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Hirshleifer, David; Hou, Kewei and Teoh, Siew Hong
Merage School of Business, UC Irvine

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David Hirshleifer[a]

Kewei Hou[b,*]

Siew Hong Teoh[a]

[a] *Merage School of Business, Irvine, CA 92617, USA*
[b] *Fisher College of Business, Ohio State University, Columbus, OH 43210, USA*

Past research has shown that the level of operating accruals is a negative cross-sectional predictor of stock returns. This paper examines whether the accrual anomaly extends to the aggregate stock market. In contrast with cross-sectional findings, there is no indication that aggregate operating accruals is a negative time series predictor of stock market returns; the relation is strongly *positive* for the market portfolio and also for several sector and industry portfolios. In addition, innovations in accruals are negatively contemporaneously associated with market returns, suggesting that changes in accruals contain information about changes in discount rates, or that firms manage earnings in response to market-wide undervaluation.

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* Corresponding author. Fisher College of Business, Ohio State University, 2100 Neil Avenue, Columbus, OH 43210, USA. Tel.: 614-292-0552. Fax: 614-292-2418. Email: hou.28@osu.edu.

ACCRUALS AND AGGREGATE STOCK MARKET RETURNS

Past research has shown that the level of operating accruals is a negative cross-sectional predictor of stock returns. This paper examines whether the accrual anomaly extends to the aggregate stock market. In contrast with cross-sectional findings, there is no indication that aggregate operating accruals is a negative time series predictor of stock market returns; the relation is strongly *positive* for the market portfolio and also for several sector and industry portfolios. In addition, innovations in accruals are negatively contemporaneously associated with market returns, suggesting that changes in accruals contain information about changes in discount rates, or that firms manage earnings in response to market-wide undervaluation.

1. Introduction

There is strong and robust evidence that the level of accruals is a negative cross-sectional predictor of abnormal stock returns (Sloan 1996). The accrual anomaly has been extended and applied in numerous papers in financial economics and accounting. In this paper, we test whether the accrual anomaly extends to time series predictability of aggregate stock returns. In addition to testing whether aggregate accruals predict aggregate stock market returns, we test whether changes in aggregate accruals are contemporaneously associated with aggregate stock returns, as would be implied if accruals changes are correlated with shifts in discount rates.

An explanation that has been offered for the accrual anomaly, the earnings fixation hypothesis, holds that naïve investors fixate upon earnings and fail to attend separately to the cash flow and accrual components of earnings. Since the cash flow component of earnings is a more positive forecaster of future earnings than the accrual component of earnings (Sloan 1996), investors who neglect this distinction become overly optimistic about the future prospects of firms with high accruals, and overly pessimistic about the future prospect of firms with low accruals.[1] As a result, high accrual firms become overvalued, and subsequently earn low abnormal returns. Similarly, low accrual firms become undervalued, and are followed by high abnormal returns.

But does a high level of aggregate accruals induce optimism in the entire stock market? Some commentators allege that during some periods, such as the market boom of the late 1990's, managers managed earnings aggressively, and that auditors and regulators were

[1] Earnings management is only one possible reason for the lower persistence of the accrual component of earnings. Thus, the accrual anomaly is compatible with, but does not require, earnings management.

compliant, thereby allowing firms to increase their earnings relative to underlying cash flows. Alternatively, it could be that earnings management is primarily firm-specific, with an aim at achieving managerial goals such as smoothing the firm-specific deviations of earnings performance from that of industry peers.

Even in the absence of aggregate fluctuations in earnings management, we expect to see aggregate variations in accruals, because macroeconomic fluctuations affect firms' operating and reporting outcomes. For example, business cycle increases in aggregate demand could lead to increased purchases from firms, which would be manifested in part by an increase in receivables.[2] Furthermore, when consumer confidence is high or when macroeconomic conditions make credit easy, consumers may buy more on credit, increasing aggregate receivables. Alternatively, if firms expect a future rise in aggregate demand, they may accumulate inventories in anticipation, which again are accounted for as positive accruals.[3]

Just as accruals and cash flows have different implications for future earnings performance at the firm level, aggregate accruals and aggregate cash flows can differ in their implications for future aggregate earnings. If so, and if investors neglect the distinction between cash flows and accruals, then high aggregate accruals will cause overvaluation of the stock market, and therefore will predict low subsequent returns. To test this hypothesis, we estimate the abilities of aggregate accruals versus cash flows to predict future aggregate earnings, and test whether the level of aggregate accruals is a

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[2] One firm's receivables can be another firm's payables, which can lead to some cancellation at the aggregate level. But since firms transact with individuals as well as other firms, this cancellation is not complete.

[3] Thomas and Zhang (2002) document that the cross-sectional accrual anomaly is in part related to the level of inventories.

predictor of market returns.

A possible reason to question whether the accrual anomaly will extend to the aggregate level is that investors and macro-analysts devote considerable effort to studying the market as a whole, and information costs and arbitrage costs are less significant at the aggregate level. On the other hand, several authors argue that markets should be more efficient in setting the relative prices of stocks than in setting the price level of the aggregate market.[4] Empirically, some firm-level anomalies (such as poor return performance after equity issuance) do extend to the aggregate level (Baker and Wurgler 2000), whereas others (such as the post-earnings announcement drift (PEAD) effect) become much weaker (Kothari, Lewellen, and Warner 2006). It is therefore an empirical question whether the accrual anomaly holds in the time series at the aggregate level.

An alternative to the earnings fixation hypothesis is that at the aggregate level accruals are correlated with rational variations in discount rates. Since accruals are related to shifts in demand, inventories, and investment activity, a natural hypothesis is that accruals are associated with business cycle shifts in risk premia. It is therefore important to control for variables that are associated with business cycle fluctuations and possible shifts in discount rates.

In our aggregate earnings persistence regressions, we find that the accrual component of aggregate earnings is less persistent than the cash flow component, with a difference in coefficients that is much larger than that in the firm level regressions of Sloan (1996). Thus, the earnings fixation hypothesis at the aggregate level predicts that aggregate

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[4] Relative pricing disparities can be identified using price/earnings comparables, and can be arbitraged with relatively low risk using diversified long-short hedge strategies. Thus, Samuelson (1998) argues that the stock market is "micro efficient" but "macro inefficient." Jung and Shiller (2005) provide evidence in support of Samuelson's claim.

accruals will negatively predict market returns.

We then test the ability of aggregate accruals to predict one-year-ahead market returns using both univariate regressions, and multivariate regressions that control for several business cycle variables that have been proposed as return predictors in the past literature.

In return predictive regressions, ordinary least squares estimates can suffer from a small-sample bias (Stambaugh 1986, 2000; Mankiw and Shapiro 1986) when innovations in the predictors are negatively correlated with contemporaneous returns. We employ statistical methods to derive test statistics that adjust for the small sample bias (Kendall 1954, Nelson and Kim 1993, Stambaugh 2000), recognizing that under some circumstances such methods may understate a variable's predictive power (Lewellen 2004).

In sharp contrast with the well-known cross-sectional accrual anomaly, we find that for the1965-2005 period high aggregate accruals do not predict low stock market returns. In both univariate and multivariate tests, the level of aggregate accruals is a strong *positive* predictor of market returns. Our multivariate tests of return predictability control for several forecasting variables suggested in past literature: the aggregate dividend-to-price ratio, the aggregate earnings-to-price ratio, the accounting rate of return (earnings/assets), the aggregate book-to-market ratio, the default spread on corporate bonds, the term spread on Treasuries, the equity share in aggregate new issues, and the short-term interest rate.[5]

[5] A number of papers examine the relation between aggregate cash flow- or earnings-related proxies with aggregate stock returns, including Fama (1990), Schwert (1990), Kothari and Shanken (1992), Hecht and Vuolteenaho (2006), and Sadka (2007). Keim and Stambaugh (1986), Fama and French (1989), Pontiff and Schall (1998), and Hou and Robinson (2006) study the long-term yield spread (term spread) as a predictor of aggregate stock returns. Keim and Stambaugh (1986) and Fama and French (1989) study the ability of the default spread on corporate bonds to predict aggregate stock returns. Papers examining aggregate dividend-to-price ratio as an aggregate return predictor include Shiller (1984), Fama and French (1988), Campbell and Shiller (1988), Kothari and Shanken

These controls can be viewed as possible proxies for shifts in discount rates, since they reflect shifts in aggregate business cycles and business conditions. For example, the default spread reflects expectations of risk of defaults; the term spread reflects (among other things) expectations about inflation; and the aggregate earnings-to-price ratio, aggregate accounting rate of return, aggregate dividend-to-price ratio, and aggregate book-to-market ratio should correlate with market beliefs about corporate growth prospects. In the multivariate regressions, the level of aggregate accruals remains a highly significant positive predictor of aggregate stock returns.

Taking the univariate and multivariate regression results together, the evidence indicates that accruals is a *positive* time series predictor of aggregate stock returns. This positive relation between accruals and stock returns is inconsistent with the prediction of the earnings fixation hypothesis at the aggregate level, and is very different from the cross-sectional accrual anomaly in which the relation is strongly negative.

An alternative risk-based explanation for the positive aggregate return predictability is that high aggregate accruals are associated with high levels of risk (implying a high expected stock return), above and beyond any risks captured by our controls. To evaluate this explanation, in a similar spirit to Kothari, Lewellen and Warner (2006), we perform univariate and multivariate tests of the relation between changes in accruals and contemporaneous market returns. We find that changes in aggregate accruals are negatively related to contemporaneous market returns, even after controlling for changes in other

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(1997), and Lewellen (2004). Kothari and Shanken (1997) and Pontiff and Schall (1998) find that aggregate book-to-market ratio is a positive predictor of aggregate returns. Baker and Wurgler (2000) find that the equity share in new issues is a negative predictor of one-year-ahead market returns. Fama and Schwert (1977), Breen, Glosten and Jagannathan al (1989) and Ang and Bekaert (2007) find that the short rate is a negative predictor of aggregate stock returns.

discount rate proxies. This finding suggests that changes in accruals are positively correlated with heavier discounting of future cash flows, leading to a decline in the stock market.

Since accruals is a component of earnings, this finding is also consistent with the finding of Kothari, Lewellen, and Warner (2006) and Sadka (2007) that aggregate earnings surprises are negatively contemporaneously correlated with aggregate market returns.[6] Our evidence shows that this negative relation comes mainly from the accrual component of the earnings surprises, rather than from the surprises in cash flows.[7]

To gain further insight into firm-level versus aggregate effects, we also examine the ability of accruals and cash flows to predict earnings and returns at the sector and industry levels. We find that accruals positively predicts returns in some sectors and industries (especially in High-Tech), and negatively in others. However, the patterns across sectors and industries of return predictability do not align closely with the differences in the ability of accruals versus cash flows to predict future earnings. Similarly, the evidence on the ability of cash flows to predict future earnings and returns does not consistently support the fixation theory. Thus, the evidence provides little support for the earnings fixation hypothesis at the industry and sector levels as well as at the aggregate level.

