hence our sample firms are much larger on average than those in Hou and Moskowitz (2005). As a result, the most delayed quintile of firms in our sample has higher institutional ownership and analyst coverage, for example, than the most delayed quintile of firms in Hou and Moskowitz (2005). However, having larger and surviving firms in our sample biases against our finding a relation between accounting quality, price delay and future returns.

(Petersen, 2009).[7] The table shows results for two specifications: one with only accounting quality variables, and the other with a full set of controls. The first (second) specification has an R-square of 6.28% (35.42%), indicating that accounting quality explains a non-trivial proportion of the variation in stock price delay.

We discuss results from the fully-specified model only. AQ is significantly positive at less than 1%, suggesting firms with poor accrual quality have higher stock price delay. Loss is significantly positive at less than 5%, indicating loss firm-years have higher delay. SI is significantly negative at less than 1%, suggesting firms with large negative special items have higher stock price delay. ES is insignificant.[8, 9]

To ensure our accounting quality variables are not simply capturing firm distress, we control for the distress measure, BSM. Table 4 shows that BSM loads significantly positively, suggesting more distressed firms have higher price delay. In particular, distress does not subsume the effect of our accounting quality measures on price delay. Turning to the investor attention variables suggested in Hou and Moskowitz (2005), firms with high institutional ownership, high analyst following, more employees and higher advertising levels are likely to be followed more broadly and to have a richer information environment, thereby having less stock price delay. Consistent with this, InstOwn, Analyst and Empl are all significantly negative at less than 1% in Table 4. Adv is insignificant. CBreadth, or change in the breadth of mutual fund

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[7] Following Petersen (2009) we compare White (1984)-adjusted standard errors with each of firm-clustered and time-clustered standard errors, and find that the former are more than twice the White-adjusted standard errors. This indicates the presence of a firm effect that cannot be corrected for using Fama and MacBeth (1973) regressions, but can be addressed through double clustering.

[8] Controlling for positive and negative earnings surprises separately, instead of the absolute value of earnings surprises, does not alter the result.

[9] All four accounting quality variables, including ES, load significantly in the predicted direction when we use an alternative measure of price delay as described in Section 5.3.

ownership, captures the extent of short sale constraints (Chen, Hong and Stein, 2002). Short sale constraints impede the timely flow of (adverse) information into stock prices (e.g., Diamond and Verrecchia, 1987). Table 4 shows that CBreadth is significantly negative at less than 5%, suggesting a reduction in the breadth of mutual fund ownership is associated with higher stock price delay.

We also control for stock liquidity as in Hou and Moskowitz (2005) using turnover, the exchange on which the stock is traded and the number of days the stock is actively traded (Traday). Stocks with lower turnover, less frequent trading or more non-trading days, and NASDAQ stocks are less liquid. Turnover is indicated separately for NYSE/AMEX (Turn-NYAM) and NASDAQ (Turn-NASD) stocks. The exchange is controlled for by including an intercept dummy that is one for NASDAQ stocks and zero otherwise. We expect less liquid stocks to have higher price delay. Table 4 shows that Turn-NASD is significantly negative at less than 1%, but Turn-NYAM is insignificant, suggesting stock turnover is an important determinant of price delay for NASDAQ firms but not for NYSE/AMEX firms. Since NYSE/AMEX firms are larger and older than NASDAQ firms on average, this is consistent with the marginal importance of liquidity for price delay being higher for smaller firms with poor information environments. The exchange dummy NASDAQ is significantly positive at less than 1%, consistent with NASDAQ firms having higher average price delay. Traday is significantly negative at less than 5%, suggesting less frequently traded stocks have higher price delay.

Overall Table 4 shows that poor accounting quality significantly increases stock price delay. This result suggests that financial reporting quality plays an important role in price discovery in equity markets. As a consequence, reporting improvements, for example through enhanced disclosures, will likely benefit poor reporting quality firms by improving the speed with which information is impounded into their stock price.

4. The Relation between Stock Price Delay and Future Returns

In this section we isolate the accounting quality component of stock price delay, and examine the consequences of total delay and accounting-induced delay for future stock returns. Delayed firms are neglected by investors, have low liquidity and poor accounting quality as described above. These firms may therefore be mispriced by investors, or they may have higher expected returns to compensate for price delay. Delay imposes adverse selection risk on investors trading in delayed stocks with potentially more informed traders, and this risk may be compensated through a higher risk premium in expected returns (e.g., Easley and O'Hara 2004). Delay may also impose illiquidity risk on investors and thereby command a return premium (Pastor and Stambaugh, 2003).

We calculate the accounting quality component of delay for each firm-year, D_{Acct}, as the fitted value of delay from the fully-specified model in Table 4. From equation (4), using empirical estimates of b_1 to b_4 (denoted by hats):

$$D_{Acct\ i,t} = \hat{b}_{1,t}\, AQ_{i,t} + \hat{b}_{2,t}\, Loss_{i,t} + \hat{b}_{3,t}\, SI_{i,t} + \hat{b}_{4,t}\, ES_{i,t} \qquad (5)$$

Since our interest is in the accounting component of delay, we do not further distinguish between the components of delay due to investor attention, stock liquidity and firm distress.

We begin by examining univariate relations between D_{Acct}, future stock returns and various cross-sectional determinants of future returns suggested in the prior literature, including the CAPM beta, size and book-to-market (Fama and French, 1992), prior returns (Jegadeesh and Titman, 1993) and accruals (Sloan, 1996). Table 5 shows means by quintiles of D_{Acct}. Total delay (D) is monotonically increasing in D_{Acct}, indicating that firms with high total delay also have high accounting-induced delay. Firms in the top quintile of D_{Acct} have higher betas, are smaller (Size) and have more negative accruals than firms in the bottom quintile, though the relation with accruals is not monotonic. The differences between high and low D_{Acct} firms for other variables are statistically insignificant.

To examine the multivariate relation between accounting-induced delay and future stock returns, we estimate cross-sectional (Fama and MacBeth, 1973) regressions of one-year-ahead monthly stock returns in excess of the risk-free rate on D_{Acct}, including controls for other return determinants described above. Since the monthly stock return is the dependent variable, serial correlation is not expected to be an issue and Fama-MacBeth regressions are well specified in this case (Petersen, 2009).[10] Table 6 shows mean coefficients for two regression specifications, with t-statistics based on Fama-MacBeth standard errors. In the first specification we include total delay, D. In the second specification we decompose D into its accounting component, D_{Acct}, and the remaining component, $D_{NonAcct}$, in order to isolate the effect of accounting-induced delay on future returns. Total delay, D, loads significantly positively (p-value<1%) in Table 6, indicating that delayed firms have higher average future returns. When delay is decomposed into its accounting and non-accounting components, both D_{Acct} and $D_{NonAcct}$ load significantly positively (p-value<1%), indicating that firms with high accounting-induced delay have higher average future returns. In particular, comparing the marginal effect of a one-standard-deviation change in D_{Acct} to a one-standard-deviation change in $D_{NonAcct}$, we find that 28% of the return premium for price delay is due to poor accounting quality.[11]

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[10] In untabulated tests we estimate Panel regressions with double-clustered (time and firm) standard errors to control for both cross-sectional and time-series correlation, and verify that results are robust.

