14-Week Quarters

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Abstract

Many firms define their fiscal quarters as 13-week periods. For these firms each fiscal year contains 52 weeks, which leaves out one/two day(s) a year. To compensate, one extra week is added to every fifth/sixth year; consequently, one quarter therein comprises 14 weeks. We find evidence of predictable stock returns and forecast errors in 14-week quarters, which suggests that investors and analysts do not, on average, adjust their expectations for the extra week. The ease with which 14-week quarters can be predicted, and expectations adjusted, suggests a surprising lack of effort on the part of investors and analysts.

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"Evidently sellers are claiming that the numbers are inflated because there was an extra reporting week in November this year. To which I say: any analyst who didn't look at the calendar and factor that into earnings projections isn't worth the price of the spreadsheet software." -- James Ledbetter (Fortune, December 18, 2007) [1]

Introduction

Numerous accounting studies test whether investors and financial intermediaries fixate on a naive expectations model when forecasting future earnings or revenues.[2] For example, Bernard and Thomas (1989, 1990) report that stock prices react to earnings announcements as if investors follow a naive expectations model of earnings instead of a slightly more sophisticated and accurate model (i.e., they fail to fully incorporate information from the earnings surprise in period t when predicting earnings in period t+1). Sloan (1996) reports that investors appear to naively fixate on aggregate earnings when forecasting future earnings, and fail to recognize the differential persistence of accruals and cash flows. Bradshaw et al. (2001) extend these findings and show that analysts also seemingly fail to incorporate the differential persistence of accruals versus cash flows into their forecasts of future earnings. Collectively, this literature is consistent with investors and analysts either lacking the ability or the incentives to exert the effort needed to properly incorporate current accounting information into their expectations.

Although prior literature offers some compelling evidence of market inefficiency, other studies raise doubts about how to interpret past results. For example, Kraft et al. (2006) suggest that the evidence reported in Sloan (1996) may be driven by other firm characteristics that are correlated with the level of accruals and not by investors' fixation on aggregate earnings. In this study, we contribute to this debate by examining investor and analyst behavior in a setting where a naive expectations model (e.g., seasonal random walk)[3] is known to be mis-specified and where the bias introduced by such a model can be estimated with great precision. Further, our setting is much less susceptible to performance-related correlated omitted variables problems than in previous studies. This is the case of 14-week quarters, which we describe next.

Companies can measure fiscal quarters in terms of three calendar months or have the quarters end on a particular day of the week at the end of, or closest to the last day, of the third month.[4] Companies that choose to measure quarters in weeks, rather than months, generally have 13-week quarters except for one 14-week quarter every sixth year (sometimes fifth year, depending on the number of leap years in between). All else equal, this additional week results

[1] Excerpt from Ledbetter's article commenting on the puzzling negative share price reaction to Best Buy's seemingly positive quarterly report. See "Street Punishes Best Buy's Success" by James Ledbetter at http://dailybriefing.blogs.fortune.cnn.com/2007/12/18/street-punishes-best-buys-success/.

[2] Examples include Ball and Bartov (1996), Bernard et al. (1997), Rangan and Sloan (1998), Jegadeesh and Livnat (2006), and Donelson (2008).

[3] In a seasonal random walk model, the expected earnings or revenues for quarter *q* equals the earnings or revenues for the same fiscal quarter in the previous year (quarter *q-4*).

[4] This practice is common among, but not limited to, retailers because it allows for a constant number of weekend days across quarters (except for the 14-week quarter). Since weekend sales can be significant in retail, maintaining a constant number of weekend days across quarters improves quarter-to-quarter comparability. We describe 14-week quarters in greater detail in Section I.

in increased earnings and revenues in these quarters. However, because 14-week quarters are infrequent, investors and analysts have to be sufficiently alert in anticipating and adjusting their expectations for the additional week. The 14-week quarter is virtually always predictable since most companies clearly describe how they measure the fiscal year. For example, in its annual report for the year ended January 28, 2007, Home Depot discloses in its *Summary of Significant Accounting Policies* footnote that "The Company's fiscal year is a 52- or 53-week period ending on the Sunday nearest to January 31." Investors should thus be aware, well in advance, that Home Depot's next fiscal year (fourth fiscal quarter) will end on February 3, 2008, the closest Sunday to January 31, and therefore will include 53 weeks (14 weeks).