There are other papers that test whether firm-level cross-sectional return predictors also predict returns in the time series. For example, Kothari and Shanken (1997), Pontiff and

[6] Sadka and Sadka (2007) point out that the negative contemporaneous earnings-return correlation could also derive from investors demanding a low risk premium at times of high expected future earnings. A similar point applies to our contemporaneous accrual/return finding.

[7] In multivariate regressions where both the change in accruals and change in earnings are included as regressors, the accrual change remains highly significant whereas the earnings change does not.

Schall (1998), and Lewellen (1999) provide evidence that book-to-market ratio predicts the returns on the market portfolio and size- and book-to-market-sorted portfolios.

Kothari, Lewellen, and Warner (2006), or KLW, test whether the post-earnings announcement drift (PEAD) anomaly (Bernard and Thomas 1990), in which firm level earnings surprises are on average followed by continuation of stock returns over the next nine months, extends to the aggregate level. KLW find little evidence of drift in the stock market as a whole in response to aggregate earnings surprises, in contrast with the firm-level evidence. KLW also provide evidence of a negative contemporaneous relation between aggregate earnings surprises and stock returns, consistent with aggregate earnings being correlated with shifts in discount rates.

The behavioral explanation for the post-earnings announcement drift anomaly is that investors neglect the information contained in earnings, or do not understand the time series properties of earnings surprises. The behavioral hypothesis for the accrual anomaly is that naïve investors fixate upon earnings while neglecting the information contained in different components of earnings (cash flows versus accruals). Thus, our paper and KLW's provide complementary examinations of whether firm level effects that have been attributed to investor psychology extend to the aggregate level.

Our paper is not a direct test of whether the behavioral earnings fixation hypothesis explains the cross-sectional accrual anomaly. However, it does provide out-of-sample evidence about the extent to which the behavioral theory used to explain the cross-sectional evidence explains a broader range of stylized facts. Our findings at a minimum suggest a limit to the scope of the earnings fixation theory. In the conclusion of the paper we discuss possible ways to reconcile the cross-sectional and aggregate time series findings.

The remainder of this paper is structured as follows. Section 2 describes the data and empirical methodology. Section 3 examines the ability of aggregate accruals to predict aggregate earnings and returns. Section 4 examines the contemporaneous relation between changes in accruals and aggregate returns. Section 5 presents evidence of accruals as a predictor of sector- and industry-level earnings and returns. Section 6 concludes.

2. Data and Empirical Methods

2.1 Data

Our empirical analyses employ annual returns (including distributions) on the Center for Research in Security Prices (CRSP) value-weighted market index (CRSPRET), and the value-weighted portfolio of the subsample of CRSP firms that have sufficient accounting information from Compustat to calculate operating accruals (SAMPLERET), over the sample period 1965 through 2005. Annual returns are computed by compounding monthly returns from May of year t to April of year $t + 1$.

Firm-level accruals are calculated using the indirect balance sheet method as the change in non-cash current assets less the change in current liabilities excluding the change in short-term debt and the change in taxes payable, minus depreciation and amortization expense. Earnings is operating income after depreciation. Cash flows is computed as the difference between earnings and accruals. Earnings, accruals, and cash flows are measured for firms with December fiscal year ends in year $t – 1$, and are scaled by lagged total assets. We then take value-weighted averages (using market capitalization at the end of December in year $t – 1$ as weight) of scaled earnings, accruals, and cash flows across all firms in our sample to form aggregate series of the three variables (denoted EARNING, ACCRUAL, and CASHFLOW, respectively).[8]

In addition, we employ several other variables that have been documented in the literature to have predictive power on aggregate stock returns. These variables potentially reflect shifts in business cycles and business conditions, and therefore could capture changes in market discount rates. They include the value-weighted earnings-to-price ratio (E/P), the value-weighted book-to-market ratio (BE/ME), the equity share in total new equity and debt issues (ESHARE) as in Baker and Wurgler (2000) for year $t-1$, the dividend-to-price ratio for the CRSP value-weighted index (D/P) which equals total dividends accrued to the index from May of year $t-1$ to April of year t divided by the index level at the end of April of year t, the default spread (DEF) which is the difference between the Moody's Baa bond yield and Aaa bond yield, the term spread (TERM) which is the difference between 10-year and 1-year Treasury constant maturity rates, and the short-term interest rate (TBILL) which is the 30-day T-bill rate. The interest rate variables are measured at the beginning of May of year t using data from the St. Louis Federal Reserve Economic Database (FRED).

[8] Some firm-level studies (e.g., Teoh, Welch, and Wong 1998) use a cross-sectional regression model to decompose accruals into 'non-discretionary' (predicted, or normal) and 'discretionary' (residual) components, and provide evidence of return predictability in the discretionary component. However, owing to time-series dynamics of accruals (which mechanically must reverse out in the long-run), it is even harder in the time series than in the cross-section to estimate an appropriate benchmark for predicted or 'normal' accruals against which to measure discretionary accruals. In the interest of robustness, we therefore focus on a basic accruals variable, which at the firm level is a strong and reliable return predictor.

2.2 Test Methods

In standard time series predictive regressions where returns of various holding periods are regressed on a variable measured at the beginning of the period, the regression coefficient is subject to an upward small-sample bias if innovations in the predictor are negatively correlated with contemporaneous returns (see, e.g., Stambaugh 1986 and Mankiw and Shapiro 1986). Of particular concern are scaled-price variables such as the dividend-to-price ratio or book-to-market ratio, since a large positive return is usually accompanied by a decrease in the level of those variables. As a result, the regression error terms are negatively correlated with the innovations of the predictor, causing the regression coefficient to be upward biased. This bias is more pronounced when the sample size is small, the predictor is highly persistent, or when the correlation between the error terms is strong.

Aggregate accruals is not a scaled-price variable. However, empirically we do find (Section 4) that changes in accruals are negatively correlated with contemporaneous stock returns. We therefore follow Nelson and Kim (1993) and Pontiff and Schall (1997) to use a randomization procedure to generate empirical *p*-values ("randomization *p*-values") for the coefficients on aggregate accruals and other return predictors that account for the potential bias.

More specifically, we simulate artificial series of return and the independent variable under the null of no predictability by randomly drawing without replacement of the residual pairs from the return predictive regression and a first-order autoregression for the independent variable (the starting value of the simulation is randomly drawn from the unconditional distribution of the independent variable). This way, the simulated data series preserve the time series properties of the original data. We then regress the simulated returns on the simulated series of the independent variable to produce a slope estimate. This procedure is repeated 5000 times to create an empirical distribution of the slope coefficient under the null of zero predictability. The randomization *p*-value is then the fraction of the 5000 simulated slopes that are further away from zero than the actual slope estimate.[9]

Finally, to assess the economic significance of the return predictability associated with aggregate accruals and other return predictors, we also calculate bias-adjusted regression coefficients following Stambaugh (2000) and Kendall (1954). Stambaugh (2000) show that in a general autoregressive framework

$$R_t = \alpha + \beta X_{t-1} + u_t; \qquad u \sim i.i.d.N(0, \sigma_u^2) \tag{1}$$
$$X_t = \mu + \phi X_{t-1} + v_t; \qquad v \sim i.i.d.N(0, \sigma_v^2) \tag{2}$$

the bias in the OLS estimate of β in the return predictive regression (1) is proportional to the bias in the OLS estimate of ϕ in the first-order autoregression (2) for the return predictor X_t (e.g., aggregate accruals)

$$E(\hat{\beta} - \beta) = (\sigma_{uv} / \sigma_v^2) E(\hat{\phi} - \phi), \tag{3}$$

where the hats denote the OLS estimates. Furthermore, Kendall (1954) proves that the bias in the OLS estimate of ϕ is

$$E(\hat{\phi} - \phi) = -(1 + 3\phi) / n + O(n^{-2}), \tag{4}$$

where n is the sample size. Combining (3) and (4) allows us to calculate the bias-adjusted estimate of β in the return predictive regression using the following formula

[9] Kothari and Shanken (1997) employ a slightly different bootstrapping procedure to estimate the empirical *p*-value. We have repeated our analyses following their approach and found the results are very similar. For brevity, they are not reported.

$$\beta_{adj.} = \hat{\beta} + (\hat{\sigma}_{uv} / \hat{\sigma}_v^2)(1 + 3\phi_{adj.}) / n, \tag{5}$$

where $\hat{\sigma}_{uv}$ and $\hat{\sigma}_v^2$ are the sample covariance and variance of the OLS residuals from (1) and (2), and $\phi_{adj.} = (n\hat{\phi} + 1)/(n-3)$ is the bias-adjusted estimate for ϕ.

2.3 Descriptive Statistics

Table 1 reports the summary statistics (Panel A) of aggregate returns, aggregate accruals and other return predictors, as well as correlations between them (Panel B). Panel A shows that the average annual return is 9.7% for the CRSP value-weighted index and 9.4% for the sample value-weighted portfolio, with standard deviations of 14.4% and 13.6% for the two portfolios respectively, in line with findings from past research. Mean and median aggregate (scaled) accruals are negative, reflecting the relative importance of depreciation over other items in accruals.

Panel B shows that the simple correlations between one-year-ahead aggregate returns and aggregate accruals are large and *positive*, 47% for the CRSP index and 51% for the sample portfolio. This is quite different from the negative cross-sectional relation between firm-level accruals and returns. However, since aggregate accruals are correlated with other aggregate return predictors such as the dividend-to-price ratio, earnings-to-price ratio, book-to-market ratio, equity share in new issues, and term spread, we need to control for these variables in later tests to examine the marginal ability to accruals to predict aggregate returns.

3. Accruals as Predictors of Future Earnings and Stock Market Returns

Since the earnings fixation hypothesis for the accrual anomaly is based upon that earnings performance attributable to the accrual component of earnings is less persistent than earnings performance attributable to the cash flow component of earnings, in Subsection 3.1 we estimate the ability of aggregate accruals versus aggregate cash flows to predict aggregate earnings performance. We then test the ability of aggregate accruals to predict aggregate stock returns in both univariate regressions (Subsection 3.2), and multivariate regressions after controlling for other return predictors from the literature (Subsection 3.3).

3.1 Persistence of Aggregate Earnings Components

Table 2 describes univariate regressions of one-year-ahead aggregate (scaled) earnings on current (scaled) earnings (Panel A), or on current (scaled) accruals and (scaled) cash flows (Panel B) for the entire 1965-2005 sample period.