[11] The return premium for D_{Acct} is 28% of the sum of the return premiums for D_{Acct} and $D_{NonAcct}$.

Also in Table 6, the log book-to-market ratio (B/M) and log size (Size) load significantly positively (p-values<1%), consistent with value firms having higher future returns than growth firms and with recent disappearance of the size anomaly (e.g., Schwert, 2003). The prior one month return, $Ret_{[-1]}$, intended to control for the one-month return reversal effect of Jegadeesh (1990), is significantly negatively associated with future returns (p-values<1%). The prior three year return excluding the most recent year, $Ret_{[-36,-13]}$, intended to control for longer horizon return reversal, is significantly negative. The prior one year return excluding the most recent month, $Ret_{[-12,-2]}$, intended to control for the momentum effect of Jegadeesh and Titman (1993), is insignificant. Finally, accruals load significantly negatively, consistent with Sloan (1996).

Overall, Table 6 indicates firms with higher accounting-induced delay have higher future stock returns, suggesting that poor accounting quality increases firms' cost of equity.

5. Robustness Tests

We conduct a number of robustness tests. In Section 5.1 we estimate calendar-time Fama and French (1993) asset pricing tests to examine the robustness of the results in Section 4 that firms with higher accounting-induced delay have a higher cost of equity. In Section 5.2.1 we examine whether results are robust when we use AQ only to measure accounting quality, while in Section 5.2.2 we examine whether results are robust to accounting quality measures based on the qualitative characteristics of annual reports. Finally in Section 5.3 we test robustness with respect to an alternative stock price delay measure.

5.1. Calendar-time Fama-French Regressions

The cross-sectional Fama-MacBeth return regressions of Section 4 control for firm characteristics that predict future returns. As an alternative, we estimate the delay premium as the alpha from a calendar-time Fama and French (1993) (time-series) regression. The Fama-French (1993) tests control for risk factor betas under the theory that returns depend on covariances (betas). The alpha of a test portfolio is the portion of returns unexplained by the portfolio's exposure to Fama-French risk factors, so the difference in alphas between high and low delay portfolios represents a premium for delay. This can also be seen as the abnormal return to a strategy of buying high delay firms and shorting low delay firms.

We sort firms into quintiles of total delay, D, in June of year t, and then estimate the equal-weighted monthly portfolio returns for the next twelve months. Repeating this each year yields a time series of monthly portfolio returns for quintiles of total delay. We then estimate time series regressions of the quintile portfolio monthly returns on the monthly returns to the three Fama-French factors and an intercept or alpha. Panel A of Table 7 reports the alphas and t-statistics for each quintile of D, as well as the difference in alphas for the top and bottom quintiles (High-Low). The most delayed firms have significantly positive alphas, and the high-low delay portfolio has a significant alpha of 0.42% monthly (p-value<1% one-tailed). This translates into an annual return premium to high delay firms, relative to low delay firms, of about 5%, consistent with Hou and Moskowitz (2005).

Next we examine whether there is a return premium for accounting-induced delay. We sort firms into quintiles of D_{Acct} and quintiles of $D_{NonAcct}$. The intersection of these sorts yields 5 x 5 = 25 portfolios each year, and allows us to capture return variation due to accounting-induced delay while controlling for the level of non-accounting delay. As above, we estimate time series regressions of monthly portfolio returns on the monthly returns to the three Fama-French factors, and report alphas and t-statistics for the 25 portfolios.

In Panel B of Table 7, D_{Acct} is increasing downwards while $D_{NonAcct}$ is increasing from left to right. For example, the first row shows the alphas and t-statistics for the lowest quintile of D_{Acct} within each quintile of $D_{NonAcct}$, while the fifth row shows results for the highest quintile of D_{Acct} within each quintile of $D_{NonAcct}$. Similarly, the first column shows alphas for the lowest quintile of $D_{NonAcct}$ within each quintile of D_{Acct}, while the fifth column shows alphas for the highest quintile of $D_{NonAcct}$ within each quintile of D_{Acct}. The left panel reports alphas, while the right panel reports t-statistics. The last row reports alphas and t-statistics for the high D_{Acct} – low D_{Acct} quintiles, while the last column reports t-statistics for the high $D_{NonAcct}$ – low $D_{NonAcct}$ quintiles. Firms with high D_{Acct} have high accounting-induced delay and therefore are low accounting quality firms. The high-low alpha can be interpreted as the return premium due to low accounting quality (or high accounting-induced delay).

In Panel B of Table 7, the t-statistics for the high-low alphas are significantly positive when both D_{Acct} and $D_{NonAcct}$ are high. In particular, when $D_{NonAcct}$ is also high, accounting-induced delay commands a monthly return premium of 0.65% (7.8% annualized, p-value<5%). Consistent with the Table 6 result, this suggests poor accounting quality substantially raises firms' cost of equity.

5.2. Alternative Accounting Quality Measures

5.2.1. Accrual Quality (AQ) as the Sole Measure of Accounting Quality

We examine whether the relation between accounting quality and stock price delay is robust to using AQ as the sole measure of accounting quality. Table 8, Panel A, re-estimates the delay regression of Table 4 using AQ only, and omitting ES, SI and Loss. AQ loads significantly positively at less than 1%, indicating that firms with poor accrual quality have higher stock price delay as expected. Table 8, Panel B, re-estimates the return prediction regression of Table 6 using AQ as the sole measure of accounting quality. The fitted component of delay (from Panel A of Table 8) due to AQ, denoted $D_{AQ,}$ loads significantly positively at less than 1% in Panel B, indicating that firms with higher accounting-induced delay have higher future returns. Thus, results are robust to using AQ as the sole measure of accounting quality.

5.2.2. Annual Reports' Lexical Properties as a Measure of Accounting Quality

We examine whether the relation between accounting quality and stock price delay is robust to using the FOG index of Li (2008), which is a measure of the readability of *qualitative* information in annual reports. Annual reports that are more difficult to read increase investors' information processing costs, potentially leading to more delayed (less timely) incorporation of value-relevant information into stock prices (e.g., Grossman and Stiglitz, 1980; Bloomfield, 2002; Li, 2008).

