Analysts' Earnings Surprise Components and Future Earnings Performance

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Abstract

Our paper examines the association between components of analysts' earnings surprises and future earnings. We decompose the analysts' earnings surprise into its revenue, pretax margin, pretax income, and tax components. After controlling for current period earnings and discretionary accruals, we find that each component is positively associated with future earnings. When we form portfolios based on the sign of the earnings surprise and its components, we find that the future earnings of firms that meet revenue, pretax income, and net income expectations is significantly greater than firms that only meet net income expectations. Supplemental analysis shows that the significant association between future earnings and the revenue and pretax income components of the earnings surprise persists for at least three years. However, the association between the tax surprise and future earnings dissipates after one year. Overall, our evidence shows that decomposing earnings surprises into its components can assist investors in identifying firms that are associated with better future performance.

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I. Introduction

Prior research shows that firms which meet or beat (MOB) analyst earnings forecasts also experience higher one-year-ahead earnings (Bartov et al. 2002; Kasznik and McNichols 2002; Bhojraj et al. 2009). Kasznik and McNichols (2002) conjecture that meeting analysts' expectations may be the outcome of a self-selection process, by which firms with stronger future earnings prospects are more likely to meet current period expectations. This argument is supported by Graham et al. (2005) who find that CFOs overwhelming believe that meeting benchmarks builds credibility with the capital market and conveys future growth prospects to investors. They state that missing earnings targets can be interpreted as evidence that the firm as poor future prospects and casts doubt on the credibility of management forecasts. Hence, meeting current earnings expectations is informative with respect to the future performance of the company (Bartov et al. 2002).

Graham et al. (2005) also ascertain that CFOs generally prefer periodic small positive earnings surprises to large positive surprises due to concerns about reputation and expectations for future profitability. This preference for continuous small positive earnings surprises may inspire firm managers save current earnings for possible future years when current targets are met and future earnings are uncertain (DeFond and Park 1997). Given managerial preference for continuous small positive earnings surprises, we propose that relatively large positive earnings surprises signal that managers anticipate that they have adequate financial flexibility to meet the analysts' upwardly-revised earnings forecasts in future periods. As such, after controlling for the magnitude of current period earnings, we anticipate that future earnings are increasing in current period earnings surprises. Moreover, the nature of the earnings surprise – that is, the degree to which it is comprised of unexpected revenues, operating expenses, special items, and taxes – also signal future earnings performance.

Recognizing the association between current analysts' earnings surprises and subsequent earnings, we decompose this earnings surprise into its revenue, pretax margin, pretax income, and tax

components. We then examine the association between component surprises and future earnings using a sample of 13,799 nonfinancial firms with positive analyst consensus forecasts of earnings per share (EPS), net income, pretax income, and revenues for the years 2002-2013. We find that the analysts' earnings forecast pessimism documented in Brown (2001), Matsumoto (2001), Richardson et al. (2004) and Burgstahler and Eames (2006) extends to the earnings components we examine in our study. Moreover, the two earnings components which are most widely followed by investors, analysts, and firm executives (EPS and revenues) exhibit a higher percentage of income-increasing surprises than the components with less coverage (pretax margins, pretax income, and effective tax rates). After controlling for current period earnings and discretionary accruals, we find that each component is positively associated with future earnings. We further find that the revenue surprise component is more highly associated with future earnings than the other surprise components, and that the pretax income surprise component is more closely associated with future earnings than the tax surprise component. The significant associations between future earnings and the revenue and pretax income components of the earnings surprise persists for at least three years. However, the association between the tax surprise and future earnings dissipates after one year.

Defining abnormal future earnings as the portion of future earnings that is unexplained by current earnings or discretionary accruals, we form portfolios based on the signs and magnitude of the current earnings surprise and its components to compare the abnormal future earnings of different surprise groups. Consistent with our regression results, we find that that the mean and median abnormal future earnings of the top half of MBE surprise firms are significantly higher than those of the lower half of MBE firms, and that mean abnormal future earnings of surprise groups increases when we further consider positive earnings component surprises. Notably, the mean abnormal future earnings of high MBE firms that are also in the top half of firms with positive revenue and pretax income surprises are about 70 percent higher than the mean abnormal future earnings of high MBE firms and almost four times higher than the mean abnormal future earnings of MBE firms.

Our results also show that the mean and median abnormal future earnings of MBE firms which miss analysts' pretax income expectations (and thus MOB earnings forecasts through income-increasing tax surprises) are significantly higher than firms that miss earnings expectations. At first glance, this finding is inconsistent with prior research which suggests that year-end tax surprises have relatively low earnings persistence (Schmidt 2006; Gleason and Mills 2008). While previous research estimates the tax surprise using GAAP-based effective tax rates forecast by a quarterly random walk model, our study measures the tax surprise using Street-based effective tax rates forecast by analysts. We note, however, that the tax surprise component has less incremental association with future earnings than other earnings component surprises, and that the mean and median abnormal future earnings of MBE firms that miss analysts' pretax income expectations is not significantly different than the abnormal future earnings of firms that miss earnings forecasts while meeting pretax income expectations.

Our paper makes at least three contributions. First, we contribute to research on the relation between current period unexpected earnings and future earnings. While prior research focuses mainly on meeting or beating earnings, revenue, or tax expectations, we demonstrate that the magnitude of the surprise is also associated with future earnings. Second, we demonstrate that decomposing earnings surprises into its components can assist investors in identifying firms with better future earnings performance. We also extend prior research by explicitly modeling different components of the earnings surprise, thereby delineating how these components interrelate. Third, we show that the tax component of the analysts' earnings surprise provides information about future earnings that is incremental to current period earnings. While previous research examines the relation between changes in GAAP-based effective tax rates and future earnings, we extend this research by using analyst-based forecasts to measure the association between tax surprises and future earnings.

2. Background and hypotheses development

Related research

Our research relates to the association of earnings and earnings surprises with future earnings, as well as the association between earnings surprise components (e.g., revenues, pretax expenses, income tax

expenses) and future earnings. While previous research focuses primarily on the association of earnings or a specific component of earnings with future earnings, our study examines relationships among the components as well as the incremental impact of component surprises on future earnings. As such, our study contributes to the three streams of research described below.

Earnings surprises and future earnings performance

Prior research shows that firms which MOB analyst earnings forecasts (MBE firms) experience significantly higher abnormal stock returns and better future earnings performance (Bartov et al. 2002; Kasznik and McNichols 2002; Bhojraj et al. 2009). For example, Kasznik and McNichols find that MBE firms disclose higher future earnings in each of the three subsequent years while Bartov et al. show that that MBE firms report higher return on assets, return on equity, and operating margins, and fewer losses. Moreover, Bartov et al. (2002) observe that the better future earnings performance occurs regardless of whether analysts predict that firms will have positive or negative earnings. Taken together, these results suggest that meeting or beating analyst earnings forecasts is a leading indicator of a firm's future performance.

Tax surprises and future earnings performance

Several studies show that book-tax differences reported in financial statements provide incremental information about future earnings performance (Lev and Nissim 2004; Hanlon (2005); Blaylock et al. 2010). Schmidt (2006) also finds that the earnings generated by changes in the annual effective tax rate (ETR) and the first quarter's ETR are significantly associated with future earnings. These findings suggest that the tax surprise could be positively related to future earnings. However, Schmidt (2006) finds that quarterly revisions in the reported GAAP ETR exhibit increasingly less explanatory power as the year progresses. Both Schmidt (2006) and Gleason and Mills (2008) note that the fourth quarter's ETR revision is not associated with future earnings. Gleason and Mills attribute transitory nature of fourth quarter ETR revisions primarily to firms which are only able to meet earnings expectations by reducing year-end tax provisions. Their conjecture is supported by evidence that income-increasing fourth quarter ETR revisions are associated with meeting or beating analyst earnings forecasts

(Dhaliwal et al. 2004; Cook et al. 2008; Comprix et al. 2012). Moreover, Kim et al. (2014) show that analysts' earnings forecasts underweight the persistence of changes in GAAP effective tax rates. Therefore, if the third quarter ETR is a reliable proxy for analysts' expectations of year-end effective tax rates, then the portion of the annual earnings surprise attributable to unexpected effective tax rates should have little or no association with future earnings.

Revenue surprises and future earnings performance

Similar to the research on tax surprises, researchers have examined the relationships among revenue surprises, earnings persistence, and abnormal returns. Several studies find that revenue surprises provide incremental information for investors beyond earnings surprises.[1] For example, Jegadeesh and Livnat (2006) and Rees and Sivaramakrishnan (2007) show that the positive market reaction to MBE firms is significantly augmented when firms also meet their revenue forecasts and that the negative market reaction to earnings announcements that miss analyst EPS forecasts (MSE firms) can be attenuated by reporting a positive revenue surprise. Swaminathan and Weintrop (1991) find that investor reactions to revenue surprises are significantly stronger than expense surprises, while Ertimur et al. (2003) show that the stronger investor reaction to revenue surprises is greater for growth companies than value companies. Ertimer et al. suggest that the stronger investor reaction to revenue surprises is due to greater heterogeneity among expense items than revenue items.[2] Other studies examine the effect of changes in prior period revenues on future earnings performance. For example, Ghosh et al. (2005) find that firms with several years of consecutive revenue growth report greater earnings persistence, while Jegadeesh and Livnat (2006) observe that an unexpected increase in quarterly revenue growth is positively associated

[1] To determine the revenue surprise, Swaminathan and Weintrop (1991) compare actual revenues to Value Line forecasts, Jegadeesh and Livnat (2006) compare actual GAAP revenues to a time series forecast, while Ertimur et al. (2003) and Rees and Sivaramakrishnan (2007) compare actual Street revenues to consensus I/B/E/S analysts' forecasts.

[2] Expense heterogeneity is caused by aggregating disparate types of expenses (e.g., cost of goods sold, research and development, interest charges, etc.) into a single value. Expenses also include fixed costs, which can distort the persistence of variable expenses. Ertimer et al. support their argument by showing that information content of expense surprises is higher for firms that report a relatively high ratio of operating expenses before depreciation-to-total expenses.

with the succeeding quarter's earnings surprise. These results suggest that analyst's revenue forecast surprises may also be positively related to future earnings.

Development of hypotheses

Earnings persistence is often measured by regressing future earnings on current year earnings:

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \varepsilon_{it} \quad (1)$$

where NI_{it} is Street net income scaled by average total assets for firm *i* in year *t*. Prior research interprets the slope coefficient of this equation, α_1, as a measure of the persistence of the accounting rate of return on assets (e.g., Sloan 1996; Schipper and Vincent 2003; Dechow et al, 2010). Higher values of α_1 are interpreted as indicating greater earnings persistence.