Panel A indicates that aggregate earnings performance is highly persistent (slowly mean reverting), with a regression coefficient of 0.848. In Panel B, consistent with the firm-level evidence in Sloan (1996), the cash flow component of earnings is a more positive predictor of future earnings than the accrual component of earnings (0.984 > 0.720). An F-test rejects the hypothesis that the coefficients are equal ($F = 2.68$, $p = 0.055$) in a one-sided test (relevant when the alternative is higher level of persistence for cash flows than for accruals predicted by the earnings fixation hypothesis at the aggregate level). The difference in coefficients of 0.264 is quite large, about three times the coefficient difference (0.090) from the firm-level tests in Sloan (1996).

Based on this evidence that the cash flow component of aggregate earnings is more persistent that the accrual component of earnings, the earnings fixation hypothesis implies that aggregate accruals should negatively predict aggregate stock returns. We explore this prediction in the next two subsections.

3.2 Forecasting Aggregate Returns: Univariate Tests

Table 3 describes univariate regressions of one-year-ahead aggregate stock returns on aggregate (scaled) accruals (ACCRUAL, Panel A), or on a number of other possible aggregate return predictors: aggregate (scaled) cash flows (CASHFLOW, Panel B), (scaled) earnings (EARNING, Panel C), earnings-to-price ratio (E/P, Panel D), book-to-market ratio (BE/ME, Panel E), equity share in new issues (ESHARE, Panel F), dividend-to-price ratio (D/P, Panel G), default premium (DEF, Panel H), term premium (TERM, Panel I), and short-term interest rate (TBILL, Panel J). All independent variables in the regressions are standardized to have zero mean and unit variance to make their coefficients comparable.

In Panel A, contrary to the earnings fixation hypothesis which predicts a negative relation between aggregate accruals and future stock returns, we find that ACCRUAL is a strong *positive* predictor of market returns, with a OLS point estimate of 0.068 (t = 3.33) using the CRSP value-weighted index (CRSPRET) and 0.069 (t = 3.67) using the sample value-weighted portfolio (SAMPLERET), and a regression adjusted R^2 of 20% and 24% for the two portfolios respectively. Since ACCRUAL is standardized to have zero mean and unit variance, the regression coefficients imply that a one standard deviation increase in ACCRUAL predicts close to 7% higher aggregate stock returns. Thus, the magnitude of the effect is quite substantial.

To address the potential small sample bias in the OLS point estimates, we report *p*-

values based on the bootstrapping randomization procedure of Nelson and Kim (1993). The results confirm that the return predictability of ACCRUAL is highly significant. The randomization *p*-value is 0.2% for CRSPRET and 0.1% for SAMPLERET. Furthermore, the biased-adjusted regression coefficients on ACCRUAL calculated following Stambaugh (2000) and Kendall (1954) are virtually identical to the OLS point estimates, 0.065 for CRSPRET and 0.066 for SAMPLERET.

The value-weighted portfolios place greater weights on large firms than small firms. We have also performed return predictability tests using equal-weighted market returns and equal-weighted aggregate accruals. We find economically and statistically significant predictability using both value-weighted and equal-weighted market returns. Interestingly, there is significant cross-predictability, wherein value-weighted accruals significantly predict equal-weighted returns, and equal-weighted accruals significantly predict value-weighted returns.

Overall, results using value-weighted accruals as a predictor (of either value-weighted or equal-weighted market returns) is stronger and more robust than using equal-weighted accruals as a predictor. Indeed, though the point estimate of the effect is non-negligible, equal-weighted accruals is not statistically significant as a predictor of equal-weighted market returns (but is significant as a predictor of value-weighted market returns). These findings indicate that the accruals of larger firms are especially important for predicting aggregate stock returns.

According to the earnings fixation hypothesis, firm-level accruals negatively predict returns because investors fail to distinguish the fact that the accrual component of earnings is less persistent than the cash flow component of earnings. So a corollary of the hypothesis is that cash flow is a positive cross-sectional return predictor. There is indeed evidence consistent with this prediction (Desai, Rajgopal, and Venkatachalam 2004).

At the aggregate level, the earnings fixation hypothesis also suggests that if anything cash flow should positively predict returns, since, as shown in Table 2, the accrual component of aggregate earnings is less persistent than the cash flow component of aggregate earnings. We therefore also test the ability of aggregate cash flows to predict market returns. Panel B of Table 3 shows that, contrary to the prediction of the earnings fixation hypothesis, CASHFLOW is a significant *negative* predictor of market returns, with a regression coefficient of −0.052 (randomization $p = 1.4\%$) for CRSPRET and −0.055 (randomization $p = 0.6\%$) for SAMPLERET. This effect is almost as strong in the negative direction as the accrual effect is in the positive direction.

The rest of Table 3 describes univariate regressions for aggregate earnings, earnings-to-price ratio, book-to-market ratio, equity share, dividend-to-price ratio, default spread, term spread, and short-term interest rate. The predictive power of most of these variables is fairly weak. The strongest, E/P (Panel D), is a positive return predictor, with a randomization p-value of 5.8% for CRSPRET and 3.5% for SAMPLERET. BE/ME (Panel E) and DEF (Panel H) produce somewhat weaker evidence of positive predictability with randomization p-values ranging from 5.7% to 9.1%. None of the other variables is a statistically significant return predictor.

Finally, for most of the variables, the bias-adjusted regression coefficients are fairly close to the OLS point estimates. However, for D/P and (to a lesser extent) BE/ME the bias adjustment reduces the size of the coefficients substantially, indicating that the OLS estimates overstate the predictive power of these two variables.

In summary, Table 3 demonstrates that the relation between accruals and subsequent returns at the aggregate level is in sharp contrast with the strong negative firm-level relation identified in past research. The level of accruals is a *positive* and economically important predictor of aggregate sock returns.

As suggested in the introduction, much of the earnings management that firms do may be averaged away at the aggregate level. For example, firms may manage earnings in order to offset firm-specific shocks, or to avoid falling behind industry peers. If firms manage earnings upward at times of adverse shocks, then they will later need to 'pay back' their incremental earnings through the reversal of accruals. If such behaviors tend to average out in the aggregate, the behavioral effect operating at the firm level may be washed out when aggregating across firms. This argument can potentially explain a failure of aggregate accruals to predict market returns, but cannot explain the positive return predictability we observe. In Section 4, we explore whether shifts in market discount rates can explain the puzzle by examining the contemporaneous relations between accruals innovations, aggregate stock returns, and discount rate proxies.

3.3 Forecasting Aggregate Returns: Multivariate Tests

To see whether the level of aggregate accruals has incremental power to predict market returns after controlling for other aggregate return predictors, we employ multivariate tests in Table 4. Many of the aggregate return predictors from past literature contain market prices, and are therefore potentially proxies for either misvaluation or rational discount rates. Thus, these controls can confound tests between behavioral versus rational hypotheses. However, such tests do verify whether the ability of accruals to predict aggregate returns is distinct from that associated with the variables identified in past literature.

Table 4 Panel A describes the multivariate regression of one-year-ahead aggregate returns on ACCRUAL and EARNING and six other control variables. As in the univariate regression and in sharp contrast with past cross-sectional findings, ACCRUAL is a significant *positive* predictor of aggregate returns (randomization *p* of 0.0% for both CRSPRET and SAMPLERET). The regression coefficients on ACCRUAL imply that after controlling for other return predictors, a one standard deviation increase in ACCRUAL is associated with a 9.3% (CRSPRET) or 9.8% (SAMPLERET) increase in next year's market return.[10] The regression adjusted-R^2 of 30% (CRSPRET) and 39% (SAMPLERET) are higher than those of the univariate regressions on ACCRUAL (20% and 24% respectively), suggesting that the control variables add further explanatory power to the regression.

Table 4 Panel B replaces EARNING with E/P in the multivariate regression. ACCRUAL remains a highly significant positive predictor of aggregate stock returns (randomization *p* of 0.1% for CRSPRET and 0.0% for SAMPLERET). The regression coefficients on ACCRUAL indicate that a one standard deviation increase in ACCRUAL predicts 7.2% (CRSPRET) or 7.0% (SAMPLERET) higher market returns next year.

Since EARNING is the sum of ACCRUAL and CASHFLOW, Panel A is equivalent to a regression in which EARNING is replaced with CASHFLOW.[11] For convenience, we

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[10] Since EARNING contains both ACCRUAL and CASHFLOW as its components, to assess the marginal effect of ACCRUAL, we need to consider both the direct effect reflected in the coefficient on ACCRUAL and the indirect effect reflected in the coefficient on EARNING. We will revisit this issue in Panel C of Table 4.

[11] Since EARNING, ACCRUAL, and CASHFLOW are standardized to have zero mean

report this equivalent regression in Panel C. The coefficient on ACCRUAL is 0.058 for CRSPRET and 0.054 for SAMPLERET and is highly significant in both cases (randomization *p* of 1% for CRSPRET and 0.6% for SAMPLERET). Furthermore, these coefficients are only slightly lower than the univariate regression coefficients on ACCRUAL (0.068 for CRSPRET and 0.069 for SAMPLERET) from Table 3, suggesting that the inclusion of CASHFLOW and other controls has little effect on the ability of ACCRUAL to predict returns.

As discussed earlier, the earnings fixation hypothesis also suggests that aggregate cash flows should positively predict market returns. In Panel C, CASHFLOW is a marginally significant *negative* predictor (randomization *p* of 12.7% for CRSPRET and 5.1% for SAMPLERET). This finding also opposes the prediction of the earnings fixation hypothesis.

4. Contemporaneous Relation between Innovations in Accruals and Stock Returns

In an efficient stock market, a high market discount rate implies a high expected stock return. So a possible explanation for a positive relationship between aggregate accruals and future stock returns is that contemporaneously the level of accruals is positively associated with the market discount rate.

Ceteris paribus, a rise in the discount rate causes a decline in the stock market. This suggests that a way to test whether the level of accruals is indeed positively correlated with the level of discount rates is to examine whether accruals innovations are negatively

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and unit variance in the return regressions, we cannot directly read off the implied coefficients on ACCRUAL and CASHFLOW in the alternative regression based on the coefficients on ACCRUAL and EARNING in Panel A – an adjustment for standard deviations is needed.

contemporaneously correlated with market returns. However, accruals innovations contain news not just about discount rates, but about expected cash flows as well.[12]

We expect a positive innovation in aggregate accruals to provide favorable cash flow news (though not necessarily as favorable as an equal shock to cash flows); Wilson (1986) provides evidence at the firm level that this is indeed the case. If a positive innovation in aggregate accruals is associated with favorable cash flow news but a decrease in the stock price, then the accrual innovation should be associated with heavier discounting by the market (whether for rational reasons or otherwise).