The U.S. Securities and Exchange Commission (SEC) has long encouraged and provided guidelines for the use of plain English in disclosures and annual reports, suggesting the lexical properties of disclosures affect investors' information processing costs. Li (2008) uses innovations from the computational linguistics literature to measure text complexity based on the number of words per sentence and the number of syllables per word. He computes a FOG index of readability, and provides evidence that managers appear to strategically use annual report readability to obfuscate poor performance and low earnings persistence. This suggests firms with poor earnings quality have a higher FOG score.

We re-estimate the delay regression in Table 4 by substituting FOG in place of our four main accounting quality proxies. We also control for the length of the annual report using the number of words (NWords). Li (2008) suggests longer reports may be less readable or may have more information, so the effect of NWords on delay is an empirical question. Results shown in Panel A of Table 9 indicate that firms with a high FOG score have significantly higher stock price delay (t-stat=1.94, one-tailed p-value<5%), while NWords loads significantly negatively consistent with longer reports having more information.[12] This result is consistent with Table 4, and suggests the relation between accounting quality and price delay is robust. Panel B of Table 9 shows that, using FOG and NWords to proxy for accounting quality, firms with high accounting-induced delay (D_{Lex}) have higher future stock returns, suggesting the results in Table 6 are robust.

5.3. Alternative Delay Measure

Recall that D is estimated from equation (1) using market returns as the news to which stock i responds. We also estimate a second delay measure, D_fs, in which firm-specific news is the stimulus to which investors respond. In this case, investors attempt to assess the implications of firm-specific news (e.g., loss of a large contract) for the firm's future cash flows, and our hypothesis is that poor accounting quality slows this process. This delays the incorporation of value-relevant news into the firm's stock price and leads to gradual price adjustment. To estimate D_fs we replace the four lagged market return terms in equation (1) with four lagged firm-specific returns, and use equation (2) applied to this model.

In untabulated results the distribution of firm-specific news delay, D_fs, is similar to that of D, suggesting that stock price delay is a characteristic of the firm (i.e., of the firm's information environment) rather than of the particular type of news (market or firm-specific

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[12] Both FOG and NWords data were graciously provided to us by Feng Li.

news). We therefore expect our results are robust, but verify as shown in Table 10. Panel A of Table 10 shows that when D_fs is the dependent variable, all four accounting quality proxies (ES, AQ, SI and Loss) load significantly in the predicted direction, suggesting the results in Table 4 are robust to the delay measure. Panel B of Table 10 shows that the component of D_fs due to poor accounting quality (D_fs_{Acct}) is significantly positively associated with future stock returns (p-value<1%), suggesting the results in Table 6 are robust to this alternative delay measure.

6. Conclusion

We examine whether poor accounting quality increases market frictions such as information asymmetries between the firm and investors or between informed and uninformed investors, valuation parameter uncertainty, and short sale constraints. Extensive prior research has overwhelmingly documented that financial reports are an important source of information for capital markets, so we expect poor accounting quality degrades the quality of information that is relevant and material to timely stock price discovery. We use the Hou and Moskowitz (2005) metric of price delay as a summary measure of market frictions, and present evidence that accounting quality is negatively associated with price delay.

We refer to the degree of noise and bias in financial statements as accounting quality. Using four proxies for accounting quality based on *quantitative* financial statement information – accrual quality, loss frequency, special items and earnings surprises – we find that firms with poor accrual quality, more frequent losses and large negative special items have significantly higher price delay. Results are robust to using AQ as the sole measure of accounting quality. Results are also robust to measuring accounting quality by the FOG index of Li (2008), which is a measure of the readability of *qualitative* (non-financial-statement) information in annual reports.

We find that high delay firms have a significant return premium of about 5% annually relative to low delay firms. This suggests, consistent with Hou and Moskowitz (2005), that market frictions play an important role in explaining the cross-section of stock returns. We also find that poor accounting quality in particular leads to a statistically significant return premium of about 7.8% annualized in firms with the highest non-accounting-induced delay.

Our results indicate that accounting quality has an important effect on the speed of price discovery in equity markets, and that poor accounting quality increases firms' costs of equity. This suggests financial reporting improvements such as improved accrual estimation, enhanced disclosures and more readable annual reports are likely to yield economic benefits to firms. Future researchers may investigate whether accounting-induced delay has an adverse effect on higher moments of stock returns, such as volatility and skewness, or adverse effects in the credit market.

Appendix: Variable Definitions

Delay Variables

D: Average delay with which market news is impounded into stock price, estimated as described in Section 2.2.

D_{Acct}: The accounting quality component of price delay, estimated as the fitted portion of delay due to accounting quality, and described in Section 4.

D_{Aq}: The accounting quality component of price delay, estimated as the fitted portion of delay due to accrual quality (as the sole measure of accounting quality).

D_{Lex}: The accounting quality component of price delay, estimated as the fitted portion of delay due to FOG and NWords.

$D_{NonAcct}$: The difference between *D* and D_{Acct}.

D_{NonAq}: The difference between *D* and D_{Aq}.

D_{NonLex}: The difference between *D* and D_{Lex}.

D_fs: Average delay with which firm-specific news is impounded into stock price, estimated as described in Section 5.3.

D_fs_{Acct}: The fitted portion of *D_fs* due to accounting quality.

$D\_fs_{NonAcct}$: The difference between *D_fs* and D_fs_{Acct}.

Accounting Quality Variables:

AQ: Accrual quality as measured by the uncertainty in the accrual-to-cash flow mapping, and described in Section 2.3.

ES: The absolute value of annual earnings surprise scaled by the standard deviation of annual earnings surprises in the last five years. Earnings surprise is the difference between the consensus earnings forecast and actual earnings reported in IBES. The calculation requires a minimum three years of annual earnings history.

Loss: The relative frequency of losses in the previous three years (number of loss years divided by three). A loss year is one in which net income before extraordinary items (Compustat data item 18) is negative.

FOG: The index of Li (2008), which is a measure of the readability of *qualitative* information in annual reports.

SI: Special items (Compustat data item 17), divided by lagged total assets (data item 6).

Other Variables:

Accruals: The change in working capital, minus depreciation, scaled by total assets. Specifically, the [change in (current assets – cash – current liabilities + debt in current liabilities) – depreciation] / total assets. In terms of Compustat data items this is [Δ(data4 – data1 – data5 + data34) – data14] / data6.

Adv: The logarithm of (1+ advertising expense). Advertising expense is reported in Compustat (data item 45). Adv is set to zero when advertising expense is missing.

Analyst: The logarithm of (1 + the number of analysts who issue annual EPS forecasts reported in IBES in calendar year t). If the number of analyst following is 0, Analyst is zero.