Sloan (1996) decomposes net income into its cash flow and accrual components, and argues that the coefficients generated by regressing future earnings on these two current components measures the earnings persistence attributable to each component. In the spirit of Sloan (1996), we decompose net income into its "expected" and "unexpected" components, where expected net income is estimated by analysts' forecasts of current year net income (FNI_t) and unexpected net income is the earnings surprise (UNI_t), such that ($NI_t = FNI_t + UNI_t$). We then substitute the expected and unexpected components of net income in (1) as follows:

$$NI_{it+1} = \alpha_0 + \alpha_1 FNI_{it} + (\alpha_1 + \alpha_2) UNI_{it} + \varepsilon_{it} \quad (2)$$

where α_2 measures the incremental earnings persistence associated with unexpected net income, and both *FNI* and *UNI* are scaled by average total assets. To facilitate measuring the significance of this incremental persistence, we rearrange (2) as follows:

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 UNI_{it} + \varepsilon_{it} \quad (3)$$

Findings in Bartov et al. (2002), Kasznik and McNichols (2002), and Bhojraj et al. (2009) show that firms which meet or beat (MOB) current earnings expectations experience higher future earnings. However, prior research does not directly examine whether the amount by which a company MOBs current earnings expectations provides additional information about future earnings. That is, once a firm

meets current expectations, prior research assumes that the magnitude of the positive earnings surprise does not contain any additional information about future earnings. Given the importance of meeting earnings expectations described in prior research (Graham et al. 2005), as well as the propensity of firms to set aside "cookie jar" reserves to meet future financial reporting objectives, it seems likely that the magnitude of the earnings surprise conveys management's confidence that it has sufficient financial flexibility to meet the revised analysts' earnings forecast for the subsequent period.[3] If a risk averse manager is skeptical that the firm has sufficient reserves to meet the next period's earnings implied by a relatively high current surprise, the manager will adjust the positive earnings surprise to reflect a more achievable future earnings expectation. Companies that MOB earnings expectations by relatively small amounts are less likely to have sufficient reserves to meet future expectations in unforeseen circumstances and are less comfortable with analysts increasing earnings expectations in future periods. Thus, higher levels of unexpected earnings should signal higher future net income. We examine this prediction in our first hypothesis:

> **H1:** After controlling for the magnitude of current period earnings, future earnings is positively associated with unexpected current period earnings.

Since analysts also provide forecasts of pretax earnings and net income, we can decompose unexpected income into two components individually reflecting unexpected pretax income and unexpected change in the effective tax rate (defined as the tax provision / pretax income):

$$UNI_{it} = UPI_{it}(1 - FETR_{it}) + PI_{it}(FETR_{it} - ETR_{it}) \quad (4)$$

where UPI_t is unexpected Street pretax income $(PI_t - FPI_t)$, PI_t is actual Street pretax income, FPI_t is the analysts' forecast of Street pretax income, $FETR_t$ is the analysts' forecast of the Street effective tax rate, and ETR_t is the actual Street effective tax rate for year t. We interpret $UPIC_t = UPI_t(1 - FETR_t)$ as

[3] Graham et al. (2005) specifies two reasons why analysts may not wish to adjust their estimates in such a way that meeting the consensus forecast becomes a random, unpredictable event. "First, if a firm is a 'bellwether' stock, such that the stock prices of other firms in the same industry co-vary with the bellwether, then analysts might find it worthwhile to let the bellwether stock 'look good' and beat the earnings estimates. Otherwise, they run the risk that the stock prices of other firms in the industry would fall if the bellwether firm does not meet the estimate, increasing the odds that the analyst's analysis of those other firms might look bad. Second, analysts feel embarrassed if a firm does not meet or exceed their earnings predictions. As one CFO put it, 'analysts viciously turn on you when you fail to come in line with their projections.' "

the portion of unexpected net income attributable to the pretax income surprise, and $UTC_t = PI_t(FETR_t - ETR_t)$ as the portion of unexpected net income attributable to unexpected changes in the effective tax rate.[4]

$$UNI_{it} = UPIC_{it} + UTC_{it,} \tag{5}$$

Substituting (5) into (3) allows us to measure the incremental effect of the unexpected pretax income and unexpected effective tax rate components on future earnings performance:

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 UPIC_{it} + \alpha_3 UTC_{it} + \varepsilon_{it} \tag{6}$$

Hanlon (2005) shows that current year pretax income is significantly associated with future earnings. Given our previous analysis on the association between current earnings surprises and future earnings, and since pretax income is a substantial component of net income, we expect to find that the magnitude of $UPIC$ is positively associated with future earnings performance.

H2: After controlling for the magnitude of current period earnings, future earnings is positively associated with unexpected current period pretax income.

Prior research shows that fourth quarter ETR revisions are not associated with future earnings (e.g., Schmidt 2006; Gleason and Mills 2008) and that income-increasing fourth quarter ETR revisions are associated with firms that reduce tax provisions to meet earnings expectations (Dhaliwal et al. 2004; Cook et al. 2008; Comprix et al. 2012). However, this prior research on the unexpected ETR-future earnings relation is based on year-end revisions in GAAP effective tax rates, not Street-based effective tax rates. Since analyst earnings forecasts often exclude nonrecurring items that are included in GAAP earnings, it is likely that analysts' forecasts of the effective tax rate excludes the tax effect of nonrecurring items that contribute to the low association between fourth quarter GAAP effective tax rate revisions and future earnings. In addition, tax surprises can reflect real changes in the sales mix, sourcing of revenues,

[4] Equation 2 is similar to the decomposed change in annual earnings presented in Lev and Thiagarajan (1993), which decomposes earnings changes across two periods into pretax and tax components. Following Lev and Thiagarajan (1993), Schmidt (2006), and Gleason and Mills (2008), we design the tax component of the earnings forecast error to have a positive effect on the *UNI* when companies beat analysts' ETR forecast error by reporting lower-than-expected effective tax rates.

expense allocations, and loss or credit utilizations that may persist in future periods. Tax surprises that reflect real changes in a company's overall effective tax rate should be associated with future earnings.

Though prior research suggests that some firms may engage in "last chance earnings management" to meet earnings targets (Dhaliwal et al. 2004; Gleason and Mills 2008), this does not mean that they do not have any pretax income opportunities to meet expectations. Though the tax provision might not be completed until the end of an audit engagement, companies can access a variety of interchangeable pretax and tax provision strategies during the financial reporting period, and need not delay implementing tax-based strategies until all pretax income adjustments have been exhausted. To the extent that tax provision management can serve as a substitute for more costly pretax strategies, higher *UTC* will be associated with higher future earnings. These three arguments lead to our third hypothesis:

> **H3:** After controlling for the magnitude of current period earnings, future earnings is positively associated with the unexpected current period effective tax rate.

Though we expect that both *UPIC* and *UTC* are positively associated with future earnings, there are several reasons why one might expect the unexpected pretax income component (*UPIC*) to be more strongly associated with future earnings than the unexpected tax provision component (*UTC*). First, the tax provision includes the tax effect of unexpected pretax income. Thus, the impact of pretax income management strategies included in *UPIC* is also reflected in the *UTC*. By contrast, the impact of tax provision management strategies should not affect unexpected pretax income aside from the relatively insignificant cost of implementing the strategies. Thus, while pretax income reflects pretax strategies, the tax provision reflects both pretax income and tax provision management strategies. Second, when analysts adjust pretax income for nonrecurring items, the income tax effect associated with these nonrecurring items can be difficult to estimate. Though some companies disclose the estimated tax effects of each possible nonrecurring item, others may disclose a single tax effect for all nonrecurring items or may disclose tax effects for a subset of their nonrecurring items. Even if analysts have access to firm-generated tax effects of nonrecurring items that occur in prior quarters, the tax effect may subsequently change. Third, even if an analyst is able to accurately estimate the tax effect of the firm's nonrecurring

items and tax provision management strategies, the analyst may not be able to accurately forecast the effective tax rate due to the difficulty of estimating complex tax issues. Bratten et al. (2015) describe several tax items that are difficult to forecast (e.g., loss carryforwards, research credits, equity compensation, allocation of taxable income between domestic and foreign jurisdictions). While some of these may be associated with future earnings, others represent random disturbances. For these reasons, we expect that the current period *UPIC* will have a greater impact on future earnings than the current period *UTC*.

H4: After controlling for the magnitude of current period earnings, future earnings is more highly associated with the unexpected pretax income component than the unexpected effective tax rate component of the current period earnings surprise.

We further decompose the pretax income component of unexpected net income (*UNI*) into components reflecting unexpected revenues and the unexpected pretax income margin:

$$UPIC_{it} = (UREV_{it} \times FPM_{it})(1 - FETR_{it}) + (REV_{it} \times UPM_{it})(1 - FETR_{it}) \quad (7)$$

where $UREV_t$ is the unexpected revenue recognized during the year $(REV_t - FREV_t)$, REV_t is the actual revenue recognized during the year, $FREV_t$ is the analysts' forecast of revenue, FPM_t is the analysts' forecast of the pretax margin, UPM_t is the unexpected change in the pretax margin realized during the year $(PM_t - FPM_t)$, and PM_t is the actual pretax margin for the year. We interpret $URC_t = (UREV_t \times FPM_t)(1 - FETR_t)$ as the portion of unexpected net income attributable to unexpected revenues, and $UPMC_t = (REV_t \times UPM_t)(1 - FETR_t)$ as the portion of unexpected net income attributable to the unexpected pretax income margin, and have:

$$UPIC_t = URC_t + UPMC_{t,} \quad (8)$$

Substituting (8) into (6) allows us to measure the incremental effect of unexpected revenues and unexpected pretax income margins on future earnings performance:

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 URC_{it} + \alpha_3 UPMC_{it} + \alpha_4 UTC_{it} + \varepsilon_{it} \quad (9)$$

Prior research shows that revenue surprises provide incremental information for investors beyond earnings surprises. Jegadeesh and Livnat (2006) observe that quarterly revenue surprises generated from

an expectation model based on seasonal random walk with drift are positively associated with the succeeding quarter's earnings surprise. However, prior research does not examine whether analysts' revenue surprises provide information about future earnings that is incremental to current net income. Since firms which MOB earnings expectations report higher future earnings, and since revenue growth is associated with higher future earnings, higher levels of unexpected revenues should signal higher future net income. We examine this prediction in our next hypothesis:

> **H5:** After controlling for the magnitude of current period earnings, future earnings is positively associated with unexpected current period revenues.