We do not have an ideal expected accruals benchmark against which to measure accruals innovations. Since it is standard to measure an earnings innovation as the change relative to the earnings the year before, we also use the accruals the year before as our benchmark against which to measure accruals innovations.[13]

We first examine the contemporaneous relation between accrual changes and market returns using univariate regressions. Table 5 Panel A reports the regression results. Consistent with a positive relation between the level of aggregate accruals and the market discount rate, changes in aggregate accruals (ΔACCRUAL) are strongly negatively correlated with contemporaneous aggregate stock returns, with a regression coefficient of −0.066($t = -3.17$) for CRSPRET and −0.063 ($t = -3.22$) for SAMPLERET. The adjusted-

[12] From the Campbell and Shiller (1988) decomposition, we know that stock returns by definition must equal the sum of expected returns, cash flow news, and discount rate news. If markets are efficient, the discount rate is equal to the rational expected return. Kothari, Lewellen, and Warner (2006) address a related issue in their examination of the contemporaneous relation between aggregate earnings surprises and market returns.

[13] A limitation of this approach is that accruals tend to reverse over periods of several quarters, inducing short-lag negative autocorrelation. However, over the period of a year, much of this reversal has already taken place.

R^2 is 19% for both regressions.

This finding also suggests that the negative contemporaneous relation between aggregate earnings surprises and aggregate stock returns identified by Kothari, Lewellen, and Warner (2006) derives in part from the accruals component of earnings surprises.

Panels B through J describe regressions for other return predictors. Regressions involving changes in E/P, BE/ME, and D/P all produce sizeable coefficients and highly significant *t*-statistics. This is not surprising since these variables by virtually having price in the denominator should, for purely mechanical reasons, be correlated with contemporaneous market returns.

We also see that that changes in CASHFLOW are positively (although only marginally significantly) related to contemporaneous returns. This finding combined with the results from Tables 3 and 4 that CASHFLOW negatively predicts future market returns suggests that cash flow increases are associated with either declines in the market discount rate or (from a behavioral perspective) greater overvaluation.

Table 6 describes multivariate regressions of contemporaneous market returns on accrual changes and changes in other return predictors. Under the rational risk interpretation for these controls, Table 6 examines the extent to which accrual changes affect market returns after controlling for the relations between the changes in those controls and market returns. We omit from the regressions the changes in the three price-scaled variables (ΔE/P, ΔBE/ME, and ΔD/P) because of their mechanical relations with contemporaneous market returns.

For aggregate accruals, the multivariate findings are very similar to the univariate ones. In Panel A, we regress contemporaneous returns on changes in ACCRUAL, EARNING, and other controls. For both CRSPRET and SAMPLERET, incrementally ΔACCRUAL is negatively and significantly related to market returns, with a coefficient of −0.054 and *t*-statistic of −2.10 (CRSPRET) or a coefficient of −0.054 and *t*-statistic of −2.25 (SAMPLERET). This finding is again consistent with innovations in accruals (after controlling for innovations in earnings) being positively associated with increases in market discounting of the future. The coefficients on ΔEARNING are insignificant in the multivariate regressions (*t*-statistic of −0.94 for CRSPRET and −0.75 for SAMPLERET), suggesting that the negative univariate relation between ΔEARNING and returns in Table 5 Panel C is driven by the accrual component rather than the cash flow component of aggregate earnings changes.

For convenience, in Panel B of Table 6 we describe the equivalent regression of contemporaneous market returns on changes in ACCRUAL, CASHFLOW, and other controls.[14] Similar to the results in Panel A, incrementally ΔACCRUAL has a strong negative relation with contemporaneous market returns, with a coefficient −0.087 and *t*-statistic of −3.04 for CRSPRET and a coefficient of −0.078 and *t*-statistic of −2.94 for SAMPLERET. The coefficients on ΔCASHFLOW are insignificant.

In summary, the evidence from Tables 5 and 6 is potentially consistent with increases in aggregate accruals being associated with higher market discounting of future cash flows, causing contemporaneous downward price movements and higher future returns. However,

[14] As in the discussion of Table 4, since EARNING is the sum of ACCRUAL and CASHFLOW, Panel A is equivalent to a regression in which ΔEARNING is replaced with ΔCASHFLOW. But because EARNING, ACCRUAL, and CASHFLOW are all standardized to have zero mean and unit variance before running the regressions, we cannot simply read off the implied coefficients on ΔACCRUAL and ΔCASHFLOW in this alternative regression from the coefficients in Panel A.

the higher market discounting of the future that is associated with accrual increases is not captured by the standard discount rate proxies we employed in the multivariate tests. As discussed in footnote 7, a positive association between innovations in aggregate accruals and shifts in discount rates is not the only possible explanation for a negative contemporaneous relation between changes in accruals and market returns. Furthermore, heavier market discounting can occur for either rational or irrational reasons. In the conclusion of the paper, we discuss possible rational and behavioral interpretations of our findings.

5. Sector- and Industry-Level Evidence

The striking contrast between firm- and aggregate-level evidence suggests that to gain further insight into the validity of the earnings fixation theory, it is interesting to explore the ability of accruals to predict earnings and returns at the sector and industry levels.

5.1 Forecasting Sector-Level Earnings and Returns

We classify firms into five sectors based on their SIC codes using the definitions downloaded from Ken French's website. Panel A of Table 7 describes the earnings persistence tests using sector-level value-weighted (scaled) earnings, accruals, and cash flows.

For four of the five sectors, the earnings regression coefficient on CASHFLOW is bigger than that on ACCRUAL. The exception is the High-Tech sector, for which the ACCRUAL coefficient (0.865) is greater than the CASHFLOW coefficient (0.754), although the difference is not statistically significant according to the one-sided F-test for the null hypothesis that the CASHFLOW coefficient is equal to the ACCRUAL coefficient ($p = 0.790$).

Among the four sectors for which the ACCRUAL coefficient is smaller than the CASHFLOW coefficient, two of them (Consumer and Manufacturing) produce coefficients that are statistically different from one another (the one-sided F-test for coefficient equality generates a *p*-value of 2.3% for Consumer and 1.7% for Manufacturing under the earnings fixation alternative), suggesting that the cash flow component of earnings is more persistent than the accrual component of earnings for these two sectors. In addition, the magnitudes of the coefficient differences (0.245 for Consumer and 0.433 for Manufacturing) are about 2½ to 4½ times larger than that from the firm-level study (0.090) in Sloan (1996). Thus, the earnings fixation hypothesis implies that ACCRUAL should negatively predict returns and CASHFLOW should positively predict returns in these two sectors. On the other hand, for the other three sectors where the coefficient differences are not statistically significant, the earnings fixation hypothesis predicts that neither ACCRUAL nor CASHFLOW should significantly predict sector-level returns.

Panel B of Table 7 describes multivariate regressions of one-year-ahead value-weighted sector returns on sector-level ACCRUAL, CASHFLOW, BE/ME, D/P, and several aggregate market return predictors including ESHARE, DEF, TERM, and TBILL. The regressions mirror the aggregate-level regression in Table 4 Panel C except that whenever possible sector-level variables are used as regressors.[15] To conserve space, we only report the coefficients and randomization *p*-values for ACCRUAL and CASHFLOW, which are

[15] As discussed earlier, this regression specification is equivalent to one that includes as regressors sector-level ACCRUAL and EARNING along with the other controls, but the coefficient on ACCRUAL is easier to interpret when CASHFLOW rather than EARNING is used as an additional regressor.

most relevant for the purpose of testing the earnings fixation hypothesis at the sector level.

The regression results show that the ability of accruals to predict returns is by far the strongest in the High-Tech sector with a randomization *p*-value of 0.00% for the positive coefficient on ACCRUAL. The magnitude of the coefficient is also very large economically (0.156), indicating that that a one standard deviation increase in ACCRUAL is associated with a 15.6% increase in next year's return on the High-Tech sector.[16] Since Panel A shows that there is no significant difference in the level of persistence between ACCRUAL and CASHFLOW in the High-Tech sector, this strong return predictability associated with ACCRUAL is inconsistent with the prediction of the earnings fixation hypothesis.

The High-Tech sector also sees CASHFLOW being a significant positive predictor of sector returns, with a regression coefficient of 0.098 and a randomization *p*-value of 0.1%. This result also opposes the earnings fixation hypothesis which predicts that CASHFLOW should not predict returns significantly since the level of persistence for CASHFLOW is not statistically different from that for ACCRUAL.

For the Consumer and Manufacturing sectors in which ACCRUAL is significantly less persistent than CASHFLOW, there is no indication of return predictability associated with ACCRUAL in the Consumer sector (randomization $p = 0.300$), and in the Manufacturing sector ACCRUAL predicts sector returns positively (randomization $p = 0.042$) instead of negatively as suggested by the earnings fixation hypothesis. In addition, CASHFLOW does

[16] Given the unusual events of the 1987 market crash and the burst of the Tech bubble at the turn of the millennium, we have re-estimated the regression for the High-Tech sector excluding the observations for return years 1987 and 2000 (results not reported in tables). The coefficient on ACCRUAL declines only slightly to 0.129 and remains statistically highly significant (randomization $p = 0.000$).

not predict returns in either sector. These results oppose the earnings fixation hypothesis.

For the Health sector, the earnings fixation hypothesis implies that neither ACCRUAL nor CASHFLOW should predict returns since they do not demonstrate statistically different levels of persistence. Furthermore, if there were some difference in true persistence in accruals versus cash flows, the earning fixation hypothesis implies that they would predict returns with the opposite signs. Inconsistent with the hypothesis, the regression results show that both variables predict sector returns negatively with sizeable coefficients (−0.069 for ACCRUAL and −0.097 for CASHFLOW) and significant *p*-values (0.036 for ACCRUAL and 0.002 for CASHFLOW).

According to the earnings fixation hypothesis, we also do not expect to see return predictability for ACCRUAL or CASHFLOW in the Other sector, since we do not detect statistically different levels of persistence for the two variables. However, in the return regression, the coefficients on ACCRUAL and CASHFLOW are both quite large (0.105 and 0.076 respectively) and statistically significant (randomization *p*-values of 0.011 and 0.053 respectively), indicating that a one standard deviation increase in ACCRUAL (CASHFLOW) is associated with a 10.5% (7.6%) increase in subsequent sector returns.

In sum, the sector-specific return regression results are clearly inconsistent with the predictions of the earnings fixation hypothesis. On the other hand, it is intriguing to see that the sector in which accruals are most persistent relative to cash flows, High-Tech, is also the sector in which the ability of accruals to predict returns is strongest and most positive. This suggests that it may be worth exploring a weakened version of the earnings fixation hypothesis–that the relation between accruals and subsequent sector returns is more negative (or less positive) in sectors in which accruals are less persistent relative to cash flows as a predictor of earnings performance. This hypothesis also suggests that in those sectors, cash flow should be a more positive (less negative) return predictor.