Given the ease with which quarters with the additional week can be identified, we would expect investors and analysts to anticipate enhanced, but transitory, financial performance in these quarters. However, prior research documents anomalous behavior by both investors and analysts, with respect to various information and events (see Kothari 2001, for a review). Consistent with this stream of research, anecdotal evidence calls into question whether analysts and investors factor the extra week into their expectations. For example, in its April 19, 2005 analyst report discussing Intel Corporation's first quarter earnings announcement which comprised 14 weeks, CIBC observes that "1Q05 was better than expected …. Most of the disparity is explained by the extra week in 1Q05…., which was not fully modeled in our estimates" meaning that CIBC failed to account for the extra week in Intel's first quarter when it made its forecast.[5]

14-week quarters pose some interesting issues with respect to analyst and investor behavior. First, if analysts are not aware of the additional week and forecast earnings and revenues based on (normal) 13-week quarters, forecast errors will be systematically more positive (i.e., forecasts will be "pessimistic") in 14-week quarters than in other quarters. Second, the implications of the extra week for earnings and revenues are quite predictable (i.e., one more week of earnings and revenues) and, therefore, analysts' failure to incorporate the extra week into their forecasts is easy to detect and is likely attributable to effort rather than an inability to process the information. Third, since the occurrence of a 14-week quarter is predetermined once firms adopt a 52/53-week fiscal year, it is much less likely to be correlated with economic activity, making it easier, relative to prior research, to draw inferences from our results.

The implications of 14-week quarters for investors are similar to those of analysts. Since the impact of the extra week is transitory, earnings and revenue innovations in 14-week quarters should be priced lower than innovations in other quarters. Specifically, the revenues and earnings attributable to the extra week should not be priced because they contain no new information about firm performance. However, if investors naively fixate on earnings and revenues, two empirical regularities should emerge. First, the relation between returns and earnings (and revenues) should be the same in 14-week quarters as it is in other quarters because investors naively treat seasonally adjusted unexpected earnings (SUE) and revenues (SUR) consistently.[6] That is, investors will (mis)price "unexpected" earnings and revenues caused by the extra week. Second, a trading strategy of buying and holding stocks of firms over their 14-week quarters will earn positive abnormal returns, because SUE and SUR will be predictably higher and will be priced the same way as other quarters.

[5] CIBC World Markets, Equity Research Update, Intel Corporation, April 19, 2005.

[6] SUE (SUR) is defined as earnings (revenue) in quarter *q* minus earnings (revenue) in quarter *q-4*, scaled by market value of equity in *q-4*.

Our primary sample consists of 658 unique firms with 886 fiscal quarters that contain 14 weeks over the years 1994 to 2006. We find that median SUE (SUR) are 0.5 (2.1) times higher in 14-week quarters than in 13-week quarters. However, analysts appear to either ignore or not fully account for the extra SUE and SUR since they systematically underestimate earnings and revenues in 14-week quarters. Further, in the year following a 14-week quarter, analysts appear to be overly optimistic, although the effect is more evident in revenue forecasts. This evidence suggests that analysts expect the higher revenues that occurred in the 14-week quarter one year ago to persist, even though the current year's quarter contains one less week. In additional tests, we find that the pessimistic forecasts in 14-week quarters appear to be driven by analysts who do not mention the presence of an extra week in their analyst reports, suggesting a lack of awareness. These findings alleviate potential concerns that our results are driven by something inherently different about 14-week quarters, other than the duration.

In our stock returns tests, we find that the (estimated) extra week's earnings are positively related to the abnormal returns for the quarter, consistent with investors pricing the predictable earnings "innovations" caused by the extra week. Buying and holding stocks of firms in their 14-week quarters produces positive abnormal returns of approximately 2.9% over the quarter (11.6% annualized), consistent with investors not factoring in the transitory impact of an extra week in the quarter when pricing unexpected performance. Additionally, we find evidence that the level of disclosure (about the extra week) in 14-week earnings announcements of firms affects returns around earnings announcement dates. Specifically, returns are more positive for firms that do not explicitly disclose the presence of the extra week, providing further evidence that lack of awareness possibly contributes to investor (mis)reaction to the extra week's earnings.

Our evidence is consistent with both analysts and investors failing to properly account for the extra reporting week into their expectations and pricing models. These results are quite surprising given how straightforward such adjustments should be and how readily available the information is. The simplicity of making an adjustment for the extra week suggests a lack of effort rather than ability, at least on the part of analysts, since making an adjustment essentially only requires that analysts and investors be aware of this extra week (as opposed to understanding, for example, the relative persistence of accruals and cash flows).[7] For analysts, this means that the benefits associated with improved accuracy are much smaller than previously expected. For investors, the effort explanation seems somewhat troubling because it should only take a few investors (perhaps one) to arbitrage away the abnormal returns associated with 14-week quarters. However, alternative explanations are hard to identify. For example, impediments to arbitrage seem unlikely because the trading profits are derived from taking a long (not short) position and the firms in our sample are generally large.