Beta: The CAPM beta at the end of June each year, estimated using rolling 60-month firm-specific regressions of excess stock returns on an intercept and the market excess return.

B/M: The logarithm of book value divided by market value of equity, log(data60/(data25*data199)).

BSM: The probability of default, measured using the option pricing model of Merton (1974).

CAcc: Current accruals, defined as total accruals plus depreciation, or Accruals + (data14/data6).

CBreadth: Annual percentage change in breadth, where breadth is the number of mutual funds with long positions in the stock divided by the total number of mutual funds.

CFO: Operating cash flows, defined as net income before extraordinary items, scaled by total assets, minus accruals. Specifically, (data18/data6) – Accruals.

Empl: The logarithm of (1+ number of employees). Number of employees is reported in Compustat (data item 29).

InstOwn: The logarithm of (1+ annual institutional ownership). Annual institutional ownership is average quarterly institutional ownership in year t. Quarterly institutional ownership is defined as the number of shares held by institutional investors at quarter end, as reported in 13F filings in the Thomson Financial database, divided by the number of shares outstanding.

NASDAQ = 1 if the firm is listed on Nasdaq, and 0 otherwise.

NWords: The number of words in the annual report, as measured by Li (2008).

PPE: Property, plant and equipment scaled by total assets, or data7/data6.

$Ret_{[-36,-13]}$: Total returns from month -36 to month -13, where month 0 is the regression month.

$Ret_{[12,-2]}$: Total returns from month -12 to month -2, where month 0 is the regression month.

$Ret_{[-1]}$: Returns at month -1, where month 0 is the regression month.

Ret: Average monthly returns over months +1 to +12.

Rev: Revenues scaled by total assets, or data12/data6.

Size: The logarithm of market value of equity (Compustat data25 x data199) at the end of each month.

Traday: The number of days a stock is traded in year t, defined as the number of days with non-zero trading volume.

Turn: The logarithm of turnover. Turnover is the average monthly number of shares traded divided by shares outstanding in year t.

Turn-NASD: the interaction term between the NASDAQ dummy and Turn.

Turn-NYAM: Turnover for NYSE and AMEX firms, defined as the interaction term between (1-NASDAQ) and Turn.

References

Aboody, David, John Hughes and Jing Liu. 2005. Earnings quality, insider trading and cost of capital. *Journal of Accounting Research*, 43 (5): 651-673.

Ashbaugh-Skaife, Hollis, Daniel Collins, William Kinney and Ryan LaFond. 2008. The effect of SOX internal control deficiencies and their remediation on accrual quality. *The Accounting Review*, 83 (1): 217-250.

Barry, Christopher B. and Stephen J. Brown. 1984. Differential information and the small firm effect. *Journal of Financial Economics*, 13(2): 283-294.

Bhattacharya, Neil, Hemang desai and Kumar Venkataraman. 2008. Earnings quality and information asymmetry. Working paper, Southern Methodist University.

Biddle, Gary, Gilles Hilary and Rodrigo Verdi. 2009. How does financial reporting quality relate to investment efficiency? Forthcoming, *Journal of Accounting and Economics*.

Black, Fischer and Myron Scholes. 1973. The pricing of options and corporate liabilities. *Journal of Political Economy*, 81: 637-654.

Bloomfield, Robert. 2002. The "incomplete revelation hypothesis" and financial reporting. *Accounting Horizons*, 16: 233-243.

Burgstahler,David and Ilia Dichev. 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics*, 24 (1): 99-126.

Chen, Joseph, Harrison Hong and Jeremy Stein. 2002. Breadth of ownership and stock returns. *Journal of Financial Economics* 66: 171-205.

Chen, Linda, Dan Dhaliwal and Mark Trombley. 2007. The effect of fundamental risk on the market pricing of accruals quality. Working paper, University of Arizona.

Chen, Shuping, Terry Shevlin and Yen Tong. 2007. Does the pricing of financial reporting quality change around dividend changes? *Journal of Accounting Research*, 45 (1): 1-40.

Core, John, Wayne Guay and Rodrigo Verdi. 2008. Is accruals quality a priced risk factor? *Journal of Accounting and Economics*, 46 (1): 2-22.

D'Avolio, Gene. 2002. The market for borrowing stock. *Journal of Financial Economics*, 66: 271-306.

Dechow, Patricia, and Ilia Dichev. 2002. The quality of accruals and earnings. *The Accounting Review,* 77: 35-59.

Dechow, Patricia, Weili Ge, Chad Larson and Richard Sloan. 2009. Predicting material accounting misstatements. Working paper, UC Berkeley.

Diamond, D.W., Verrecchia, R.E., 1987. Constraints on short-selling and asset price adjustment to private information. *Journal of Financial Economics* 18: 277-311.

Diamond, Douglas W. and Robert E. Verrecchia. 1991. Disclosure, liquidity, and the cost of capital. *Journal of Finance* 46 (4): 1325

Doyle, Jeffrey, Weili Ge and Sarah McVay. 2007. Accruals quality and internal control over financial reporting. *The Accounting Review*, 82 (5): 1141-1170.

Easley, David, Soeren Hvidkjaer and Maureen O'Hara. 2002. Is information risk a determinant of asset returns? *Journal of Finance*, 57 (5): 2185-2221.

Easley, David and Maureen O'Hara. 2004. Information and the cost of capital. *Journal of Finance* 59 (4): 1553-83.

Fama, Eugene F. and Kenneth R. French. 1992. The cross-section of expected stock returns. *Journal of Finance*, 47(2), 427-466.

Fama, Eugene F. and Kenneth R. French. 1993. Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33: 3-56.

Fama, Eugene F. and Kenneth R. French. 1997. Industry costs of equity. *Journal of Financial Economics*, 43: 153-193.

Fama, Eugene F. and James MacBeth. 1973. Risk, return and equilibrium: empirical tests. *Journal of Political Economy*, 81: 607-636.

Francis, Jennifer, Ryan LaFond, Per Olsson and Katherine Schipper. 2004. Costs of equity and earnings attributes. *The Accounting Review*, 79: 967-1010.

Francis, Jennifer, Ryan LaFond, Per Olsson and Katherine Schipper. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics*, 39: 295-327.

Grossman, Sanford and Joseph Stiglitz. 1980. On the impossibility of informationally efficient markets. *American Economic Review*, 70: 393-408.

Healy, Paul, Amy Hutton and Krishna Palepu. 1999. Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research*: 485-520.

Hillegeist, Stephen, Elizabeth Keating, Donald Cram and Kyle Lundstedt. 2004. Assessing the probability of bankruptcy. *Review of Accounting Studies*, 9: 5 – 34.