Swaminathan and Weintrop (1991) and Ertimur et al. (2001) show that investor reactions to revenue surprises are significantly stronger than expense surprises. Ertimer et al. suggest that the stronger investor reaction to revenue surprises is due to greater heterogeneity among expense items than revenue items. Since the pretax income margin component of unexpected earnings (*UPMC*) excludes income tax expenses, it is less heterogeneous items than the total expense measure examined in Swaminathan and Weintrop (1991) and Etrimur et al. (2003). Since pretax expenses still include fixed and variable costs involving a mixture of operating, research, and financing expenses, however, we expect that the unexpected revenue component (*URC*) will have a greater effect on future earnings than *UPMC*:

> **H6:** After controlling for the magnitude of current earnings, future earnings is more highly associated with the unexpected revenue component than the unexpected pretax income margin component of the current earnings surprise.

III. Research design

Model specification

We examine our hypotheses using regression models based on equations (3), (6), and (9). We operationalize our baseline model (used for testing H1) by appending controls for, discretionary accruals and firm size, as well as year and industry fixed effects, to (3) as follows:

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 UNI_{it} + \alpha_3 HDACC_{it} + \alpha_4 LDACC_{it} + \alpha_5 (NI_{it} \times HDACC_{it}) + \alpha_6 (NI_{it} \times LDACC_{it}) + \alpha_7 SIZE_{it} + \varepsilon_{i,t} \quad (10)$$

where *HDACC* and *LDACC* are dummy variables equal to one if the firm is in the highest and lowest deciles, respectively, of discretionary accruals for its industry in year *t* (and zero otherwise), and *SIZE* is the log of the firm's total assets at the end of year *t*. H1 predicts that $\alpha_2 > 0$.

The model includes *HDACC* and *LDACC* because prior research indicates that extreme discretionary accruals are negatively associated with future earnings (Xie 2001; Dechow and Ge 2006). Bartov et al. (2002) observe that the earnings persistence of MBE firms is diminished when the earnings surprise is achieved through accruals-based earnings management, while Bhojraj et al. (2009) find that the future operating performance improves more for profitable firms that miss with high quality earnings (i.e., low discretionary accruals and high discretionary expenses) relative to profitable firms that beat with low quality earnings.[5] Dechow et al. (2010) suggest that the lower earnings persistence associated with accruals may be due to errors in measuring fundamental performance, discretionary use of accruals to achieve financial reporting objectives, and diminishing marginal returns on increased investment. This prior research suggests that the parameter estimates for α_5 and α_6 will be negative.

Since $\alpha_2 > 0$ is also consistent with the alternative hypothesis that future earnings is associated with meeting current earnings expectations but not with the magnitude of the earnings surprise, we also estimate a regression model that replaces the continuous variable UNI_{it} with dummy variables indicating whether a firm has a positive earnings surprise (MBE_{it}) and whether the amount of the earnings surprise is ranked in the top 50 percent of positive earnings surprises ($HighMBE_{it}$):

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 MBE_{it} + \alpha_3 HighMBE_{it} + \alpha_4 HDACC_{it} + \alpha_5 LDACC_{it} + \alpha_6 (NI_{it} \times HDACC_{it}) + \alpha_7 (NI_{it} \times LDACC_{it}) + \alpha_8 SIZE_{it} + \varepsilon_{i,t} \quad (11)$$

H1 predicts that $\alpha_2 > 0$ and $\alpha_3 > 0$, while the alternative hypothesis predicts that $\alpha_3 = 0$.

To examine H2, H3, and H4, we add the previously-described control variables, as well as variables to control for the FIN 48 transition year, to the two-component model in (6) as follows:

[5] By contrast, Bhojraj et al. (2009) do not observe significant differences in the future operating performance of unprofitable firms that miss their earnings forecasts with high quality earnings and unprofitable firms that beat their earnings forecasts with low quality earnings.

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 UPIC_{it} + \alpha_3 UTC_{it} + \alpha_4 F48_{it} + \alpha_5 (UTC_{it} \times F48_{it})$$
$$+\alpha_6 HDACC_{it} + \alpha_7 LDACC_{it} + \alpha_8 (NI_{it} \times HDACC_{it})$$
$$+\alpha_9 (NI_{it} \times LDACC_{it}) + \alpha_{10} SIZE_{it} + \varepsilon_{i,t} \quad (12)$$

where $F48_t$ is a dummy variables equal to one if fiscal year *t* ends during the transition period between December 2007 (the effective date of FIN 48 for firms with fiscal years that include twelve months of earnings) and November 2008. H2 predicts that $\alpha_2 > 0$, H3 predicts that $\alpha_3 > 0$, and H4 predicts that $\alpha_2 > \alpha_3$.

The model includes *F*48 to control for new regulatory guidance on the accounting treatment of uncertain tax positions imposed during this period.[6] For years ending before December 2007, companies followed the guidance in SFAS 5, *Accounting for Contingencies*, to determine whether they needed to record a liability for uncertain tax positions. The use of diverse and inconsistent accounting practices in the application of SFAS 5 to uncertain tax positions led to the issuance of FASB Interpretation No. 48 (of FIN 48), *Accounting for Uncertainty in Income Taxes*. FIN 48 standardizes some of the practices involved in accounting for uncertain tax positions. If the required FIN 48 guidelines alter the association between unexpected tax surprises and future earnings during the transition year, then the parameter estimate for α_5 will be negative.

To examine H5 and H6, we add the control variables to the three-component model in (9) as follows:

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 URC_{it} + \alpha_3 UPMC_{it} + \alpha_4 UTC_{it} + \alpha_5 F48_{it}$$
$$+\alpha_6 (UTC_{it} \times F48_{it}) + \alpha_7 HDACC_{it} + \alpha_8 LDACC_{it} + \alpha_9 (NI_{it} \times HDACC_{it})$$
$$+\alpha_{10} (NI_{it} \times LDACC_{it}) + \alpha_{11} SIZE_{it} + \varepsilon_{i,t} \quad (13)$$

H5 predicts that $\alpha_2 > 0$ while H6 predicts that $\alpha_2 > \alpha_3$.

[6] Income tax reserves represent contingent tax liabilities on uncertain tax positions taken or expected to be taken in a tax return. For example, if a firm with a 40 percent marginal tax rate takes a $100 deduction in its tax return for an item that may or may not be deductible, then the tax position is uncertain. Guidance in SFAS 5 and FIN 48 help the firm determine whether it needs to record a tax reserve for the contingent liability.

Discretionary accrual model

We estimate discretionary net income accruals (*DACC*) as the residual from an industry-based cross-sectional modified Jones model (Jones 1991; Dechow et al. (1995):

$$TACC_{it} = \alpha_0 + \alpha_1(\Delta REV_{it} - \Delta AR_{it}) + \alpha_2 PPE_{it} + \varepsilon_{it} \quad (14)$$

where $TACC$ = total net income accruals, $\Delta REV - \Delta AR$ is the change in revenues modified by the annual change in accounts receivable, and PPE = gross property, plant, and equipment. Following Hribar and Collins (2002), *TACC* is calculated as earnings before extraordinary items less operating cash flows exclusive of extraordinary items and discontinued operations. All the variables in this equation, including the intercept, are scaled by prior year's total assets and the regression coefficients are separately estimated by year and industry 2-digit SIC codes.

We estimate (14) using *Compustat* listed firms with both total assets and total revenues in excess of $1 million. To control for outliers, we winsorize all variables in the extreme centiles. Following Frank et al. (2009), we estimate *DACC* for firms in industries that include at least ten firm observations during a calendar year. These screens generate 646 industry-year regressions. We do not use performance-matched accruals because we are not testing for earnings management or market efficiency (Kothari et al. 1995).

IV. Sample selection and descriptive statistics

Sample selection

We begin our sample selection process by obtaining I/B/E/S annual consensus forecasts and realizations of earnings per share (EPS), net income (NET), pretax earnings (PRE), and revenue (SAL) for the years 2002 through 2014.[7] Panel A of table 1 presents the number of firms with EPS, NET, PRE, and SAL forecasts by year. The percentage of *I/B/E/S* firms with consensus NET forecasts increased from 38 percent in 2002 and 58 percent in 2003 to approximately 86 percent of firms in 2013.

Since it is difficult to interpret the effect of negative earnings or negative effective income tax rates on earnings persistence, we require that all forecasted values of EPS, PRE, NET, and SAL exceed zero. We also remove observations with actual or forecasted PRE less than NET because these

[7] *I/B/E/S* did not gather NET forecasts before 2002.

observations imply actual or forecasted effective tax rates exceeding 100 percent. To ensure consistency between unexpected EPS and unexpected net income, we delete observations where both EPS surprises (*UEPS*) and net income surprises (*UNI*) have opposite signs. For each firm and fiscal year, we obtain the most recent consensus forecast issued no more than 60 days prior to the earnings release date.

All observations require three years of data: current year actuals, forecasts, and discretionary accrual data; one-year ahead NET actuals (from *I/B/E/S*); and prior year data from *Compustat* to estimate discretionary accruals and standardize variables.[8] Our sample excludes financial and real estate firms (SIC 6000-6999) because our analysis includes discretionary accrual measures that cannot be estimated for these companies. Finally, we truncate the extreme centiles of our independent and dependent variables in the regression analysis. The final sample consists of 13,799 firm-year observations. Panel B of table 1 provides more detail on the sample selection process.

Though *I/B/E/S/* does not explicitly report analyst tax provision forecasts, actual and forecasted tax provisions can be determined by subtracting net income (NET) from pretax earnings (PRE). It follows that the Street effective tax rate (*ETR*) can be calculated as (PRE – NET) / PRE.[9] As noted by Bratten et al. (2015), this ETR measure can be distorted by items such as minority interest which *may* also be reported by some analysts as a reduction to pretax earnings. Our (untabulated) inspection of analyst reports indicates that equity method investment income is sometimes reported by analysts in the section following pretax earnings.[10] In sensitivity analysis, we examine the association between the components of earnings surprises and future earnings using samples that exclude firms which report minority interest or equity method investment income in their income statements.

[8] Unlike current period data, the one-year ahead NET actuals used to measure future earnings includes both profit and loss firms.

[9] Several contemporary studies use NET and PRE to estimate Street tax provisions. For example, see Baik et al. (2013), Baik et al (2015), Bratten et al. (2015), Kim et al. (2014), and Mauler (2015).