To examine this weakened version of earnings fixation hypothesis, we divide the five sectors into two groups, those in which the earnings regression coefficient on ACCRUAL is smaller than that on CASHFLOW (Consumer, Manufacturing, Health, and Other), and those in which the ACCRUAL coefficient is bigger than the CASHFLOW coefficient (High-Tech). For the first group, the average return regression coefficient on ACCRUAL is equal to 0.011, which is smaller than the return regression coefficient for High-Tech (0.156), and an F-test easily rejects the null that the two coefficients are equal (p = 0.2%). This result is consistent with the weakened earnings fixation hypothesis. On the other hand, the average return regression coefficient on CASHFLOW for the first group of four sectors (−0.020) is significantly smaller than the return regression coefficient on CASHFLOW for High-Tech (0.098) with a p-value for the cross-equation F-test of 2.0%, opposing the weakened earnings fixation hypothesis. Therefore, the sector-level evidence provides only mixed support to the weakened version of the earnings fixation hypothesis.

5.2 Forecasting Industry-Level Earnings and Returns

For industry-level earnings persistence and return forecasting test, we consider the 48 industries in Fama and French (1997). The industry classifications are downloaded from Ken French's website. Table 8 Panel A describes the industry-level earnings persistence tests using value-weighted earnings, accruals, and cash flows for each industry. The regression results show huge variation across industries in the relative persistence of accruals versus cash flows in forecasting earnings performance. For example, for

Construction Materials the earnings regression coefficient on ACCRUAL is 0.397, about half the size of the coefficient on CASHFLOW (0.764), and a one-sided F-test rejects the null that the two coefficients are equal with a *p*-value of 1.2% under the earnings fixation alternative. By way of contrast, for Lab Equipment the coefficient on ACCRUAL in the earnings regression (0.817) is much bigger than that on CASHFLOW (0.572), so the one-sided F-test cannot reject the null in favor of greater cash flow persistence ($p = 0.927$).

Panel B of Table 8 shows that the level of accruals is a significant positive predictor of industry returns in several industries including Construction Materials, Precious Metals, Business Services, and Computers, and a significant negative predictor of industry returns in several other industries including Beer/Liquor, Tobacco, Ships and Communication, even after controlling for other industry- and aggregate-level return predictors in the multivariate regressions.[17] Most of these effects are also quite substantial in economic terms. For example, the coefficient on ACCRUAL is 0.141 (randomization $p = 0.2\%$) for Computers and −0.157 (randomization $p = 0.2\%$) for Beer/Liquor, indicating that a one standard deviation increase in ACCRUAL is associated with a 14.1% increase in next year's return for Computers or a 15.7% decrease in next year's return for Beer/Liquor.

The level of cash flows is also a significant return predictor in a number of industries. Table 8 Panel B shows that the coefficient on CASHFLOW is positive and significant for industries such as Agriculture, Construction Materials, Business Services, and Computers (many of which also see ACCRUAL being a significant positive return predictor), and negative and significant for industries such as Candy/Soda, Beer/Liquor, Tobacco, and

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[17] Even if the earnings fixation hypothesis were in general valid, we would not necessarily expect it to hold for Banking, for which the meaning of accruals is very different from that for other industries. None of our conclusions here would be affected by omitting the Banking industry.

Drugs (some of which also see ACCRUAL being a negative significant return predictor).[18] Many of these coefficients are also highly significant in economic terms. For example, it is equal to 0.162 (randomization p = 0.2%) for Computers and −0.171 (randomization p = 0.1%) for Beer/Liquor, indicating that a one standard deviation increase in CASHFLOW is associated with a 16.2% increase in next year's return for Computers or a 17.1% decrease in next year's return for Beer/Liquor.

The earnings fixation hypothesis implies that the ability of accruals and cash flows to predict returns in each industry should correspond to the difference in the level of persistence between the accrual and cash flow component of industry earnings. In particular, for industries in which the accrual component of earnings is less persistent than the cash flow component of earnings, accruals should predict returns negatively whereas cash flows should predict returns positively. On the other hand, for industries in which the accrual component of earnings is more persistent than the cash flow component of earnings, accruals should predict returns positively whereas cash flows should predict returns negatively.

Similar to our sector-level findings, our industry-level findings also do not offer much support to the earnings fixation hypothesis. In many industries, the return predictability associated with accruals and cash flows does not align well with the differences in the level of persistence between accruals and cash flows. For example, there are industries such as Consumer Goods, Apparel, and Defense for which the earnings persistence regressions produce coefficients on ACCRUAL that are significantly smaller than those on

[18] It is curious that the negative coefficients on CASHFLOW are mainly from industries that sell the kinds of consumer goods that cause a struggle for personal self-control (e.g., Candy/Soda, Beer/Liquor, and Tobacco).

CASHFLOW (suggesting that accruals are less persistent than cash flows in those industries) but the return regressions uncover no evidence of predictability for either ACCRUAL or CASHFLOW. There are other industries such as Chemicals, Ships, and Restaurants/Hotels for which the earnings regression coefficients on ACCRUAL are also significantly smaller than those on CASHFLOW but only ACCURAL not CASHFLOW can significantly predict returns (often with the wrong sign).

Furthermore, the earning fixation hypothesis implies that if accruals and cash flows predict returns, they do so with the opposite signs. However, for all the industries in which both ACCRUAL and CASHFLOW are significant return predictors, they predict with the same sign. For example, the return regression coefficients on ACCRUAL and CASHFLOW are both negative and significant for Beer/Liquor and Tobacco, and positive and significant for Construction Materials and Computers. There is not a single industry for which ACCRUAL and CASHFLOW predict returns significantly but with the opposite signs, opposing the earnings fixation hypothesis.

We also test the weakened version of the earnings fixation hypothesis, which says that accruals (cash flows) should be a more negative (positive) return predictor in industries in which accruals are less persistent relative to cash flows as a predictor of industry earnings. Similar to the sector-level analysis, we divide the 48 industries into two groups, those in which the earnings regression coefficient on ACCRUAL is bigger than that on CASHFLOW (indicating that accruals are more persistent than cash flows), and those in which the ACCRUAL coefficient is smaller than the CASHFLOW coefficient (indicating that accruals are less persistent than cash flows). The first group consists of Food Products, Candy/Soda, Tobacco, Fabricated Products, Precious Metals, Mining, Coal, Communication, Business Services, Lab Equipment, Transportation, Banking, and Insurance, and the second group consists of the rest of the industries. As predicted by the weakened earnings fixation hypothesis, the average return regression coefficient on ACCRUAL for the first group (0.0175) is bigger than the average coefficient for the second group (0.0144). However, the difference between the two average coefficients (0.0032) is puny, and an F-test cannot reject the null that the two are equal (p = 8.6%).

As with the results for accruals, the results for cash flows also lend fairly little support to the weakened earnings fixation hypothesis. In the return regressions, the average coefficient on CASHFLOW for the first group of industries in which ACCRUAL is more persistent than CASHFLOW is −0.0137, whereas the average coefficient for the second group of industries in which ACCRUAL is less persistent than CASHFLOW is 0.0047. The coefficient difference between the two groups is in the same direction as predicted by the weakened fixation hypothesis. However, it is not statistically significant. An F-test cannot reject the null that two average coefficients are equal (p = 0.4959).

In summary, overall the industry evidence provides little support for the earnings fixation hypothesis. A weakened version of the earnings fixation hypothesis also only receives mixed support.

6. Conclusion

At the firm level, accruals (the non-cash component of earnings) negatively predict returns (Sloan 1996). The leading explanation for this cross-sectional effect is behavioral: that earnings performance attributable to an extra dollar of cash flow is more persistent than earnings performance attributable to an extra dollar of accruals, but that naiveté or limited attention causes investors to neglect this distinction. In consequence, high accrual firms are associated with overvaluation and earn low subsequent returns.

We examine in this paper whether this cross-sectional anomaly extends to the aggregate level. That is, we test the ability of accruals to predict stock market returns. Our first main finding is that, in sharp contrast with the cross-sectional accruals anomaly, there is no sign of negative return predictability at the market level; aggregate accruals is an economically and statistically highly significant *positive* predictor of aggregate stock returns. A one standard deviation increase in aggregate accruals is associated with an increase in next-year's market returns of about 7%. Since the accrual component of aggregate earnings is also less persistent than the cash flow component of earnings, this positive return predictability of aggregate accruals is inconsistent with the earnings fixation hypothesis.

Multivariate regressions that control for other aggregate return predictors confirm that accruals positively and significantly predict market returns, and that this effect is economically substantial. These controls are related to aggregate business cycle and business condition fluctuations and are therefore potential proxies for shifts in market discount rates. Thus, if our findings are due to shifts in rational risk premia, it must be that accruals capture information about shifts in discount rates above and beyond the control variables we employ.

Our second main finding is that innovations in aggregate accruals are negatively associated with contemporaneous market returns. Since accrual innovations are associated with favorable cash flow news, this result suggests that future expected cash flows are discounted more heavily at times when accruals increase, and therefore is consistent with a positive relation between the level of aggregate accruals and the market discount rate. In addition, we find that the previously documented negative relation between aggregate earnings surprises and contemporaneous market returns derives mainly from the accrual component of the surprises; after controlling for accrual changes, the relation between earnings changes and contemporaneous market returns becomes insignificant.

An efficient market explanation for our main findings is that shifts in aggregate accruals are positively correlated with shifts in risk premia. However, this explanation requires that aggregate accruals be associated with shifts in risk premia even after controlling for the several business cycle and business condition proxies included in our tests.

A possible behavioral interpretation of our findings involves firms 'leaning against the wind' in their earnings management. If firms that become undervalued are especially eager to report higher earnings by increasing accruals, then high accruals can be correlated with low contemporaneous returns and high subsequent returns. To reconcile this interpretation with the cross-sectional accrual anomaly, however, requires an explanation for why firms are more prone to leaning against aggregate undervaluation than firm-specific undervaluation.[19]

We also explore the ability of accruals and cash flows to predict sector and industry returns. We find that the level of accruals is a significant positive return predictor for some sectors and industries such as High Tech, Construction Materials, and Computers, and a significant negative predictor for others such as Beer/Liquor, Communication, and Personal Services. The magnitude for some of these sector- and industry-level effects is quite large.

[19] One possibility is that firm-specific misvaluation tends to correct more quickly than aggregate misvaluation (see footnote 5), reducing the need for the manager to lean against it.

For example, for the High-Tech sector, a one standard deviation increase in sector accruals predicts a 15.6% increase in sector returns next year. We also find that the level of cash flows is a significant return predictor in a number of sectors and industries.