Hou, Kewei and Tobias Moskowitz. 2005. Market frictions, price delay and the cross-section of expected returns. *Review of Financial Studies*, 18 (3): 981-1020.

Hughes, John, Jing Liu, and Jun Liu. 2007. Information asymmetry, diversification, and cost of capital. *The Accounting Review* 82 (3): 705-29.

Hutton, Amy, Alan Marcus and Hassan Tehranian. 2008. Opaque financial reports and the distribution of stock returns. *Journal of Financial Economics*, forthcoming.

Jegadeesh, Narasimhan. 1990. Evidence of predictable behavior of security returns. *Journal of Finance*, 45: 881-898.

Jegadeesh, Narasimhan and Sheridan Titman. 1993. Returns to buying winners and selling losers: implications for stock market efficiency. *Journal of Finance*, 48: 65-91.

Lambert, Richard A., Christian Leuz, and Robert E. Verrecchia. 2007. Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research* 45 (2): 385-420.

Lee, Gemma and Ronald Masulis. 2008. Seasoned equity offerings: quality of accounting information expected flotation costs. Forthcoming, *Journal of Financial Economics*.

Li, Feng. 2008. Annual report readability, current earnings and earnings persistence. *Journal of Accounting and Economics*, 45: 221-247.

Lobo, Gerald, Minsup Song and Mary Stanford. 2006. Accruals quality and analyst coverage. Working paper, University of Houston.

McNichols, Maureen. 2002. Discussion of "The quality of accruals and earnings: the role of accrual estimation errors." *The Accounting Review*, 77 (supplement), 61-69.

Merton, Robert C. 1974. On the pricing of corporate debt: The risks structure of interest rates. *Journal of Finance,* 29: 449 – 470.

Merton, Robert C. 1987. Presidential address: A simple model of capital market equilibrium with incomplete information. *Journal of Finance*, 42 (3): 483-510.

Mohanram, Partha, and Shivaram Rajgopal. 2009. Is PIN priced risk? Forthcoming, *Journal of Accounting and Economics*.

Ogneva, Maria, 2008. A Re-examination of the Cost-of-Capital Effects of Accrual Quality: Evidence from the Future Realized Returns. Working paper, Stanford University.

Pastor, Lubos and Robert Stambaugh. 2003. Liquidity risk and expected stock returns. *Journal of Political Economy*, 111 (3): 642-685.

Petersen, Mitchell. 2009. Estimating standard errors in finance panel data sets: comparing approaches. *Review of Financial Studies*, 22: 435-480.

Rajgopal, Shivaram and Mohan Venkatachalam. 2008. Financial reporting quality and idiosyncratic return volatility over the last four decades. Working paper, U. of Washington and Duke.

Schrand, Catherine and Beverly Walther. 2000. Strategic benchmarks in earnings announcements: the selective disclosure of prior-period earnings components. *The Accounting Review*, 75 (2): 151- 177.

Schwert, G. William. 2003. Anomalies and market efficiency, in *Handbook of the Economics of Finance*, Constantinides, Harris and Stulz, eds. North Holland: Amsterdam.

Sloan, Richard. 1996. Do stock prices fully reflect information in accruals and cash flows about future earnings? *The Accounting Review*, (July): 289-316.

Watts, Ross L. and Jerold Zimmerman. 1986. *Positive Accounting Theory*. Edgewood Cliffs, NJ: Prentice Hall.

White, Halbert. 1984. A heteroskedasticity-consistent covariance matrix estimator and a direct test of heteroskedasticity. *Econometrica*, 48: 817-838.

Table 1. Descriptive Statistics

The table reports descriptive statistics for 29,345 firm-years from 1981 to 2006. D is the average delay with which information is impounded into stock price, and its estimation is described in section 2.2 in the text. ES is the absolute value of annual earnings surprise scaled by the standard deviation of annual earnings surprises over the last five years. AQ is accrual quality, measured as the standard deviation of the residuals from the Dechow-Dichev model over the last five years. SI is special items. Loss is the relative frequency of annual losses in past three years (number of loss years divided by three). Analyst is log of 1+the number of analysts. InstOwn is log of 1+annual institutional ownership, where ownership is number of shares held scaled by shares outstanding. Empl is log of 1+the number of employees. Adv is log of 1+advertising expense. NASDAQ=1 if the firm trades on NASDAQ, and 0 otherwise. Turn is log of share turnover, where turnover is average monthly shares traded scaled by shares outstanding. Traday is the number of days the stock is traded in a given year. BSM is the probability of default from the Merton (1974) option pricing model. CBreadth is the change of breadth from year t-1 to year t scaled by breadth in year t-1. Breadth is the annual average of quarterly breadth which is the ratio of the number of mutual funds that hold a long position in the stock to the total number of mutual funds in the quarter.

	Mean	Q1	Median	Q3	StdDev
D	0.093	0.016	0.042	0.119	0.124
ES	1.942	0.201	0.645	1.697	8.426
AQ	0.039	0.020	0.033	0.050	0.026
SI	-0.013	-0.009	0	0	0.066
Loss	0.199	0	0	0.333	0.323
Analyst	1.826	1.099	1.792	2.485	0.831
InstOwn	0.379	0.251	0.399	0.518	0.172
Empl	1.589	0.588	1.324	2.303	1.228
Adv	1.027	0	0	1.645	1.722
NASDAQ	0.430	0	0	1	0.495
Turn	0.130	0.045	0.086	0.162	0.145
Traday	248	251	252	252	17
BSM	0.036	0	0	0.007	0.113
CBreadth	0.080	-0.203	-0.004	0.216	0.585

Table 2. Correlations

The table reports means of annual cross-sectional Pearson (upper diagonal) and Spearman (lower diagonal) correlations. D is the average delay with which information is impounded into stock price, and its estimation is described in section 2.2 in the text. ES is the absolute value of annual earnings surprise scaled by the standard deviation of annual earnings surprises over the last five years. AQ is accrual quality, measured as the standard deviation of the residuals from the Dechow-Dichev model over the last five years. SI is special items. Loss is the relative frequency of annual losses in past three years (number of loss years divided by three). Analyst is log of 1+the number of analysts. InstOwn is log of 1+annual institutional ownership, where ownership is number of shares held scaled by shares outstanding. Empl is log of 1+the number of employees. Adv is log of 1+advertising expense. NASDAQ=1 if the firm trades on NASDAQ, and 0 otherwise. Turn is log of share turnover, where turnover is average monthly shares traded scaled by shares outstanding. Traday is the number of days the stock is traded in a given year. BSM is the probability of default from the Merton (1974) option pricing model. CBreadth is the change of breadth from year t-1 to year t scaled by breadth in year t-1. Breadth is the annual average of quarterly breadth which is the ratio of the number of mutual funds that hold a long position in the stock to the total number of mutual funds in the quarter. Numbers in bold are statistically significant at 1%, where significance is calculated using the time series of annual correlations in order to control for time effects.