[10] For example, I/B/E/S reports actual consensus NET > PRE for Yahoo in fiscal years 2009 through 2013 (the final year in the sample) because the equity method income for its investment in Alibaba is presented by I/B/E/S after pretax income. Though these observations are excluded from our sample because our sample selection process removes all firms with NET in excess of PRE, we do not explicitly remove Yahoo fiscal years 2006-2008 because the Alibaba equity method income reported in these years does not exceed Yahoo's tax provision.

Descriptive statistics

Table 2 presents descriptive statistics and variable correlations for our sample. For comparative purposes, we report statistics for both Street-based net income (*NI*), which defines net income as the actual NET reported by *I/B/E/S* for the year, and for GAAP-based ROA (*GNI*), which defines net income as the net income before extraordinary items reported in *Compustat*. We standardize net income, discretionary accruals and earnings surprises by mean total assets.

Panel A of table 2 includes the descriptive statistics for certain key variables. Since the nonrecurring items removed by analysts are primarily income-reducing, we find that mean one-year-ahead Street ROA (NI_{t+1}) exceeds one-year-ahead GAAP ROA (GNI_{t+1}) by approximately 1.3 percentage points. Mean and median current year NI_t exceeds NI_{t+1} because NI_t excludes firms with negative earnings while NI_{t+1} does not. The mean Street effective tax rate (*ETR*) is 30.7 percent, which is significantly higher than the mean GAAP effective tax rate (*GETR*), possibly because removing nonrecurring items increases the effective tax rate.

Panel B of table 2 shows the means and standard deviations for both MBE firms and MSE firms. Consistent with Bartov et al. (2002), approximately two-thirds of our sample firms MOB the consensus EPS forecast. Means tests show that MBE firms have significantly greater current and one-year-ahead return on assets and significantly lower discretionary accruals than MSE firms. MBE firms are also smaller (in terms of total assets) and incur significantly lower effective tax rates.

Panel C of table 2 shows the percent of MBE and MSE firms that also report income-increasing revenue, pretax margin, pretax income, and ETR surprises. Approximately 71 percent of MBE firms report income-increasing revenue surprises while only 45 percent of the MSE firms report positive revenue surprises. Since 78.9 percent of MBE firms MOB consensus pretax margin and pretax income forecasts, 21.1 percent of MBE firms are only able to meet net income expectations by reporting income-increasing tax surprises in excess of income-decreasing pretax income surprises. By contrast, only 13.5 percent of MSE firms missed their EPS forecast despite meeting or beating the consensus pretax income forecasts.

Panel D of table 2 presents a Pearson correlation matrix of continuous variables. Consistent with prior research, current year discretionary accruals ($DACC_t$) are negatively related to future earnings. While $DACC_t$ is positively correlated with the unexpected revenue component (URC_t), it is negatively correlated with ($UPIC_t$) and (UNI_t), suggesting that income increasing discretionary accruals are negatively related to unexpected pretax income and unexpected net income.

Percentage of firms which MOB component forecasts

Prior research documents a tendency for firms to MOB analyst earnings forecasts (Brown 1991; Matsumoto 2002; Richardson et al. 2004; Burgstahler and Eames 2006). Table 3 discloses the percentage of firms that report income-increasing analyst forecast errors for each *UNI* component in each of the 12 sample years. Panel A of the table presents the results for all sample firms. Consistent with prior research, we observe that the percentage of income-increasing component surprises exceed 50 percent for all but two component-year combinations (shown in boxes in table 3). The lowest percentages of income-increasing revenue, pretax income, and EPS surprises occur in the recession year 2008. The annual percentage of income-increasing earnings surprises varies from 62 percent (in 2008) to 80 percent (in 2003). In each year, the percentage of income-increasing surprises is greater for earnings forecasts than for any of the *NFE* components. In eight of the 12 years, the revenue component has the highest component percentage of income-increasing surprises. The higher percentages of income-increasing earnings and revenue surprises are consistent with earnings management as these are the two forecasts which garner the most attention from analysts, investors, and firm managers.

Since our sample is restricted to firms with three years of data, positive *I/B/E/S* actuals, and positive annual consensus forecasts of EPS, NET, PRE, and SAL in the current year, the percentage of income-increasing analyst forecast errors we observe in our sample possibly exceeds the percentage in a sample that includes more firms. Panel B of table 3 presents the annual and total percentage of firms that report income-increasing analyst forecast errors in a sample of 31,578 firms with consensus analyst forecasts issued within 60 days of the earnings announcement for years ending in 2002-2013. This

expanded sample includes both loss firms and financial firms, and does not require any additional *Compustat* data from financial statements. The percent of income increasing surprises is substantially lower for the expanded sample. Over our 12-year sample period, the percentage of income increasing revenue and earnings surprises totaled 57.6 percent and 58.5 percent, respectively, in contrast with 63.5 percent and 71.0 percent, respectively, in the original sample. The percentage of component-year combinations that report income-increasing surprises below 50 percent increases to 11. As in the original sample, the lowest percentage of income-increasing revenue, pretax income, and earnings surprises occurs in 2008.

V. Results

Table 4 presents the estimation results for equations 10 (baseline model), 11 (baseline model with MBE dummy variables), 12 (two component model), and 13 (three component model). Before turning to the results of our hypothesis tests, we note that the adjusted R^2 values for the equations equal or exceed 0.634. In each equation, the intercept is insignificantly different from zero and the coefficient for current period net income (NI_t) is approximately 0.82, indicating that firm income includes transitory items. Consistent with Bartov et al. (2002) and Bhojraj et al. (2009), future earnings are significantly lower when firms disclose extreme discretionary accruals. Consistent with Dechow and Ge (2006), the earnings persistence of firms with extreme discretionary income-increasing accruals ($NI \times HDACC$) is not significantly lower (difference = 0.04; p-value = 0.54) than the persistence of firms with extreme discretionary income-decreasing accruals ($NI \times LDACC$). Firm size is positively related to future return on assets.

Consistent with H1, the results for the baseline equation, reported in column 1 of table 4, show that current year unexpected net income (*UNI*) is positively related to next year's earnings. The results for the alternative baseline equation, reported in column 2, shows that both *MBE* and *HighMBE* are positively related to next year's earnings. These findings support our argument that the magnitude of the earnings surprise includes information pertinent to future earnings.

The two component model, reported in column 3 of table 4, replaces *UNI* with the pretax income component (*UPIC*) and the tax component (*UTC*) and controls for possible distortions in the $UTC\text{-}NI_{t+1}$ relation in the FIN 48 transition year. As predicted by H2 and H3, both components of the earnings surprise are positively related to future earnings. Also, consistent with H4, the excess of the *UPIC* coefficient over the *UTC* coefficient (0.594 – 0.246 = 0.348) is significant at the 0.01 level, indicating that the pretax income component has greater implications for future earnings than the tax component. These findings support our contention that both components incorporate signals about future earnings, though the tax component includes more noise than the pretax income component.

The three component model, reported in column 4 of table 4, replaces *UPIC* with the revenue and pretax margin components of the net income surprise. Consistent with H5, the results show that the revenue (*URC*) and pretax margin (*UPMC*) components of the current earnings surprise are positively associated with one-year-ahead earnings. As predicted in H6, the excess of the *URC* coefficient over the *UPMC* coefficient (1.453 – .503 = 0.950) is significant at the 0.01 level, indicating that the revenue component has greater implications for future earnings than the pretax margin component. These results are consistent with prior research that examines relationships among revenue surprises, earnings persistence, and abnormal returns (Swaminathan and Weintrop 1991; Ertimur et al. 2003; Ghosh et al. 2005; Jegadeesh and Livnat 2006; Rees and Sivaramakrishnan 2007).

Component surprises and future earnings

Since our results show that unexpected income attributable to earnings components is positively associated with future earnings, it should be possible to create portfolios with income-increasing component surprises that outperform other surprise groups. Figure 1 shows annual differences in the mean abnormal future earnings (ANI_{t+1}) of three surprise groups based on the sign and magnitude of the current year's surprise. We define ANI_{t+1} as the residuals generated from annual regressions of equation 1 estimated with controls for extreme discretionary accruals, firm size, and industry fixed effects using our

primary sample of 13,799 firms follows:

$$NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 HDACC_{it} + \alpha_3 LDACC_{it} + \alpha_4 (NI_{it} \times HDACC_{it})$$
$$+\alpha_5 (NI_{it} \times LDACC_{it}) + \alpha_6 SIZE_{it} + \varepsilon_{i,t} \quad (15)$$

The first set (in blue) calculates the difference between the mean ANI_{t+1} of MBE firms ranked in the top 50 percent of positive earnings surprises (high MBE firms) versus firms that miss net income forecasts (MSE firms). The second set (in red) calculates the difference between the mean ANI_{t+1} of firms ranked in the top 50 percent of positive revenue surprises and the top 50 percent of positive earnings surprises (high MBER firms) versus firms missing both revenue and net income forecasts (MSER firms). The third set (in green) calculates the difference between the mean ANI_{t+1} of firms ranked in the top 50 percent of positive revenue surprise, the top 50 percent of positive pretax income surprises, and the top 50 percent of positive earnings surprises (MBEPR firms) versus firms missing revenue, pretax income, and net income forecasts (MSEPR firms). With the exception of 2003, the abnormal future earnings of groups comprised of high MBE firms outperforms groups that miss earnings forecasts. Moreover, in each year, the excess ANI_{t+1} of groups that also require the top 50 percent of component surprises is higher than the excess ANI_{t+1} of groups that only consider the top 50 percent of earnings surprises. In 10 of the 12 years, the excess mean ANI_{t+1} of portfolios comprised of firms that achieve relatively high surprises in all three components (revenue, pretax income, and net income) is higher than those that only consider revenue and earnings components. The excess mean ANI_{t+1} for high MBEPR firms (versus MSEPR firms) varies between 0.35 percent (in 2002) and 1.55 percent (in 2008), with an overall 12-year mean of 0.60 percent per year.

Table 5 presents statistical comparisons of abnormal future earnings between groups of firms identified by their current earnings surprises and surprise components. Panel A shows that the mean and median ANI_{t+1} for MBE firms is significantly higher than MSE firms, and panel B shows that the mean and median ANI_{t+1} for MBE firms which miss pretax income expectations is significantly higher than

MSE firms (at the 0.06 level).[11] The latter finding shows that the future earnings of firms that meet earnings targets through tax expense decreases exceeds the future earnings of firms that miss earnings targets, and suggests that the low association between fourth quarter ETR revisions and future earnings reported in Schmidt (2006) and Gleason and Mills (2008) is not representative of the tax component of analysts' earnings surprises. In panel C, however, we observe that the mean and median ANI_{t+1} for MBE firms which miss pretax income expectations is not significantly higher than MSE firms which meet pretax income expectations.