However, the pattern of return predictability across sectors and industries using accruals or cash flows is not closely aligned with the relative persistence of the accrual versus cash flow component of sector or industry earnings, and therefore opposes the earnings fixation hypothesis. We also test a weakened version of the earnings fixation hypothesis which implies that the accruals should be a more negative return predictor in sectors (industries) for which accruals are less persistent than cash flows, and only find mixed results.

Overall, the market-, sector-, and industry-level evidence provides little support for the earnings fixation hypothesis. There is generally a lack of clear correspondence between return predictability based on accruals with earnings performance attributable to accruals as called for by the hypothesis.

Our evidence that the level of an earnings component (operating accruals) positively predicts aggregate market returns complements recent evidence (Kothari, Lewellen, and Warner 2006) that another firm-level anomaly, post-earnings announcement drift, does not extend to the aggregate level. The case of accruals is particularly surprising, since the firm-level anomaly does not just vanish, but *reverses* at the aggregate level. At a minimum, our analysis raises a question of why different effects should dominate in the cross-section versus in the time series. Furthermore, our findings that innovations in aggregate accruals are negatively correlated with contemporaneous market returns, despite the fact that they contain favorable cash flow news, raises the question of why increases in aggregate accruals are associated with heavier discounting by the market. Our analysis therefore presents an intriguing challenge for both behavioral and efficient markets explanations for the accrual anomaly.

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Table 1: Summary Statistics

Panel A: Summary Statistics and Autocorrelations

Name	Mean	Standard Deviations	Q1	Median	Q3	Autocorrelations 1	2	3	4	5
CRSPRET	0.097	0.144	0.038	0.102	0.163	-0.07	0.15	-0.08	0.04	-0.08
SAMPLERET	0.094	0.136	0.042	0.088	0.174	-0.05	0.16	-0.06	0.06	-0.07
EARNING	0.155	0.024	0.135	0.152	0.177	0.83	0.61	0.49	0.44	0.40
ACCRUAL	-0.044	0.017	-0.050	-0.044	-0.038	0.50	0.29	0.19	0.13	0.15
CASHFLOW	0.199	0.017	0.185	0.199	0.216	0.61	0.41	0.35	0.25	0.17
E/P	0.155	0.062	0.102	0.127	0.200	0.82	0.69	0.65	0.56	0.43
BE/ME	0.648	0.227	0.467	0.578	0.825	0.87	0.75	0.73	0.65	0.50
D/P	0.030	0.011	0.024	0.029	0.037	0.89	0.82	0.74	0.65	0.54
ESHARE	0.187	0.088	0.121	0.163	0.220	0.69	0.50	0.32	0.24	0.12
DEF	0.010	0.004	0.007	0.009	0.012	0.60	0.45	0.30	0.27	0.29
TERM	0.010	0.011	0.002	0.008	0.017	0.43	0.12	-0.09	-0.18	0.02
TBILL	0.002	0.034	-0.007	0.006	0.021	-0.01	-0.22	0.29	0.24	0.06

Panel B: Correlations

	SAMPLERET	EARNING	ACCRUAL	CASHFLOW	E/P	BE/ME	D/P	ESHARE	DEF	TERM	TBILL
CRSPRET	0.98	0.08	0.47	-0.36	0.36	0.32	0.31	0.00	0.26	0.13	-0.18
SAMPLERET		0.08	0.51	-0.40	0.40	0.37	0.36	0.05	0.28	0.11	-0.20
EARNING			0.70	0.69	0.46	0.37	0.51	0.35	0.02	-0.60	0.16
ACCRUAL				-0.03	0.44	0.43	0.57	0.24	0.13	-0.32	0.09
CASHFLOW					0.03	0.00	0.14	0.25	-0.11	-0.52	0.13
E/P						0.97	0.87	0.36	0.68	-0.13	0.20
BE/ME							0.90	0.49	0.72	-0.07	0.23
D/P								0.57	0.59	-0.28	0.31
ESHARE									0.38	-0.31	0.21
DEF										0.09	0.10
TERM											-0.07

This table reports the summary statistics for aggregate stock returns, aggregate accruals, and other aggregate stock return predictors. CRSPRET is the annual return (with dividends) on the CRSP value-weighted index from May of year *t* to April of year *t* + 1. SAMPLERET is the annual return on the value-weighted portfolio of the subsample of CRSP firms that have sufficient accounting information to calculate accruals. Firm-level earnings is operating income after depreciation (Compustat #178). Accruals is the change in non-cash current asset (Compustat #4 – Compustat #1) minus the change in current liabilities (5) excluding the change in short-term debt (34) and the change in taxes payable (71) minus depreciation and amortization expense (14). Cash flows is measured as the difference between earnings and accruals. Earnings, accruals, and cash flows are scaled by lagged total asset (Compustat #6). Earnings-to-price ratio is earnings divided by market capitalization at fiscal year end. Book-to-market ratio is book equity divided by market capitalization at fiscal year end. Book equity is stockholder's equity (216), plus balance sheet deferred tax and investment tax credit (35, if available), minus the book value of preferred stock [liquidating value (10) if available, or else redemption value (56) if available, or else carrying value (130)]. Individual firm-level accruals, earnings, cash flows, earnings-to-price ratio, and book-to-market ratio are then aggregated to the market level using market capitalization as the weight for NYSE/AMEX/Nasdaq firms with fiscal year ending in December of year *t* − 1. The aggregate variables are denoted ACCRUAL, EARNING, CASHFLOW, E/P, and BE/EM. D/P is the dividend-to-price ratio for the CRSP value-weighted index which equals total dividends accrued to the index from May of year *t* – 1 to April of year *t* divided by the index level at the end of April of year *t*. ESHARE is equity share of total equity and debt issues in year *t* − 1, as in Baker and Wurgler (2000). DEF is the difference between Moody's Baa yield and Aaa yield as of beginning of May of year *t*. TERM is the difference between ten years and one year treasury constant maturity rates as of beginning of May of year *t*. TBILL is the 30-day T-bill rate as of beginning of May of year *t*.

Table 2: Regressions of One-Year-Ahead Aggregate Earnings on Current Aggregate Earnings, Accruals, and Cash Flows

Panel A: $EARNING_{t+1} = \alpha + \beta\, EARNING_t + \upsilon_{t+1}$

α	*t(α)*	β	*t(β)*	Adj-R^2
0.023	*1.69*	0.848	*9.96*	72%

Panel B: $EARNING_{t+1} = \alpha + \beta_1\, ACCRUAL_t + \beta_2\, CASHFLOW_t + \upsilon_{t+1}$

α	*t(α)*	β_1	$t(\beta_1)$	β_2	$t(\beta_2)$	Adj-R^2
-0.010	-0.43	0.720	*6.32*	0.984	*8.36*	73%
F ($\beta_1 = \beta_2$) = 2.68, *p*-value = 0.055						

This table reports the time series regressions of one-year-ahead aggregate earnings on current aggregate earnings (Panel A) and the accrual and cash flow components of aggregate earnings (Panel B). *EARNING*, *ACCRUAL*, and *CASHFLOW* are defined in table 1. The F-stat in Panel B is for the null hypothesis that the earnings regression coefficient on ACCRUAL is equal to the coefficient on CASHFLOW.

Table 3: Univariate Regressions of One-Year-Ahead Aggregate Returns on Current Aggregate Accruals and Other Return Predictors

Returns	A	$t(\alpha)$	β	$t(\beta)$	Rand. p	Adj-β	Adj-R^2
Panel A: $R_{t+1} = \alpha + \beta ACCRUAL_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.83*	0.068	*3.33*	0.002	0.065	20%
SAMPLERET	0.094	*5.05*	0.069	*3.67*	0.001	0.066	24%
Panel B: $R_{t+1} = \alpha + \beta CASHFLOW_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.57*	-0.052	*-2.42*	0.014	-0.051	11%
SAMPLERET	0.094	*4.76*	-0.055	*-2.75*	0.006	-0.055	14%
Panel C: $R_{t+1} = \alpha + \beta EARNING_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.28*	0.012	*0.52*	0.397	0.005	-2%
SAMPLERET	0.094	*4.37*	0.011	*0.50*	0.412	0.004	-2%
Panel D: $R_{t+1} = \alpha + \beta E/P_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.56*	0.051	*2.38*	0.058	0.042	10%
SAMPLERET	0.094	*4.74*	0.054	*2.69*	0.035	0.046	14%
Panel E: $R_{t+1} = \alpha + \beta BE/ME_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.49*	0.045	*2.07*	0.091	0.033	8%
SAMPLERET	0.094	*4.68*	0.050	*2.46*	0.057	0.039	11%
Panel F: $R_{t+1} = \alpha + \beta ESHARE_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.26*	-0.000	*-0.02*	0.463	-0.003	-3%
SAMPLERET	0.094	*4.36*	0.007	*0.34*	0.420	0.004	-2%
Panel G: $R_{t+1} = \alpha + \beta D/P_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.49*	0.045	*2.06*	0.279	0.021	8%
SAMPLERET	0.094	*4.66*	0.049	*2.41*	0.221	0.026	11%
Panel H: $R_{t+1} = \alpha + \beta DEF_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.41*	0.037	*1.65*	0.085	0.034	4%
SAMPLERET	0.094	*4.53*	0.038	*1.79*	0.066	0.035	5%
Panel I: $R_{t+1} = \alpha + \beta TERM_t + \upsilon_{t+1}$							
CRSPRET	0.097	*4.30*	0.019	*0.85*	0.218	0.018	-1%
SAMPLERET	0.094	*4.38*	0.016	*0.72*	0.255	0.015	-1%

Returns	α	t(α)	β	*T(β)*	Rand. *p*	Adj-β	Adj-R2
			Panel J: $R_{t+1} = \alpha + \beta\, TBILL_t + \upsilon_{t+1}$				
CRSPRET	0.097	*4.33*	-0.025	*-1.11*	0.133	-0.025	1%
SAMPLERET	0.094	*4.44*	-0.027	*-1.26*	0.106	-0.026	1%

This table reports the time series regressions of one-year-ahead aggregate stock returns on aggregate accruals and other aggregate return predictors. R_{t+1} is the annual CRSP value-weighted return or sample value-weighted return with dividends from May of year $t + 1$ to April of year $t + 2$. Aggregate accruals (ACCRUAL) and other return predictors are defined in table 1, and are standardized to have zero mean and unit variance. Randomization *p*-values are calculated following Nelson and Kim (1993), and bias-adjusted betas are calculated following Stambaugh (2000) and Kendall (1954).