	D	ES	AQ	SI	Loss	Analyst	InstOwn	Empl	Adv	NASDAQ	Turn	Traday	BSM	CBreadth
D		**-0.06**	**0.16**	**-0.04**	**0.25**	**-0.53**	**-0.43**	**-0.41**	**-0.22**	**0.28**	**-0.10**	**-0.36**	**0.14**	**-0.08**
ES	**-0.12**		**-0.06**	**0.14**	**-0.09**	**0.05**	**0.05**	**0.04**	**0.03**	**-0.04**	-0.01	**0.04**	**-0.08**	**0.04**
AQ	**0.19**	**-0.05**		**-0.11**	**0.25**	**-0.16**	**-0.07**	**-0.24**	**-0.09**	**0.20**	**0.15**	-0.01	**0.08**	**0.04**
SI	-0.02	**0.12**	**-0.08**		**-0.21**	**-0.01**	-0.01	**0.02**	0.00	**-0.05**	**-0.08**	**-0.02**	**-0.08**	**0.04**
Loss	**0.27**	**-0.16**	**0.24**	**-0.20**		**-0.20**	**-0.20**	**-0.23**	**-0.11**	**0.19**	**0.10**	-0.01	**0.30**	**-0.06**
Analyst	**-0.64**	**0.12**	**-0.17**	**-0.03**	**-0.20**		**0.51**	**0.54**	**0.33**	**-0.25**	**0.18**	**0.29**	**-0.08**	**-0.05**
InstOwn	**-0.46**	**0.10**	**-0.04**	**-0.03**	**-0.19**	**0.52**		**0.30**	**0.19**	**-0.18**	**0.17**	**0.23**	**-0.11**	0.03
Empl	**-0.55**	**0.09**	**-0.23**	-0.01	**-0.25**	**0.55**	**0.37**		**0.50**	**-0.42**	-0.03	**0.17**	**-0.05**	**-0.06**
Adv	**-0.21**	**0.04**	-0.03	**-0.02**	**-0.06**	**0.24**	**0.16**	**0.35**		**-0.18**	**0.07**	**0.10**	**-0.04**	**-0.03**
NASDAQ	**0.33**	**-0.04**	**0.21**	**-0.03**	**0.18**	**-0.26**	**-0.19**	**-0.45**	**-0.09**		**0.23**	**-0.16**	**0.02**	0.03
Turn	**-0.14**	**0.04**	**0.20**	**-0.08**	**0.15**	**0.29**	**0.31**	0.01	**0.11**	**0.23**		**0.15**	**0.08**	**0.15**
Traday	**-0.48**	**0.07**	**-0.06**	**-0.02**	**-0.05**	**0.48**	**0.33**	**0.33**	**0.14**	**-0.21**	**0.376**		0.00	**0.04**
BSM	**0.20**	**-0.14**	**0.08**	**-0.12**	**0.33**	**-0.11**	**-0.12**	**-0.02**	**-0.04**	0.02	**0.119**	**-0.03**		**-0.11**
CBreadth	**-0.14**	**0.10**	-0.02	**0.09**	**-0.15**	0.02	**0.11**	0.02	0.00	**-0.03**	**0.097**	**0.08**	**-0.22**	

Table 3. Univariate Analysis of Information Delay

The table reports means by quintiles of price delay, D. D is the average delay with which information is impounded into stock price, and its estimation is described in section 2.2 in the text. ES is the absolute value of annual earnings surprise scaled by the standard deviation of annual earnings surprises over the last five years. AQ is accrual quality, measured as the standard deviation of the residuals from the Dechow-Dichev model over the last five years. SI is special items. Loss is the relative frequency of annual losses in past three years (number of loss years divided by three). Analyst is log of 1+the number of analysts. InstOwn is log of 1+annual institutional ownership, where ownership is number of shares held scaled by shares outstanding. Empl is log of 1+the number of employees. Adv is log of 1+advertising expense. NASDAQ=1 if the firm trades on NASDAQ, and 0 otherwise. Turn is log of share turnover, where turnover is average monthly shares traded scaled by shares outstanding. Traday is the number of days the stock is traded in a given year. BSM is the probability of default from the Merton (1974) option pricing model. CBreadth is the change of breadth from year t-1 to year t scaled by breadth in year t-1. Breadth is the annual average of quarterly breadth which is the ratio of the number of mutual funds that hold a long position in the stock to the total number of mutual funds in the quarter. * and *** denote one-tailed statistical significance at 10% and 1%, respectively, where significance is calculated using the time series of annual High-Low differences in order to control for cross-sectional correlation.

	Low	2	3	4	High	High-Low	
D	0.009	0.026	0.056	0.108	0.265	0.256	***
ES	1.592	1.705	1.735	2.294	2.383	0.791	***
AQ	0.032	0.036	0.038	0.041	0.047	0.015	***
SI	-0.011	-0.011	-0.013	-0.013	-0.017	-0.006	***
Loss	0.094	0.143	0.180	0.231	0.347	0.252	***
Analyst	2.564	2.111	1.827	1.507	1.126	-1.437	***
InstOwn	0.456	0.430	0.399	0.353	0.257	-0.199	***
Empl	2.643	1.837	1.493	1.148	0.828	-1.814	***
Adv	1.827	1.168	0.869	0.738	0.539	-1.288	***
NASDAQ	0.208	0.324	0.399	0.539	0.679	0.470	***
Turn	0.144	0.145	0.139	0.129	0.094	-0.050	***
Traday	252	251	251	248	240	-12	***
BSM	0.018	0.028	0.034	0.042	0.059	0.041	***
CBreadth	0.083	0.111	0.114	0.094	-0.005	-0.088	*

Table 4. Determinants of Information Delay

The table presents coefficients from pooled (cross-sectional and time-series) regressions of price delay, D, on the variables shown. D is the average delay with which information is impounded into stock price, and its estimation is described in section 2.2 in the text. ES is the absolute value of annual earnings surprise scaled by the standard deviation of annual earnings surprises over the last five years. AQ is accrual quality, measured as the standard deviation of the residuals from the Dechow-Dichev model over the last five years. SI is special items. Loss is the relative frequency of annual losses in past three years (number of loss years divided by three). Analyst is log of 1+the number of analysts. InstOwn is log of 1+annual institutional ownership, where ownership is number of shares held scaled by shares outstanding. Empl is log of 1+the number of employees. Adv is log of 1+advertising expense. NASDAQ=1 if the firm trades on NASDAQ, and 0 otherwise. Turn is log of share turnover, where turnover is average monthly shares traded scaled by shares outstanding. Traday is the number of days the stock is traded in a given year. BSM is the probability of default from the Merton (1974) option pricing model. CBreadth is the change of breadth from year t-1 to year t scaled by breadth in year t-1. Breadth is the annual average of quarterly breadth which is the ratio of the number of mutual funds that hold a long position in the stock to the total number of mutual funds in the quarter. The t-statistics are based on standard errors clustered by firm and time (double clustering). ** and *** denote one-tailed statistical significance at 5%, and 1%, respectively.