Panel D of table 5 shows that the mean and median ANI_{t+1} for high MBE firms are significantly higher than low MBE firms (defined as MBE firms ranked in the bottom 50 percent of positive earnings surprises). Since high MBE firms outperform low MBE firms, the remaining tests on this table analyze the abnormal future earnings within high MBE firms. Thus, panel E shows that the mean and median ANI_{t+1} for high MBE firms with high MBR surprises are significantly higher than other high MBE firms, while panel F shows similar results for high MBE firms with high MBP compared with other high MBE firms. These two findings indicate that high MBE firms that also achieve relatively high component surprises are associated with higher future earnings than other high MBE firms.

The importance of beating earnings component expectations is further demonstrated in panel G, which shows that the mean and median ANI_{t+1} for firms ranked in the top 50 percent of both positive revenue surprises and pretax income surprises (but do not necessarily beat earnings forecasts) (high MBPR firms) is significantly greater than a surprise group of high MBE firms that exclude MBPR firms. This test suggests that significantly beating these two components of earnings is a better signal of positive future performance than just beating earnings expectations. Finally, focusing on firms ranked in the top 50 percent of all three types of component surprises (MBEPR firms), panel F shows that the mean (median) ANI_{t+1} for high MBEPR firms are significantly (insignificantly) greater than a surprise group of

[11] These results are economically significant. When we compare the difference in the mean ANI_{t+1} of MBE firms and MSE firms (0.35%) to the average NI_t of MBE firms reported in table 2 (7.0%), we see that one-year-ahead ROA of MBE firms averages about 5 percent higher than MSE firms. Comparing the mean ANI_{t+1} of high MBRPE firms (0.39% from panel F) to MSE firms, the one-year-ahead ROA of MBE firms averages about 0.64% / 7.0% = 9.1 percent higher than MSE firms.

high MBPR firms that exclude MBEPR firms). Despite the mixed results of this final test, the overall results of these tests indicate that consideration of component surprises can help analysts and investors identify firms with higher future earnings performance.

VI. Additional analysis

Effect of noncontrolling interests and equity method income

Since *I/B/E/S/* does not explicitly report analyst's forecasts of the tax provision or effective tax rates, we estimate the unexpected tax component (*UTC*) indirectly by constructing a Street tax provision from the analyst forecasts of net income (NET) and pretax income (PRE) provided by *I/B/E/S*. As noted earlier, Bratten et al. (2015) observe that this estimate of the tax provision can be subject to measurement error when firm income statements include noncontrolling (minority) interests and analysts include their forecasts of noncontrolling interest in the section between pretax income and net income. Our analysis of analyst reports also indicates that equity method investment income is sometimes reported by analysts in the section following pretax earnings.

We examine the impact of this measurement error by re-estimating equation 12 after eliminating firm-year observations that include either noncontrolling interests or equity method income in their financial statements (as identified in *Compustat*). Our regression results are reported in column 1 of table 6. After removing firms with noncontrolling interests or equity method income, our sample size declines to 8,063 firm-year observations. The adjusted R^2 for the re-estimated equation is 0.612, slightly lower than the 0.635 adjusted R^2 reported in our main results. With the exception of *UTC*, the coefficients estimated in this regression are qualitatively similar with the results reported in table 4. After removing firms that disclose noncontrolling interests or equity method income in their income statements, however, the coefficient on *UTC* in the re-estimated results is higher than in the original regression results (0.440 in table 6 compared with 0.246 in table 4) and is now significant at the 0.01 level. This analysis suggests that direct measures of the Street tax provision are preferable when the company has significant noncontrolling interests or equity method income.

Effect of meeting net income forecasts while missing pretax income forecasts

Gleason and Mills (2008) find that the change in fourth quarter GAAP effective tax rates is unrelated to future earnings when firms would have missed consensus earnings forecasts if they had not reduced fourth quarter effective tax rates. We examine whether this finding extends to analysts' tax surprises by re-estimating (11) after including variables that measure the marginal effect of *UTC* when MBE firms miss analysts' pretax income forecasts. Specifically, we identify firms that are only able to meet net income expectations by reducing its effective tax rate through an indicator variable (*MBE* × *MSP*) equal to one if *UNI* ≥ 0 and *UPI* < 0 (and zero otherwise). We measure the marginal effect of the tax component on future earnings through an interaction variable calculated as *UTC* × *MBE* × *MSP*:

$$\begin{aligned} NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 UPIC_{it} + \alpha_3 UTC_{it} + \alpha_4 F48_{it} + \alpha_5 (UTC_{it} \times F48_{it}) \\ + \alpha_6 (MBE_{it} \times MSP_{it}) + \alpha_7 (UTC_{it} \times MBE_{it} \times MSP_{it}) + \alpha_8 HDACC_{it} \\ + \alpha_9 LDACC_{it} + \alpha_{10} (NI_{it} \times HDACC_{it}) + \alpha_{11} (NI_{it} \times LDACC_{it}) \\ + \alpha_{12} SIZE_{it} + \varepsilon_{i,t} \end{aligned} \tag{16}$$

The results of this regression analysis, reported in column 2 of table 6, show that neither α_6 nor α_7 are significantly different from zero at conventional levels, while the coefficient on *UTC* remains significant at the 0.10 level. Based on these results, we cannot conclude that the association between the tax component of the earnings surprise and future earnings declines when firms are unable to MOB analysts' earnings forecasts without reporting effective tax rates that are lower than those forecast by analysts. The results contrast with Gleason and Mills (2008), indicating that fourth quarter ETR revisions may not be reliable proxies for analysts' earnings surprises.

Effect of measuring future earnings using GAAP net income instead of Street net income

Our results measure the association between component surprises and future Street earnings. It is possible, however, that component surprises contain different implications for future GAAP earnings than for Street earnings. We examine the association between component surprises and future GAAP earnings in column 3 of table 6, which shows regression results for the two component model after changing the

dependent variable from future Street return on assets (NI_{t+1}) to future GAAP return on assets (GNI_{t+1}). Since we truncate the extreme centiles of the new dependent variable, our original sample size declines to 13,668 firms. Our results show that measuring future earnings using GAAP instead of Street earnings reduces the adjusted R^2 by approximately 50 percent (from 0.635 in table 4 to 0.449 in table 6). The coefficients on the component surprises (*UPIC* and *UTC*) are qualitatively similar to those shown in the original analysis, though higher coefficients on the accruals management variables (*NI* × *HDACC* and *NI* × *HDACC*) suggest that current period GAAP earnings which include extreme accruals include transitory items that are excluded from Street net income.

Effect of excluding fiscal years associated with the Great Recession

Table 3 shows that the percentage of income-increasing earnings surprises and component surprises decreased during years identified with the Great Recession, which, according to the National Bureau of Economic Research, began in December 2007 and ended in June 2009. Since our sample period includes these years, it is possible that our results are distorted by the impact of the recession. We investigate this issue by re-estimating (11) after eliminating firm-year observations that occured during the recession years. The results of this regression analysis are reported in column 4 of table 6. After removing firms with fiscal years ending between December 2007 and June 2009, our sample size declines to 11,591 firms. The adjusted R^2 is 0.662, which is higher than the 0.635 adjusted R^2 reported in the main results. The coefficients and standard errors estimated in this regression are qualitatively similar to those estimated with the original sample. We conclude that the relation between component surprises and future earnings is not materially affected by the recession.

Effect of controlling for post-FIN 48 years

In 2006, the FASB issued FIN 48 to standardize and formalize the accounting treatment of uncertain tax positions. Prior research suggests that firms engaged in tax provision management strategies around the effective date of FIN 48 to shift expected tax benefits or costs across different periods (Blouin et al. 2010), but provides conflicting evidence on whether FIN 48 increased or decreased the use of tax

provision management strategies to meet earnings objectives (Cazier et al. 2015; Gupta et al. 2015). We investigate the extent to which FIN 48 increased or reduced the association between the tax surprise component (*UTC*) and future earnings by re-estimating (11) after including variables that measure the incremental effect of *UTC* in the years subject to FIN 48. Since FIN 48 is effective for fiscal years beginning after December 15, 2006, we define *POST*48 as an indicator variable that equals one for firm years ending in or after December 2007 (and zero otherwise). We measure the marginal effect of the tax component on future earnings in the FIN 48 period through the interaction term *UTC* × *POST*48:

$$\begin{aligned} NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 UPIC_{it} + \alpha_3 UTC_{it} + \alpha_4 F48_{it} + \alpha_5 (UTC_{it} \times F48_{it}) \\ + \alpha_6 POST48_{it} + \alpha_7 (UTC_{it} \times POST48_{it}) + \alpha_8 HDACC_{it} + \alpha_9 LDACC_{it} \\ + \alpha_{10} (NI_{it} \times HDACC_{it}) + \alpha_{11} (NI_{it} \times LDACC_{it}) + \alpha_{12} SIZE_{it} + \varepsilon_{i,t} \end{aligned} \quad (17)$$

The results, presented in column 5 of table 6, suggest that the association between *UTC* and future earnings declined following the adoption of FIN 48. The coefficient on *UTC* × *POST48* is negative and significant at the 0.06 level. Thus, at least initially, it appears that the mandatory adoption of FIN 48 reduced the signaling effect of the tax surprise.

Effect of component surprises on two- and three-year-ahead earnings

Thus far, our results support our contention that decomposing earnings surprises into its components can help investors identify firms with greater one-year-ahead earnings persistence. In this section, we investigate whether the association between current component surprises and future earnings persists beyond one year. We examine the relation between component surprises and two- and three-year ahead earnings persistence by re-estimating equations 12 and 13 after replacing the dependent variable in each equation with NI_{t+2} and NI_{t+3}, respectively.

The results from estimating these regression equations are presented in table 7. Columns 1 and 2 measure the impact of the two component model for two- and three-year ahead earnings, while columns 3 and 4 present the results for the three component model. Since each model requires an additional year of Street earnings, the sample size declines to 8,412 and 5,366 when the dependent variables are NI_{t+2} and

NI_{t+3}, respectively. The adjusted R^2 also declines to 0.465 and 0.407, respectively. With the singular exception of high discretionary accruals ($NI \times HDACC$), the magnitude of the coefficients on the independent variables decline over the time periods. For both two- and three-year-ahead earnings, however, component surprises associated with revenues, pretax margins, and pretax income continue to exhibit a significant association with future earnings. By contrast, the tax surprise component (*UTC*) has an insignificant impact on future earnings during these years. These results suggest that the impact of the tax component declines rapidly, while the association between revenue and pretax income surprises persists for at least three years.