Table 4: Multivariate Regressions of One-Year-Ahead Aggregate Returns on Current Aggregate Accruals and Other Return Predictors

Panel A: $R_{t+1} = \alpha + \beta_1\, ACCRUAL_t + \beta_2\, EARNING_t + \beta_3\, BE/ME_t + \beta_4\, ESHARE_t + \beta_5\, D/P_t + \beta_6\, DEF_t + \beta_7\, TERM_t + \beta_8\, TBILL_t + \upsilon_{t+1}$

Returns		α	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	Adj-R^2
CRSPRET	Coefficients	0.097	0.093	-0.048	-0.025	-0.017	0.057	0.018	0.024	-0.034	30%
	t-statistics	*5.01*	*3.01*	*-1.40*	*-0.45*	*-0.70*	*0.95*	*0.59*	*0.91*	*-1.64*	
	Rand. *p*	-	0.000	0.138	0.262	0.183	0.294	0.170	0.204	0.021	
SAMPLERET	Coefficients	0.094	0.098	-0.061	-0.012	-0.008	0.050	0.010	0.017	-0.037	39%
	t-statistics	*5.50*	*3.59*	*-2.01*	*-0.24*	*-0.37*	*0.95*	*0.36*	*0.71*	*-2.01*	
	Rand. *p*	-	0.000	0.052	0.362	0.269	0.295	0.260	0.280	0.008	

Panel B: $R_{t+1} = \alpha + \beta_1\, ACCRUAL_t + \beta_2 E/P_t + \beta_3\, BE/ME_t + \beta_4\, ESHARE_t + \beta_5\, D/P_t + \beta_6\, DEF_t + \beta_7\, TERM_t + \beta_8\, TBILL_t + \upsilon_{t+1}$

Returns		α	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	Adj-R^2
CRSPRET	Coefficients	0.097	0.072	0.195	-0.225	0.020	0.043	0.023	0.065	-0.034	32%
	t-statistics	*5.00*	*2.85*	*1.80*	*-1.77*	*0.61*	*0.74*	*0.77*	*2.48*	*-1.61*	
	Rand. *p*	-	0.001	0.002	0.001	0.257	0.396	0.150	0.001	0.027	
SAMPLERET	Coefficients	0.094	0.070	0.154	-0.167	0.020	0.034	0.016	0.058	-0.037	36%
	t-statistics	*5.26*	*3.00*	*1.54*	*-1.42*	*0.66*	*0.63*	*0.57*	*2.37*	*-1.96*	
	Rand. *p*	-	0.000	0.005	0.002	0.249	0.453	0.213	0.002	0.011	

Panel C: $R_{t+1} = \alpha + \beta_1 ACCRUAL_t + \beta_2 CASHFLOW_t + \beta_3 BE/ME_t + \beta_4 ESHARE_t + \beta_5 D/P_t + \beta_6 DEF_t + \beta_7 TERM_t + \beta_8 TBILL_t + \upsilon_{t+1}$

Returns		α	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8	Adj-R^2
CRSPRET	Coefficients	0.097	0.058	-0.035	-0.025	-0.017	0.057	0.018	0.024	-0.034	30%
	t-statistics	*5.01*	*2.17*	*-1.40*	*-0.44*	*-0.70*	*0.95*	*0.59*	*0.91*	*-1.64*	
	Rand. *p*	-	0.010	0.127	0.252	0.163	0.238	0.181	0.211	0.026	
SAMPLERET	Coefficients	0.094	0.054	-0.044	-0.012	-0.008	0.050	0.010	0.017	-0.038	39%
	t-statistics	*5.50*	*2.28*	*-2.01*	*-0.24*	*-0.37*	*0.95*	*0.36*	*0.71*	*-2.01*	
	Rand. *p*	-	0.006	0.051	0.352	0.248	0.238	0.281	0.283	0.010	

This table reports the time series regressions of one-year-ahead aggregate stock returns on aggregate accruals and other aggregate stock return predictors. R_{t+1} is the annual CRSP value-weighted return or sample value-weighted return with dividends from May of year $t + 1$ to April of year $t+2$. Aggregate accruals (ACCRUAL) and other return predictors are defined in table 1, and are standardized to have zero mean and unit variance. Randomization p-values are calculated following Nelson and Kim (1993).

Table 5: Univariate Regressions of Aggregate Returns on Contemporaneous Changes in Aggregate Accruals and Other Return Predictors

Returns	α	$t(\alpha)$	β	$t(\beta)$	Adj-R^2
			Panel A: $R_t = \alpha + \beta\, \Delta ACCRUAL_t + \upsilon_t$		
CRSPRET	0.096	*4.65*	-0.066	*-3.17*	19%
SAMPLERET	0.094	*4.78*	-0.063	*-3.22*	19%
			Panel B: $R_t = \alpha + \beta\, \Delta CASHFLOW_t + \upsilon_t$		
CRSPRET	0.099	*4.41*	0.046	*1.72*	5%
SAMPLERET	0.097	*4.56*	0.048	*1.89*	6%
			Panel C: $R_t = \alpha + \beta\, \Delta EARNING_t + \upsilon_t$		
CRSPRET	0.093	*4.18*	-0.083	*-2.04*	8%
SAMPLERET	0.091	*4.27*	-0.074	*-1.90*	6%
			Panel D: $R_t = \alpha + \beta\, \Delta E/P_t + \upsilon_t$		
CRSPRET	0.097	*4.80*	-0.131	*-3.62*	24%
SAMPLERET	0.094	*4.84*	-0.118	*-3.38*	21%
			Panel E: $R_t = \alpha + \beta\, \Delta BE/ME_t + \upsilon_t$		
CRSPRET	0.096	*4.83*	-0.156	*-3.75*	25%
SAMPLERET	0.094	*4.92*	-0.145	*-3.65*	24%
			Panel F: $R_t = \alpha + \beta\, \Delta ESHARE_t + \upsilon_t$		
CRSPRET	0.095	*4.13*	-0.033	*-1.10*	1%
SAMPLERET	0.092	*4.26*	-0.039	*-1.35*	2%
			Panel G: $R_t = \alpha + \beta\, \Delta D/P_t + \upsilon_t$		
CRSPRET	0.091	*7.46*	-0.269	*-10.02*	72%
SAMPLERET	0.089	*7.38*	-0.252	*-9.48*	70%
			Panel H : $R_t = \alpha + \beta\, \Delta DEF_t + \upsilon_t$		
CRSPRET	0.098	*4.44*	-0.054	*-2.12*	8%
SAMPLERET	0.095	*4.55*	-0.052	*-2.12*	8%

Returns	α	$t(\alpha)$	β	$t(\beta)$	Adj-R^2
		Panel I: $R_t = \alpha + \beta\, \Delta TERM_t + \upsilon_t$			
CRSPRET	0.097	*4.20*	-0.022	*-1.02*	0%
SAMPLERET	0.094	*4.29*	-0.018	*-0.86*	-1%
		Panel J: $R_t = \alpha + \beta\, \Delta TBILL_t + \upsilon_t$			
CRSPRET	0.096	*4.21*	0.019	*1.16*	1%
SAMPLERET	0.094	*4.39*	0.025	*1.63*	4%

This table reports the time series regressions of aggregate stock returns on contemporaneous changes in aggregate accruals and other aggregate return predictors. R_t is the annual CRSP value-weighted return or sample value-weighted return with dividends from May of year t to April of year t+1. Aggregate accruals (ACCRUAL) and other return predictors are defined in table 1, and are standardized to have zero mean and unit variance.

Table 6: Multivariate Regressions of Aggregate Returns on Contemporaneous Changes in Aggregate Accruals and Other Return Predictors

Panel A: $R_t = \alpha + \beta_1\, \Delta ACCRUAL_t + \beta_2\, \Delta EARNING_t + \beta_3\, \Delta ESHARE_t + \beta_4\, \Delta DEF_t + \beta_5\, \Delta TERM_t + \beta_6\, \Delta TBILL_t + \upsilon_t$

Returns		α	β_1	β_2	β_3	β_4	β_5	β_6	Adj-R^2
CRSPRET	Coefficients	0.093	-0.054	-0.045	-0.072	-0.041	-0.020	0.002	29%
	t-statistics	*4.76*	*-2.10*	*-0.94*	*-2.60*	*-1.46*	*-0.84*	*0.17*	
SAMPLERET	Coefficients	0.091	-0.054	-0.033	-0.073	-0.041	-0.014	0.008	33%
	t-statistics	*5.02*	*-2.25*	*-0.75*	*-2.84*	*-1.59*	*-0.67*	*0.61*	

Panel B: $R_t = \alpha + \beta_1\, \Delta ACCRUAL_t + \beta_2\, \Delta CASHFLOW_t + \beta_3\, \Delta ESHARE_t + \beta_4\, \Delta DEF_t + \beta_5\, \Delta TERM_t + \beta_6\, \Delta TBILL_t + \upsilon_t$

Returns		α	β_1	β_2	β_3	β_4	β_5	β_6	Adj-R^2
CRSPRET	Coefficients	0.093	-0.087	-0.032	-0.072	-0.041	-0.020	0.003	29%
	t-statistics	*4.76*	*-3.04*	*-0.94*	*-2.60*	*-1.46*	*-0.84*	*0.17*	
SAMPLERET	Coefficients	0.091	-0.078	-0.024	-0.073	-0.041	-0.014	0.008	33%
	t-statistics	*5.02*	*-2.94*	*-0.75*	*-2.84*	*-1.59*	*-0.67*	*0.61*	

This table reports the time series regressions of aggregate stock returns on contemporaneous changes in aggregate accruals and other aggregate stock return predictors. R_t is the CRSP value-weighted or sample value-weighted return with dividends from May of year t to April of year $t + 1$. Aggregate accruals (ACCRUAL) and other return predictors are defined in table 1, and are standardized to have zero mean and unit variance.