	Coeff	t-stat		Coeff	t-stat	
Intercept	-0.056	-8.89	***	0.460	3.07	***
ES	0.0004	2.25	**	0.0001	0.72	
AQ	0.614	8.21	***	0.309	6.10	***
SI	0.014	0.88		-0.037	-2.44	***
Loss	0.069	4.92	***	0.017	1.77	**
Analyst				-0.032	-6.66	***
InstOwn				-0.142	-8.87	***
Empl				-0.011	-7.06	***
Adv				-0.0004	-0.55	
NASDAQ				0.045	5.22	***
Turn-NYAM				-0.010	-0.41	
Turn-NASD				-0.157	-5.27	***
Traday				-0.001	-1.77	**
BSM				0.119	7.38	***
CBreadth				-0.010	-1.98	**
R-Sq		6.28%		35.42%		

Table 5. Univariate Analysis of Return Predictability

The table reports means by quintile of the accounting component, D_{Acct}, of price delay. D_{Acct}, described in Section 4 in the text, is the fitted portion of D to accounting quality. D is the average delay with which information is impounded into stock price, and its estimation is described in section 2.2 in the text. $D_{NonAcct}$ is the non-accounting component of delay and is defined as the difference between D and D_{Acct}. Ret is the average monthly return from months t+1 to t+12. Beta is the CAPM beta at the end of June each year, estimated using rolling 60-month time series firm-specific regressions. B/M is the log book-to-market ratio. Size is the log market value of equity. $Ret_{[-1]}$ is the return in month t-1. $Ret_{[-12,-2]}$ is the total return from months t-12 to t-2. $Ret_{[-36,-13]}$ is the total return from months t-36 to t-13. Accruals is the change in working capital, minus depreciation, scaled by average total assets. *** denotes one-tailed statistical significance at 1%, where significance is calculated using the time series of annual High-Low differences in order to control for cross-sectional correlation.

	Low	2	3	4	High	High-Low	
D_{Acct}	0.002	0.006	0.009	0.016	0.035	0.033	***
$D_{NonAcct}$	0.063	0.068	0.077	0.090	0.109	0.046	***
D	0.065	0.074	0.086	0.106	0.144	0.079	***
Ret	0.013	0.014	0.014	0.014	0.015	0.002	
Beta	0.877	0.991	1.103	1.284	1.571	0.694	***
B/M	-0.771	-0.832	-0.813	-0.777	-0.715	0.057	
Size	6.853	6.582	6.262	5.910	5.209	-1.644	***
$Ret_{[-1]}$	0.014	0.014	0.015	0.014	0.016	0.003	
$Ret_{[-12,-2]}$	0.153	0.163	0.161	0.187	0.196	0.043	
$Ret_{[-36,-13]}$	0.414	0.462	0.477	0.493	0.204	-0.210	
Accruals	-0.043	-0.039	-0.031	-0.027	-0.055	-0.012	***

Table 6. Return Prediction Regressions

The table presents mean coefficients from Fama and MacBeth (1973) cross-sectional regressions of one-year-ahead monthly excess stock returns on the variables shown. D is the average delay with which market information is impounded into stock price, and its estimation is described in section 2.2 in the text. The accounting component of delay, D_{Acct}, is the fitted portion of D due to accounting quality and is described in Section 4 in the text. The non-accounting component of delay, $D_{NonAcct}$, is defined as the difference between D and D_{Acct}. Beta is the CAPM beta at the end of June each year, estimated using rolling 60-month time series firm-specific regressions. B/M is the log book-to-market ratio. Size is the log market value of equity. $Ret_{[-1]}$ is the return in month t-1. $Ret_{[-12,-2]}$ is the total return from months t-12 to t-2. $Ret_{[-36,-13]}$ is the total return from months t-36 to t-13. Accruals is the change in working capital, minus depreciation, scaled by average total assets. The t-statistics are calculated from Fama-MacBeth standard errors. *, **, and *** denote one-tailed statistical significance at 10%, 5%, and 1%, respectively.

	Coeff	t-stat		Coeff	t-stat	
Intercept	-0.046	-8.12	***	-0.058	-10.06	***
Beta	0.004	1.92	**	0.003	1.64	**
B/M	0.007	7.73	***	0.007	8.29	***
Size	0.008	12.48	***	0.010	14.49	***
$Ret_{[-1]}$	-0.053	-9.89	***	-0.054	-10.26	***
$Ret_{[-12,-2]}$	-0.001	-0.44		-0.002	-1.02	
$Ret_{[-36,-13]}$	-0.001	-2.01	**	-0.001	-1.70	**
Accruals	-0.009	-2.18	**	-0.006	-1.60	*
D	0.081	9.64	***			
$D_{NonAcct}$				0.110	12.03	***
D_{Acct}				0.333	5.67	***
R-Sq	21.79%			22.59%		

Table 7. Calendar Time Fama-French Regressions

The table reports alphas and t-statistics from calendar-time Fama-French three-factor regressions. The dependent variable is the monthly excess return, over the risk-free rate, on test portfolios. The independent variables are an intercept (or alpha) and the three Fama and French (1993) risk factors. In Panel A, firms are sorted annually into quintiles of price delay, D, to yield 5 test portfolios. D is the average delay with which market information is impounded into stock price, and its estimation is described in section 2.2 in the text. In Panel B firms are sorted into quintiles of D_{Acct} and $D_{NonAcct}$ independently each year to yield 25 test portfolios. D_{Acct} is the accounting component of D, measured as the fitted portion of D due to accounting quality, and $D_{NonAcct}$ is the difference between D and D_{Acct}. D_{Acct}, is described in Section 4 in the text. ** and *** denote one-tailed statistical significance at 5% and 1%, respectively.