Though not the focus of our study, we note that the negative impact of extreme income-increasing discretionary accruals appears to increase over time while the negative impact of extreme income-decreasing discretionary accruals is no longer significant beyond one year. These results suggest that extreme income-decreasing discretionary accruals have relatively low negative persistence, while extreme income-increasing accruals signal a relative decline in future earnings performance for at least three years. These findings contribute to our perception of the impact of extreme income-decreasing accruals. Dechow and Ge (2006) interpret the high future stock returns associated with low accrual firms as indicating that investors misunderstand the transitory nature of special items. Since the relatively low earnings persistence associated with low discretionary accrual firms is largely diminished after one year, it is possible that investor misunderstanding is less troublesome than initially perceived.

VII. Conclusions

Our study examines the association between components of analysts' earnings surprises and future earnings. We decompose unexpected income into its pretax income and tax components (in a two component model) and its revenue, pretax margin, and tax components (in a three component model). After controlling for current earnings and discretionary accruals, our results show that each component is positively related to future earnings. While the revenue surprise component includes the most information about future earnings, the pretax income surprise and pretax margin surprise are also highly associated with future performance. Both of these components continue to be significantly associated with future

earnings for at least three future years. By contrast, the association between the tax surprise component and future earnings is less informative about future earnings and dissipates after one year. Moreover, this relation is affected by measurement issues involving noncontrolling interests and equity method income, GAAP tax accounting changes like the recent introduction of FIN 48, and possible use of distorting tax provision management strategies to meet earnings expectations when the firm misses pretax income forecasts. Despite these issues, we show that the tax surprise component can also provide additional information about one-year-ahead earnings persistence and we find no evidence that the tax surprise is less informative about future earnings than current earnings. Overall, our evidence shows that decomposing earnings surprises into its components can assist investors in identifying firms that are associated with better future performance.

Our study is subject to some limitations. Since our analysis requires several years of data, our results may be affected by survivorship bias. Survivorship bias may also impact our measurement of future return on assets and earnings changes for different portfolios formed from earnings surprise components. Our results may also be affected by observations that we lose when merging various datasets. Consequently, though our results are intriguing, we do not advise anyone to make actual investment decisions based on our study without the benefit of further research on this topic.

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APPENDIX A

Firm Types and Variable Definitions

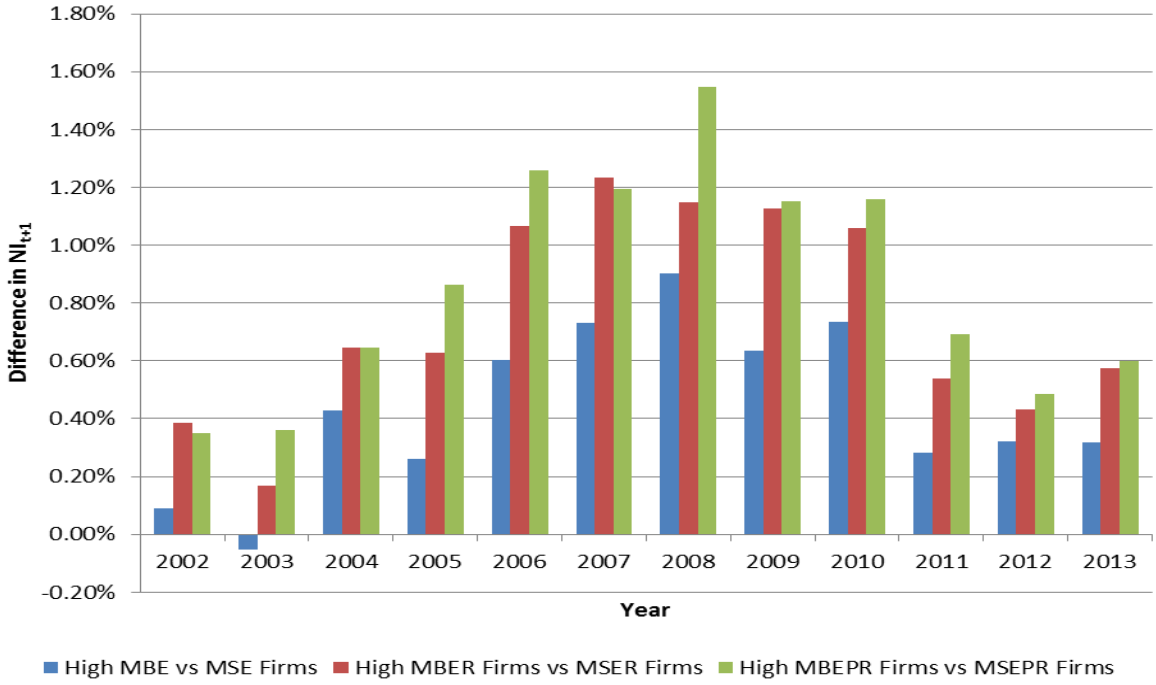
Compustat data acronyms are designated in brackets and I/B/E/S data acronyms are designated in braces. Unless otherwise stated, variables are measured for firm *i* and fiscal year *t*.

MOB	Meet or beat a consensus forecast
MBE Firms	Firms that meet or beat the consensus analyst earnings forecast for year *t*
MBP Firms	Firms that meet or beat the consensus analyst pretax income forecast for year *t*
MBR Firms	Firms that meet or beat the consensus analyst revenue forecast for year *t*
MBEP Firms	Firms that meet or beat both the consensus analyst net income forecast and the pretax income forecast for year *t*
MBER Firms	Firms that meet or beat both the consensus analyst net income forecast and the revenue forecast for year *t*
MBPR Firms	Firms that meet or beat both the consensus analyst pretax income forecast and the revenue forecast for year *t*
MBEPR Firms	Firms that meet or beat the consensus analyst revenue forecast, the pretax income forecast, and the net income forecast for year *t*
MSE Firms	Firms that miss the consensus analyst earnings forecast for year *t*
MSP Firms	Firms that miss the consensus analyst pretax income forecast for year *t*
MSR Firms	Firms that miss the consensus analyst revenue forecast for year *t*
MSEP Firms	Firms that miss both the consensus analyst net income forecast and the pretax income forecast for year *t*
MSER Firms	Firms that miss both the consensus analyst net income forecast and the revenue forecast for year *t*
MSPR Firms	Firms that miss both the consensus analyst pretax income forecast and the revenue forecast for year *t*
MSEPR Firms	Firms that miss the consensus analyst net income forecast, the pretax income forecast, and the revenue forecast for year *t*
High MBE	MBE firm in the top 50 percent of firms with positive net income surprises, as ranked by UNI_t
High MBP	MBE firm in the top 50 percent of firms with positive pretax income surprises, as ranked by UPI_t
High MBR	MBE firm in the top 50 percent of firms with positive revenue surprises, as ranked by $UREV_t$
High MBEP	High MBE Firm that is also ranked in the top 50 percent of firms with positive pretax income surprises, as ranked by UPI_t
High MBER	High MBE Firm that is also ranked in the top 50 percent of firms with positive revenue surprises, as ranked by $UREV_t$
High MBPR	High MBP Firm that is also ranked in the top 50 percent of firms with positive revenue surprises, as ranked by $UREV_t$
High MBEPR	High MBEP Firm that is also ranked in the top 50 percent of firms with positive revenue surprises, as ranked by $UREV_t$
Low MSE	MBE firm in the lowest 50 percent of firms with positive pretax income surprises, as ranked by UPI_t
ANI_{t+1}	Abnormal Future Earnings = residuals of regression equations calculated by regressing NI_{t+1} on $NI_{it}, HDACC_{it}, LDACC_{it}, (NI_{it} \times HDACC_{it}), (NI_{it} \times LDACC_{it}), SIZE_{it}$, and

	industry fixed effects
ΔAR_{it}	Annual Change in Accounts Receivable = $(-[\text{RECCH}]_t)/MTA_t$
$DACC_{it}$	Discretionary Net Income Accruals = residuals of regression equations calculated using the modified Jones model for industry *IND* (based on two-digit SIC code)
ETR_t	Realized Street Effective Tax Rate = TAX_t /$\{\text{Actual PRE}\}_t$
$F48_t$	Indicator variable equals 1 if the year ends during the period from 12/07 (effective date of FIN 48) through 11/08; and zero otherwise
$FETR_t$	Forecasted Street Effective Tax Rate = $FTAX_t$ /$\{\text{Forecast PRE}\}_t$
$FTAX_t$	Forecasted Street Tax Provision = $\{\text{Forecast PRE}\}_t - \{\text{Forecast NET}\}_t$
FNI_t	Forecasted Street Net Income = $\{\text{Forecast NET}\}_t/MTA_t$
FPI_t	Forecasted Street Pretax Income = $\{\text{Forecast PRE}\}_t/MTA_t$
FPM_t	Forecasted Street Pretax Margin= $\{\text{Forecast PRE}\}_t/\{\text{Forecast REV}\}_t$
$FREV_t$	Forecasted Street Revenue = $\{\text{Forecast REV}\}_t/MTA_t$
$GETR_t$	Realized GAAP Effective Tax Rate = $[\text{TXT}]_t/[\text{PI}]_t$
GNI_t	Realized GAAP Net Income = $[IB]_t/MTA_t$
GPI_t	Realized GAAP Pretax Income = $[PI]_t/MTA_t$
$HDACC$	Indicator variable equals 1 if the firm is in the highest decile of discretionary net income accruals for the industry and year; and zero otherwise
$LDACC$	Indicator variable equals 1 if the firm is in the lowest decile of discretionary net income accruals for the industry and year; and zero otherwise
$HighMBE_t$	Indicator variable equals 1 if the firm is in the top 50 percent of MBE firms ranked by the earnings surprise for year *t*, and zero otherwise.
$HighMBP_t$	Indicator variable equals 1 if the firm is in the top 50 percent of MBP firms ranked by the pretax income surprise for year *t*, and zero otherwise.
$HighMBR_t$	Indicator variable equals 1 if the firm is in the top 50 percent of MBR firms ranked by the revenue surprise for year *t*, and zero otherwise.
MTA_t	Mean total assets = mean value of [AT] at the beginning and end of fiscal year *t*
NI_t	Realized Street Net Income = $\{\text{Actual NET}\}_t/MTA_t$
PI_t	Realized Street Pretax Income = $\{\text{Actual PRE}\}_t/MTA_t$
PM_t	Realized Street Pretax Margin= $\{\text{Actual PRE}\}_t/\{\text{Actual REV}\}_t$
$POST48$	Indicator variable equals 1 if firm year ends on or after 12/07 (effective date of FIN 48); and zero otherwise
PPE_t	Gross property, plant, and equipment = $[\text{PPEGT}]_t/MTA_t$
REV_t	Realized Street Revenue = $\{\text{Actual REV}\}_t/MTA_t$
TA_t	Total Assets at end of fiscal year *t* in billions = [AT] / 1,000
$TACC$	Total Net Income Accruals = ([IBC] – [OANCF] – [XIDOC]) $/MTA_t$
TAX_t	Realized Street Tax Provision = $\{\text{Actual PRE}\}_t - \{\text{Actual NET}\}_t$
$UETR$	Unexpected Change in the Street Effective Tax Rate = $ETR_t - FETR_t$
UNI_t	Unexpected Street Net Income = $NI_t - FNI_t$
UPI_t	Unexpected Street Pretax Income = $PI_t - FPI_t$
$UPIC_t$	Pretax Component of Unexpected Net Income = $UPI_t(1 - FETR_t)$
UPM_t	Unexpected Street Pretax Margin = $PM_t - FPM_t$
$UPMC_t$	Pretax Margin Component of Unexpected Net Income = $(REV_t \times UPM_t)(1 - FETR_t)$
$UREV_t$	Unexpected Street Revenue = $REV_t - FREV_t$
URC_t	Revenue Component of Unexpected Net Income = $(REVFE_t \times FPM_t)(1 - FETR_t)$
UTC_t	Tax Component of the Unexpected Net Income = $PI_t(FETR_t - ETR_t)$