Table 7: Regressions of One-Year-Ahead Sector-Level Earnings and Returns on Current Sector-Level Accruals and Cash Flows

Panel A: $EARNING_{t+1} = \alpha + \beta_1 ACCRUAL_t + \beta_2 CASHFLOW_t + \upsilon_{t+1}$

Panel B: $R_{t+1} = \alpha + \beta_1 ACCRUAL_t + \beta_2 CASHFLOW_t + \beta_3 BE/ME_t + \beta_4 ESHARE_t + \beta_5 D/P_t + \beta_6 DEF_t + \beta_7 TERM_t + \beta_8 TBILL_t + \upsilon_{t+1}$

Sector	Earnings Regressions								Return Regressions				
	α	*t*(α)	β_1	$t(\beta_1)$	β_2	$t(\beta_2)$	*p* (F)	R^2	β_1	Rand. *p*	β_2	Rand. *p*	R^2
Consumer	0.083	*3.44*	0.258	*1.69*	0.503	*3.85*	0.023	27%	-0.027	0.300	-0.034	0.228	8%
Manufacturing	-0.022	*-0.92*	0.508	*3.00*	0.941	*8.63*	0.017	72%	0.034	0.042	-0.023	0.186	31%
Hi-Tech	0.046	*1.98*	0.865	*6.14*	0.754	*6.66*	0.790	59%	0.156	0.000	0.098	0.001	25%
Health	0.006	*0.27*	0.880	*10.46*	0.959	*9.24*	0.239	79%	-0.069	0.036	-0.097	0.002	22%
Other	0.046	*2.69*	0.633	*4.54*	0.639	*5.09*	0.473	38%	0.105	0.011	0.076	0.053	9%

Panel A reports the time series regressions of one-year-ahead sector-level earnings on current sector-level accruals and cash flows. The five sectors are classified based on SIC codes using definitions downloaded from Ken French's website. Also reported is the *p*-value of the F-test for the null hypothesis that the earnings regression coefficient on ACCRUAL is equal to the coefficient on CASHFLOW. Panel B reports the time series regressions of one-year-ahead sector-level returns on sector-level accruals and other return predictors. R_{t+1} is the annual value-weighted sector return with dividends from May of year $t + 1$ to April of year $t + 2$. Sector-level accruals (ACCRUAL) and other return predictors are standardized to have zero mean and unit variance in the return regressions. Randomization *p*-values are calculated following Nelson and Kim (1993).

Table 8: Regressions of One-Year-Ahead Industry-Level Earnings and Returns on Current Industry-Level Accruals and Cash Flows

Panel A: $EARNING_{t+1} = \alpha + \beta_1 ACCRUAL_t + \beta_2 CASHFLOW_t + \upsilon_{t+1}$

Panel B: $R_{t+1} = \alpha + \beta_1 ACCRUAL_t + \beta_2 CASHFLOW_t + \beta_3 BE/ME_t + \beta_4 ESHARE_t + \beta_5 D/P_t + \beta_6 DEF_t + \beta_7 TERM_t + \beta_8 TBILL_t + \upsilon_{t+1}$

Industry	Earnings Regressions								Return Regressions				
	α	*t(α)*	β1	*t(β1)*	β2	*t(β2)*	*p* (F)	R^2	β1	Rand. *p*	β2	Rand. *p*	R^2
Agriculture	0.044	*2.25*	0.658	*4.74*	0.715	*5.91*	0.293	46%	0.081	0.057	0.087	0.026	11%
Food Pd.	0.015	*0.68*	0.959	*7.01*	0.912	*7.32*	0.747	58%	0.005	0.423	0.001	0.469	-1%
Candy & Soda	0.041	*2.10*	1.028	*7.44*	0.843	*11.40*	0.904	79%	-0.014	0.393	-0.086	0.012	4%
Beer & Liquor	0.081	*3.23*	0.488	*3.08*	0.530	*3.67*	0.267	23%	-0.157	0.002	-0.171	0.001	7%
Tobacco	0.055	*1.58*	1.170	*4.24*	0.869	*10.49*	0.880	74%	-0.069	0.023	-0.120	0.003	21%
Recreation	0.124	*3.28*	-0.077	*-0.38*	0.227	*1.09*	0.120	-1%	-0.010	0.421	0.009	0.393	-19%
Entertainment	0.034	*1.86*	0.697	*5.32*	0.735	*6.04*	0.291	47%	0.105	0.084	0.046	0.227	11%
Publishing	0.026	*1.26*	0.799	*6.50*	0.835	*8.10*	0.398	69%	0.008	0.461	0.020	0.280	9%
Consumer Gd.	-0.021	*-1.18*	0.463	*3.43*	1.023	*13.80*	0.000	83%	0.015	0.320	-0.038	0.215	-7%
Apparel	0.050	*2.27*	0.600	*4.83*	0.770	*7.01*	0.033	55%	-0.073	0.114	-0.080	0.166	25%
Healthcare	0.053	*2.29*	0.314	*1.04*	0.621	*4.46*	0.118	39%	0.014	0.494	0.076	0.070	21%
Medical Eq.	0.042	*1.72*	0.661	*5.99*	0.805	*6.67*	0.054	54%	-0.036	0.223	-0.061	0.121	13%
Drugs	0.001	*0.02*	0.885	*9.72*	0.982	*9.25*	0.213	78%	-0.046	0.125	-0.085	0.006	20%
Chemicals	0.013	*0.60*	0.384	*1.91*	0.770	*6.83*	0.037	54%	0.040	0.056	-0.008	0.504	15%
Rubber & Plastic	0.071	*2.55*	0.251	*1.27*	0.544	*3.50*	0.061	21%	0.060	0.039	0.064	0.052	20%
Textiles	0.093	*3.60*	-0.005	*-0.03*	0.245	*1.36*	0.089	1%	0.027	0.247	-0.037	0.141	21%
Construction Mt.	0.028	*1.18*	0.397	*2.58*	0.764	*5.47*	0.012	42%	0.101	0.001	0.074	0.024	34%
Construction	0.022	*1.59*	0.621	*4.78*	0.775	*6.72*	0.073	53%	-0.021	0.372	0.012	0.410	29%
Steel Works	0.042	*1.93*	0.450	*1.65*	0.511	*3.17*	0.422	21%	0.017	0.315	-0.025	0.341	6%
Fabricated Pd.	0.038	*2.42*	0.706	*5.23*	0.690	*5.71*	0.566	46%	0.080	0.047	0.078	0.042	15%
Machinery	0.041	*1.71*	0.688	*5.03*	0.698	*4.31*	0.480	48%	0.051	0.084	-0.000	0.412	26%
Electrical Eq.	0.057	*1.87*	0.551	*4.11*	0.674	*3.87*	0.209	32%	0.019	0.354	-0.061	0.155	6%
Autos	0.033	*1.14*	0.454	*2.21*	0.662	*4.74*	0.194	38%	0.049	0.105	0.039	0.185	11%
Aircraft	0.022	*1.94*	0.746	*7.04*	0.773	*7.50*	0.285	58%	-0.046	0.304	-0.024	0.413	20%
Ships	0.015	*0.78*	0.460	*3.62*	0.793	*5.50*	0.003	42%	-0.085	0.012	-0.038	0.175	10%
Defense	0.027	*1.42*	0.377	*2.47*	0.670	*4.80*	0.016	35%	-0.000	0.486	0.042	0.188	-3%
Precious Metals	0.089	*2.50*	0.865	*2.96*	0.485	*3.25*	0.875	30%	0.087	0.048	-0.063	0.173	7%
Mining	0.045	*2.72*	0.867	*4.13*	0.613	*4.84*	0.886	43%	-0.006	0.469	-0.049	0.202	5%

Industry	Earnings Regressions								Return Regressions				
	α	*t(α)*	β_1	*t(β_1)*	β_2	*t(β_2)*	*p* (F)	R^2	β_1	Rand. p	β_2	Rand. p	R^2
Coal	0.046	*2.35*	0.900	*4.27*	0.646	*5.26*	0.891	45%	0.063	0.032	-0.045	0.232	18%
Oil & Gas	0.015	*0.41*	0.578	*1.43*	0.787	*6.46*	0.320	55%	-0.010	0.302	0.022	0.213	18%
Utilities	0.001	*0.12*	0.887	*7.07*	0.956	*11.54*	0.299	79%	-0.022	0.185	-0.039	0.072	37%
Communication	0.043	*3.27*	1.223	*8.83*	0.815	*8.57*	0.999	71%	-0.086	0.038	-0.068	0.135	6%
Personal Sv.	0.127	*3.99*	-0.090	*-0.37*	0.326	*2.21*	0.021	16%	-0.088	0.019	-0.067	0.060	19%
Business Sv.	0.108	*3.36*	0.643	*4.14*	0.475	*3.24*	0.876	30%	0.129	0.002	0.102	0.004	23%
Computers	0.038	*1.76*	0.679	*4.05*	0.762	*7.93*	0.268	61%	0.141	0.002	0.162	0.002	1%
Electronic Eq.	0.033	*1.69*	0.494	*2.45*	0.744	*6.71*	0.088	53%	0.069	0.100	0.090	0.055	-4%
Lab Eq.	0.064	*2.61*	0.817	*6.75*	0.572	*3.66*	0.927	54%	0.042	0.216	0.033	0.284	23%
Business Su.	0.047	*1.82*	0.235	*0.72*	0.529	*3.63*	0.182	22%	0.015	0.208	0.007	0.324	6%
Boxes	0.001	*0.04*	0.698	*5.24*	0.931	*6.50*	0.085	58%	0.033	0.069	-0.001	0.562	15%
Transportation	0.044	*1.74*	0.562	*2.78*	0.554	*3.58*	0.515	28%	-0.007	0.432	0.023	0.234	10%
Wholesale	0.121	*4.35*	0.260	*1.64*	0.298	*1.75*	0.138	3%	0.062	0.330	0.087	0.267	17%
Retail	0.049	*2.72*	0.609	*4.50*	0.716	*6.89*	0.090	56%	0.023	0.385	0.038	0.296	-1%
Rest. & Hotels	0.019	*0.84*	0.335	*1.72*	0.756	*6.88*	0.013	55%	0.054	0.084	-0.034	0.766	10%
Banking	0.207	*3.18*	-0.115	*-0.58*	-0.252	*-0.65*	0.712	-4%	-0.012	0.442	0.036	0.203	8%
Insurance	0.093	*3.62*	1.029	*3.95*	0.629	*5.91*	0.944	49%	0.016	0.325	-0.020	0.268	-5%
Real Estate	0.050	*3.15*	0.416	*2.85*	0.480	*2.99*	0.172	15%	0.009	0.450	0.014	0.416	4%
Trading	0.030	*2.44*	0.601	*4.04*	0.713	*6.66*	0.063	61%	-0.039	0.293	-0.045	0.301	5%
Other	0.043	*2.31*	0.662	*4.74*	0.705	*6.09*	0.255	49%	0.145	0.077	0.089	0.200	15%

Panel A reports the time series regressions of one-year-ahead industry-level earnings on current industry-level accruals and cash flows. The 48 industries are classified based on SIC codes using definitions downloaded from Ken French's website. Also reported is the *p*-value of the F-test for the null hypothesis that the earnings regression coefficient on ACCRUAL is equal to the coefficient on CASHFLOW. Panel B reports the time series regressions of one-year-ahead industry-level returns on industry-level accruals and other return predictors. R_{t+1} is the annual value-weighted industry return with dividends from May of year $t + 1$ to April of year $t + 2$. Industry-level accruals (ACCRUAL) and other return predictors are standardized to have zero mean and unit variance in the return regressions. Randomization *p*-values are calculated following Nelson and Kim (1993).