Panel A. Quintiles of D

	alpha	t-stat
Low	0.0009	0.85
2	0.0013	1.14
3	0.0018	1.77
4	0.0026	2.55
High	0.0052	3.67
High-Low	0.0042	2.55***

Panel B. Quintiles of D_{Acct} x Quintiles of $D_{NonAcct}$

	Alpha					t-stat					
	Low $D_{NonAcct}$	2	3	4	High $D_{NonAcct}$	Low	2	3	4	High	High-Low
Low D_{Acct}	0.0002	0.0029	0.0023	0.0018	0.0038	0.13	2.69	1.86	1.41	2.58	1.18
2	0.0027	0.0021	0.0018	0.0014	0.0031	1.87	1.59	1.29	1.01	2	0.32
3	0.0016	0.0013	0.0028	0.0033	0.0035	1.18	0.84	1.92	2.03	1.98	0.91
4	-0.0004	-0.0023	0.0011	0.0007	0.0042	-0.26	-1.22	0.63	0.42	2.46	2.21**
High D_{Acct}	-0.002	0.001	0.0052	0.0024	0.0086	-0.98	0.36	2.27	1.03	3.39	3.69***
High-Low	0	0.0019	0.0051	0.0021	0.0065	-0.01	0.62	1.98**	0.81	2.30**	

Table 8. Accrual Quality (AQ) as the Sole Measure of Accounting Quality

The table reports coefficients and t-statistics from a delay regression (Panel A) and a return prediction regression (Panel B) when accounting quality is measured by accrual quality (AQ) only. Panel A (Panel B) follows Table 4 (Table 6). See Tables 4 and 6 for the relevant regression description and variable definitions. In Panel B, D_{AQ} is the fitted portion of D due to AQ, while D_{NonAQ} is the difference between D and D_{AQ}. D is the average delay with which information is impounded into stock price, and its estimation is described in section 2.2 in the text. ** and *** denote one-tailed statistical significance at 5% and 1%, respectively.

Panel A. Delay Regression

	Coeff	t-stat	
Intercept	0.458	3.06	***
AQ	0.347	6.32	***
Analyst	-0.033	-6.60	***
InstOwn	-0.145	-9.06	***
Empl	-0.012	-7.18	***
Adv	-0.0004	-0.61	
NASDAQ	0.047	5.02	***
Turn-NYAM	-0.002	-0.06	
Turn-NASD	-0.151	-5.26	***
Traday	-0.001	-1.74	**
BSM	0.131	7.60	***
CBreadth	-0.011	-2.11	**
R-Sq	35.20%		

Panel B: Return Prediction Regression

	Coeff	t-stat	
Intercept	-0.059	-10.03	***
Beta	0.003	1.68	**
B/M	0.008	8.38	***
Size	0.010	14.34	***
$Ret_{[-1]}$	-0.054	-10.18	***
$Ret_{[-12,-2]}$	-0.002	-1.05	
$Ret_{[-36,-13]}$	-0.001	-2.17	**
Accruals	-0.009	-2.25	***
D_{NonAQ}	0.111	11.89	***
D_{AQ}	0.403	6.34	***
R-Sq	22.58%		

Table 9. Annual Reports' Lexical Properties as Measure of Accounting Quality

The table reports coefficients and t-statistics from a delay regression (Panel A) and a return prediction regression (Panel B) when accounting quality is measured by the readability (FOG) and the length (NWords) of annual reports. The Fog Index and NWords are obtained from Feng Li for the period 1994-2004. Panel A (Panel B) follows Table 4 (Table 6). See Tables 4 and 6 for the relevant regression description and variable definitions. In Panel B, D_{Lex} is the fitted portion of D due to FOG and NWords, while D_{NonLex} is the difference between D and D_{Lex}. D is the average delay with which information is impounded into stock price, and its estimation is described in section 2.2 in the text. ** and *** denote one-tailed statistical significance at 5% and 1%, respectively.

Panel A. Delay Regression

	Coeff	t-stat	
Intercept	0.791	10.33	***
Analyst	-0.033	-10.24	***
InstOwn	-0.182	-8.45	***
Empl	-0.014	-5.52	***
Adv	0.002	2.16	**
NASDAQ	0.051	5.40	***
Turn-NYAM	0.041	2.05	**
Turn-NASD	-0.138	-4.18	***
Traday	-0.002	-8.07	***
BSM	0.121	6.24	***
CBreadth	-0.019	-2.72	***
Fog	0.001	1.94	**
NWords	-0.0001	-2.60	***
R-Sq	44.27%		

Panel B: Return Prediction Regression

	Coeff	t-stat	
Intercept	-0.099	-6.92	***
Beta	0.005	1.89	**
B/M	0.008	5.45	***
Size	0.012	9.46	***
$Ret_{[-1]}$	-0.045	-4.61	***
$Ret_{[-12,-2]}$	-0.008	-2.66	***
$Ret_{[-36,-13]}$	-0.003	-3.00	***
Accruals	-0.012	-2.07	**
D_{NonLex}	0.132	8.46	***
D_{Lex}	1.095	5.33	***
R-Sq	15.22%		

Table 10. Alternative Price Delay Measure

The table reports coefficients and t-statistics from a delay regression (Panel A) and return prediction regression (Panel B) when price delay is measured by D_fs. D_fs, described in Section 5.3 in the text, is the average delay with which firm-specific (as opposed to market-wide) information is fully impounded into stock price. Panel A follows Table 4 using D_fs as the dependent variable. Panel B follows Table 6. See Tables 4 and 6 for the relevant regression description and variable definitions. In Panel B, D_fs_{Acct} is the fitted portion of D_fs due to accounting quality, where accounting quality is measured by ES, AQ, SI and Loss. $D\_fs_{NonAcct}$ is the difference between D_fs and D_fs_{Acct}. *, **, and *** denote one-tailed statistical significance at 10%, 5%, and 1%, respectively.

Panel A. Delay Regression

	Coeff	t-stat	
Intercept	0.433	3.09	***
Analyst	-0.033	-6.70	***
InstOwn	-0.129	-9.25	***
Empl	-0.010	-6.67	***
Adv	-0.001	-0.98	
NASDAQ	0.047	5.62	***
Turn-NYAM	-0.011	-0.45	
Turn-NASD	-0.159	-5.81	***
Traday	-0.001	-1.81	**
BSM	0.113	6.00	***
CBreadth	-0.013	-2.94	***
ES	0.0002	2.20	**
AQ	0.302	6.85	***
SI	-0.033	-3.00	***
Loss	0.014	1.68	**
R-Sq	35.06%		

Panel B: Return Prediction Regression

	Coeff	t-stat	
Intercept	-0.055	-10.07	***
Beta	0.003	1.62	*
B/M	0.008	8.48	***
Size	0.009	14.64	***
$Ret_{[-1]}$	-0.054	-10.19	***
$Ret_{[-12,-2]}$	-0.002	-0.82	
$Ret_{[-36,-13]}$	-0.001	-1.85	**
Accruals	-0.007	-1.74	**
$D\_fs_{NonAcct}$	0.106	11.80	***
D_fs_{Acct}	0.363	5.67	***
R-Sq	22.48%		