FIGURE 1

Mean Abnormal Future Return on Assets (ANI_{t+1}) Associated with Firms with relatively high Earnings Component Surprises versus Firms that Miss Analysts' Forecasts of Earnings Components



This figure shows the difference between the mean abnormal future return on assets (ANI_{t+1}) of the top 50% of firms that meet or beat analysts' forecasts of earnings (MBE), revenue and earnings (MBER), or revenue, pretax income, and earnings (MBEPR), respectively, in the current year with the mean ANI_{t+1} of firms that missed analyst forecasts of earnings (MSE), revenue and earnings (MSER), or revenue, pretax income, and earnings (MSEPR), respectively, in the current year. Abnormal future earnings are the residuals generated from annual regressions of the following equation that is estimated with industry fixed effects: $NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 HDACC_{it} + \alpha_3 LDACC_{it} + \alpha_4(NI_{it} \times HDACC_{it}) + \alpha_5(NI_{it} \times LDACC_{it}) + \alpha_6 SIZE_{it} + \varepsilon_{i,t}$.
See table 1 for sample selection process.
See appendix A for variable definitions.

TABLE 1

Sample Composition

Panel A: Firms with Consensus Analyst Forecasts in I/B/E/S

	Number of *I/B/E/S* Firms Per Year						
YEAR	**EPS**	**SAL**	**PRE**	**NET**	**SAL/EPS**	**PRE/EPS**	**NET/EPS**
2002	4,416	3,612	1,665	2,691	81.8%	37.7%	60.9%
2003	4,310	3,709	2,494	3,189	86.1%	57.9%	74.4%
2004	4,574	4,153	2,974	3,687	90.8%	65.0%	80.6%
2005	4,788	4,339	3,490	4,165	90.6%	72.9%	87.0%
2006	4,911	4,474	3,746	4,405	91.1%	76.3%	89.7%
2007	4,920	4,585	3,608	4,471	93.2%	73.3%	90.9%
2008	4,630	4,126	3,352	4,014	89.1%	72.4%	86.7%
2009	4,388	3,974	3,362	3,627	90.6%	76.6%	82.7%
2010	4,304	4,119	3,728	3,962	95.7%	86.6%	92.1%
2011	4,179	4,013	3,655	3,882	96.0%	87.5%	92.9%
2012	4,191	4,015	3,716	3,913	95.8%	88.7%	93.4%
2013	4,507	4,316	3,901	4,224	95.8%	86.6%	93.7%

Panel B: Sample selection (firm years ending in 2002-2013)

Firm-year observations with EPS, SAL, PRE, and NET actual and forecast data	38,946
Retain the most recent forecast within 60 days of earnings announcement	(2,338)
Remove observations with nonpositive EPS, SAL, PRE or NET forecasts	(7,647)
Remove observations with Forecast PRE < Forecast NET	(1,187)
Remove observations with Actual PRE < Actual NET	(965)
Delete observations with (*UEPS* < 0 and *UNI* > 0) or (*UEPS* > 0 and *UNI* < 0)	(3,696)
Delete firms without next year's actual NET	(2,331)
Merge *I/B/E/S* and three years of *Compustat* data	(5,974)
Truncate extreme centiles of dependent and independent variables	(1,122)
Final sample	13,799

EPS, SAL, PRE, and NET are I/B/E/S terms that designate actual and forecasted values for earnings per share, revenue, pretax earnings, and net income, respectively.
SAL/EPS = proportion of firms with consensus EPS forecasts that also have consensus SAL forecasts.
PRE/EPS = proportion of firms with consensus EPS forecasts that also have consensus PRE forecasts.
NET/EPS = proportion of firms with consensus EPS forecasts that also have consensus NET forecasts.

TABLE 2

Descriptive Statistics and Correlations among Selected Variables

Panel A: Descriptive statistics (n = 13,799)

	Mean	Std. Dev.	Q1	Median	Q3
NI_{t+1}	0.076	0.055	0.040	0.067	0.104
GNI_{t+1}	0.063	0.067	0.030	0.060	0.097
NI_t	0.081	0.052	0.043	0.069	0.106
ETR_t	0.307	0.114	0.254	0.334	0.377
$GETR_t$	0.288	0.141	0.224	0.325	0.375
$DACC_t$	–0.006	0.076	–0.038	–0.005	0.027
TA_t (in billions)	7.925	28.299	0.442	1.383	4.766

Panel B: Mean and Standard Deviation for Subsamples of MBE firms and MSE firms

	MBE firms (n = 9,822)		MSE firms (n = 3,977)	
	Mean	Std. Dev.	Mean	Std. Dev.
NI_{t+1}	0.082***	0.055	0.061	0.051
GNI_{t+1}	0.069***	0.066	0.049	0.066
NI_t	0.085***	0.053	0.070	0.050
ETR_t	0.301***	0.110	0.321	0.121
$GETR_t$	0.286***	0.138	0.296	0.148
$DACC_t$	–0.008***	0.077	0.000	0.075
TA_t (in billions)	7.570**	27.853	8.802	29.357

Panel C: Percentage of MBE and MSE Firms with Income-Increasing Surprises

	MBE Firms	MSE Firms
URC_t	71.1%***	45.5%
$UPMC_t$	71.9%***	15.7%
$UPIC_t$	78.9%***	13.5%
UTC_t	66.5%***	50.4%

Panel D: Pearson correlation matrix

	FNI_t	URC_t	$UPMC_t$	$UPIC_t$	UTC_t	UNI_t	$DACC_t$	TA_t
NI_{t+1}	0.767$^{###}$	0.178$^{###}$	0.136$^{###}$	0.180$^{###}$	0.032$^{###}$	0.210$^{###}$	–0.031$^{###}$	–0.029$^{###}$
FNI_t		0.133$^{###}$	0.025$^{###}$	0.062$^{###}$	0.023$^{###}$	0.080$^{###}$	0.029$^{###}$	–0.036$^{###}$
URC_t			0.018$^{##}$	0.303$^{###}$	0.014	0.325$^{###}$	0.021$^{##}$	0.003
$UPMC_t$				0.959$^{###}$	–0.413$^{###}$	0.714$^{###}$	–0.056$^{###}$	–0.030$^{###}$
$UPIC_t$					0.390$^{###}$	–0.773$^{###}$	–0.047$^{###}$	–0.028$^{###}$
UTC_t						0.282$^{###}$	0.015$^{#}$	–0.006
UNI_t							–0.039$^{###}$	–0.033$^{###}$
$DACC_t$								0.008

***(**)[*] Difference between NI_{t+1} for MBE firms and NI_{t+1} for MSE firms is significantly different from zero at p-value <0.01 (0.05) [0.10] using a two-tailed test.
$^{###}$($^{##}$)[$^{#}$] Correlation is significantly different from zero at p-value <0.01 (0.05) [0.10] using a two-tailed test.
See table 1 for sample selection process.
See appendix A for variable definitions.

TABLE 3

Percentage of Firms with Income-Increasing Earnings Surprise Components by Year

Panel A: Original sample (n = 13,799)

	All Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
URC	63.5%	67.2%	75.8%	73.0%	63.9%	63.1%	66.3%	45.2%	64.9%	69.1%	61.5%	57.9%	62.7%
UPMC	55.7%	57.8%	56.7%	55.4%	57.4%	52.3%	48.8%	53.0%	61.4%	56.2%	55.3%	58.8%	56.0%
UPIC	60.0%	63.0%	62.1%	62.9%	62.5%	56.0%	54.2%	52.9%	65.4%	63.9%	58.4%	61.5%	59.3%
UTC	61.7%	64.4%	63.5%	65.4%	61.4%	64.9%	62.4%	60.2%	60.4%	63.2%	60.0%	58.2%	59.6%
UNI	71.0%	78.0%	80.0%	77.2%	72.8%	70.8%	68.1%	62.0%	73.9%	73.5%	67.8%	69.3%	67.7%

Panel B: Expanded sample (n = 31,578)

	All Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
URC	57.6%	59.6%	63.4%	64.0%	58.0%	58.3%	58.4%	45.3%	57.0%	61.6%	57.5%	55.8%	56.3%
UPMC	50.7%	58.8%	51.4%	50.6%	50.5%	52.4%	57.2%	55.0%	46.4%	47.9%	49.8%	46.6%	48.5%
UPIC	51.7%	44.4%	51.7%	53.9%	51.7%	49.4%	46.3%	45.0%	55.5%	56.4%	52.2%	55.4%	53.1%
UTC	56.8%	59.4%	59.4%	61.4%	58.8%	61.2%	56.6%	54.2%	55.9%	56.5%	55.2%	54.4%	53.5%
UNI	58.5%	55.4%	63.1%	63.3%	59.8%	58.7%	53.5%	47.5%	61.3%	62.4%	58.4%	59.9%	58.5%

See table 1 for the sample selection process of the original sample. The expanded sample includes all firms with consensus EPS, SAL, PRE, and NET forecasts issued within 60 days preceding the earnings announcement for fiscal years ending in 2002-2013.
See appendix A for variable definitions.

TABLE 4

Effect of Analysts' Earnings Surprise Components on Future Earnings

	Predicted Sign	Base Model (1)	Base Model with MBE Variables (2)	Two Component Model (3)	Three Component Model (4)
Intercept		0.003	0.001	0.002	0.002
		(1.23)	(0.57)	(1.09)	(1.08)
NI	+	0.827***	0.798***	0.827***	0.824***
		(92.78)	(69.92)	(92.82)	(91.81)
UNI	+	0.505***			
		(5.87)			
URC	+				1.453***
					(6.08)
$UPMC$	+				0.503***
					(5.62)
$UPIC$	+			0.594***	
				(6.59)	
UTC	+			0.246**	0.189*
				(2.20)	(1.70)
MBE	+		0.005***		
			(7.77)		
$HighMBE$	+		0.006***		
			(6.03)		
$F48$				–0.003**	–0.003**
				(1.96)	(2.24)
$UTC \times F48$	–			–0.724	–0.697
				(1.58)	(1.53)
$HDACC$		0.005	0.004	0.006	0.006
		(1.38)	(1.13)	(1.48)	(1.43)
$LDACC$		0.009*	0.008*	0.009*	0.009*
		(1.86)	(1.80)	(1.87)	(1.89)
$NI \times HDACC$	–	–0.184***	–0.170***	–0.187***	–0.187***
		(4.39)	(4.09)	(4.46)	(4.48)
$NI \times LDACC$	–	–0.144**	–0.134**	–0.145**	–0.149**
		(2.36)	(2.21)	(2.39)	(2.45)
$SIZE$		0.001***	0.001***	0.001***	0.001***
		(5.60)	(4.68)	(5.71)	(5.77)
Adjusted R^2		0. 634	0. 637	0.635	0.635
Observations		13,799	13,799	13,799	13,799
Firms		3,251	3,251	3,251	3,251

***(**)[*] Significantly different from zero at p-value <0.01 (0.05) [0.10] using a two-tailed test.
All continuous variables are truncated at the extreme centiles. Each regression includes industry and year fixed effects. Robust standard errors clustered by firm are presented in the parentheses below the coefficient estimates.
See table 1 for sample selection process.
See appendix A for variable definitions.

TABLE 5

Abnormal Future Earnings by Surprise Groups

	Obs	Mean	Median	Significance Tests[a] t-test	Mann-Whitney *U*	Brown-Mood
Panel A: MBE Firms versus MSE Firms						
MBE Firms	9,822	0.10%	0.10%	< 0.01	< 0.01	< 0.01
MSE Firms	3,977	–0.25%	–0.08%			
Panel B: MBE Firms that miss pretax income forecasts versus MSE Firms						
MBE×MSP Firms	2,069	–0.12%	0.00%	0.06	0.06	0.05
MSE Firms	3,977	–0.25%	–0.08%			
Panel C: MBE Firms that miss pretax income forecasts versus MSE Firms that meet pretax income forecasts						
MBE×MSP Firms	2,069	–0.12%	0.00%	0.15	0.46	0.67
MSE×MBP Firms	537	0.02%	–0.04%			
Panel D: High MBE Firms versus Low MBE Firms						
High MBE Firms	4,921	0.23%	0.41%	< 0.01	< 0.01	< 0.01
Low MBE Firms	9,822	0.10%	0.10%			
Panel E: Firms with High MBE and High MBR versus other High MBE Firms						
High MBER Firms	3,643	0.33%	0.51%	< 0.01	< 0.01	< 0.01
Other High MBE Firms	1,278	–0.04%	–0.09%			
Panel F: Firms with High MBE and High MBP versus other High MBE Firms						
High MBEP Firms	3,932	0.31%	0.46%	< 0.01	< 0.01	< 0.01
Other High MBE Firms	989	–0.06%	0.25%			
Panel G: Firms with High MBP and High MBR versus other High MBE Firms						
High MBPR Firms	3,144	0.39%	0.51%	< 0.01	< 0.01	0.10
Other High MBE Firms	1,903	–0.01%	0.41%			
Panel H: Firms with High MBE, High MBP, and High MBR Surprises versus other High MBPR Firms						
High MBEPR Firms	3,018	0.39%	0.53%	0.48	0.21	0.01
Other High MBPR Firms	126	0.37%	0.18%			

Abnormal future earnings (ANI_{t+1}) are the residuals generated from annual regressions of the following equation that is estimated with industry fixed effects: $NI_{it+1} = \alpha_0 + \alpha_1 NI_{it} + \alpha_2 HDACC_{it} + \alpha_3 LDACC_{it} + \alpha_4(NI_{it} \times HDACC_{it}) + \alpha_5(NI_{it} \times LDACC_{it}) + \alpha_6 SIZE_{it} + \varepsilon_{i,t}$. See table 1 for sample selection process and appendix A for variable definitions.

[a] Significance levels for a one-tailed *t*-test (Mann-Whitney *U*- test) [Brown-Mood test] that the first group of firms has higher mean (mean) [median] abnormal future earnings than the second group of firms.

TABLE 6
Sensitivity Analysis for Two Component Model

	Exclude MI & EM Firms	$MBE \times MSP$ **Firms**	***Dep. variable*** $= GNI_{t+1}$	**Great Recession**	**Post-FIN 48 Firms**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Intercept	0.003	0.002	0.017***	–0.002	–0.003
	(0.90)	(1.08)	(3.32)	(0.98)	(1.50)
NI	0.809***	0.827***	0.851***	0.836***	0.825***
	(66.33)	(92.80)	(65.97)	(91.18)	(91.73)
$UPIC$	0.760***	0.593***	0.556***	0.608***	0.644***
	(6.07)	(6.56)	(4.72)	(6.57)	(7.12)
UTC	0.440***	0.236*	0.337*	0.239***	0.448***
	(2.73)	(1.84)	(1.89)	(2.92)	(2.99)
$MBE \times MSP$		–0.001			
		(0.95)			
$UTC \times MBE \times MSP$		0.137			
		(0.59)			
$POST48$					–0.006
					(4.08)
$TFEC \times POST48$					–0.516
					(1.10)
$F48$	–0.005**	–0.001	–0.026***		–0.002
	(2.09)	(0.95)	(6.13)		(1.45)
$UTC \times F48$	–1.377*	–0.137	–0.243		–0.367*
	(1.83)	(0.59)	(1.00)		(1.92)
$HDACC$	0.001	0.006	0.017***	0.008*	0.006
	(0.17)	(1.48)	(3.42)	(1.90)	(1.57)
$LDACC$	0.011**	0.009*	0.007	0.007	0.007
	(2.05)	(1.83)	(1.02)	(1.56)	(1.58)
$NI \times HDACC$	–0.133***	–0.187***	–0.241***	–0.223***	–0.192***
	(2.77)	(4.47)	(4.84)	(4.43)	(4.60)
$NI \times LDACC$	–0.158**	–0.145**	–0.177**	–0.127**	–0.138**
	(2.30)	(2.38)	(2.27)	(2.06)	(2.27)
$SIZE$	0.002***	0.001***	0.001***	0.001***	0.001***
	(5.56)	(5.73)	(2.67)	(5.41)	(6.25)
Adjusted R^2	0.612	0.635	0.449	0.662	0.632
Observations	8,063	13,799	13,668	11,591	13,799
Firms	2,214	3,251	3,234	3,157	3,251

***(**)[*] Significantly different from zero at p-value <0.01 (0.05) [0.10] using a two-tailed test.
All continuous variables are truncated at the extreme centiles. Robust standard errors clustered by firm are presented in the parentheses below the coefficient estimates.
See table 1 for sample selection process. Model (1) excludes firms that report minority interest or equity method income in the current period income statement. Models (2) and (5) use the original sample. Model (3) truncates the extreme centiles of the dependent variable. Model (4) remove firm-year observations for fiscal years ending in 12/07 through 6/09.
See appendix A for variable definitions.

TABLE 7

Effect of Analysts' Earnings Component Surprises on Earnings Persistence in the Second and Third Subsequent Years

	Two Component Model		Three Component Model	
	NI_{t+2} (1)	NI_{t+3} (2)	NI_{t+2} (3)	NI_{t+3} (4)
Intercept	0.009	0.007	0.010	0.007
	(2.57)	(1.46)	(2.61)	(1.46)
NI	0.663***	0.599***	0.661***	0.597***
	(40.19)	(28.13)	(33.84)	(27.99)
URC			0.967***	0.994**
			(3.08)	(2.36)
$UPMC$			0.264**	0.271*
			(2.23)	(1.66)
$UPIC$	0.338***	0.353**		
	(2.92)	(2.23)		
UTC	0.179	–0.157	0.135***	–0.203
	(1.10)	(0.76)	(0.83)	(0.97)
$F48$	–0.001	0.004*	–0.001	0.003*
	(0.41)	(1.95)	(0.58)	(1.74)
$UTC \times F48$	–0.583	0.151	–0.579	0.149
	(1.02)	(0.27)	(1.01)	(0.26)
$HDACC$	0.007	0.012*	0.007	0.012*
	(1.51)	(1.92)	(1.46)	(1.85)
$LDACC$	0.005	0.010	0.005	0.010
	(0.76)	(1.29)	(0.80)	(1.34)
$NI \times HDACC$	–0.227***	–0.353***	–0.227***	–0.349***
	(4.33)	(5.05)	(4.35)	(5.01)
$NI \times LDACC$	–0.082	–0.076	–0.084	–0.081
	(1.00)	(0.80)	(1.03)	(0.84)
$SIZE$	0.001***	0.001***	0.001***	0.001***
	(3.32)	(2.84)	(3.34)	(2.86)
Adjusted R^2	0.465	0.407	0.465	0.407
Observations	8,412	5,366	8,412	5,366
Firms	2,315	1,628	2,315	1,628

***(**)[*] Significantly different from zero at p-value <0.01 (0.05) [0.10] using a two-tailed test.
All continuous variables are truncated at the extreme centiles. Each regression includes industry and year fixed effects. Robust standard errors clustered by firm are presented in the parentheses below the coefficient estimates.
See table 1 for sample selection process.
See appendix A for variable definitions. In models (1) and (2), the independent variable is defined as Two-Years-Ahead Street Net Income. In models (3) and (4), the independent variable is defined as Three-Years-Ahead Street Net Income.