The remainder of the paper is organized as follows. Section I introduces hypotheses. Section II describes the sample selection procedure and presents descriptive statistics. Section III reports results and Section IV discusses additional analyses. Section V concludes.

I. Hypotheses

The vast majority of firms measure the reporting year in calendar time**.** Consequently, with the exception of one additional day in leap years**,** the number of days in a quarter remains

[7] This evidence is also consistent with the limited attention hypothesis proposed by Hirshleifer and Teoh (2003).

constant each year. This generally makes year-over-year comparisons of quarterly performance straightforward. However, for some firms and industries, the calendar year system can pose other comparability problems. Many retailers have significant business activity on weekends and, since there are 365 days in a year instead of 364 days (or exactly 52 weeks), the number of specific days in a quarter will change from year-to-year. For example, there were 12 Saturdays in the first calendar quarter of 2006 compared to 13 Saturdays in the first calendar quarter of 2007. This same issue arises for within-year comparisons across quarters (some quarters will have more weekend days than others). Consequently, there are comparability problems across quarters caused by the makeup of days (e.g., number of Saturdays) in a quarter. For this reason, the National Retail Federation recommends retailers adopt a 52/53-week fiscal year.[8,9]

Under a 52/53-week year the number of days in a quarter is constant. Each quarter has 13-weeks, consisting of 13 Sundays, 13 Mondays, etc. This holds true in every quarter of every year except for the "catch-up" quarter, which is a 14-week quarter. The catch-up quarter is necessary because the firm loses one day each year (364 day years instead of 365) and two days in a leap year. Consequently, every five to six years, the firm will have a 14-week quarter. Under Generally Accepted Accounting Principles (GAAP), this means the firm will report one additional week of revenues and earnings. Therefore, earnings and revenues should be roughly 7.7% (1/13) higher in a 14-week quarter before taking into account other factors.[10] As illustrated by the Home Depot example in the introduction, it is fairly straightforward for investors and analysts to predict when a firm will have a 14-week quarter.

A. Analyst Forecasts

Studies in finance and accounting generally assume that financial analysts care about and expend effort in producing accurate forecasts. Hong and Kubik (2003), for example, argue that findings of analyst forecast superiority over time-series models is an indication that analysts "exert effort in producing earnings forecasts and stock recommendations" (p. 315). 14-week quarters provide a unique setting where we can test whether analysts seem to exert the effort to identify and adjust for the extra week in their forecasts. As discussed above, the occurrence of 14-week quarters should be known in advance and their implications for earnings and revenues are fairly straightforward. Unlike other settings where analysts have been shown to not fully incorporate available information into forecasts (e.g., Bradshaw et al. 2001), analysts' failure to incorporate the 14th week into their forecasts would most likely be caused by a lack of effort rather than a lack of ability (e.g., not understanding the differential persistence of accruals versus cash flows).

To date, researchers have generally assumed that analysts have sufficient incentives to exert the necessary effort to make accurate (though possibly biased) forecasts.[11] Under this

[8] This is not the only reason firms adopt 52/53 week years. For example, some manufacturers adopt 52/53-week years so that the year always ends on a Friday. This gives them the weekend to count inventory without disrupting production. As we describe in Section II, our sample includes both retailers and non-retailers.

[9] See their discussion at http://www.nrf.com/modules.php?name=Pages&sp_id=392.

[10] Forecasting *earnings* given a 14th week is potentially not quite as straightforward because firms may have incentives to manage earnings in these quarters, particularly given the transitory nature of these additional earnings. Though revenue can also be managed, managing revenue is likely much harder for a large fraction of our sample because many of the firms are retailers, whose sales are predominantly for cash.

[11] Examples include Bartov and Bodnar (1994), Hong and Kubik (2003), Hong et al. (2000), Lim (2001), and Stickel (1992).

assumption, we expect analysts to incorporate the impact of an extra week into their forecasts for 14-week quarters. However, as the example of CIBC's forecast of Intel, described in the introduction, highlights, there is at least some anecdotal evidence that analysts may not anticipate and adjust for 14-week quarters. If analysts lack sufficient incentives to identify 14-week quarters, then analyst forecasts will be pessimistic in 14-week quarters. We test the following hypotheses:

H1: Analyst *earnings* forecast errors in 14-week quarters are more positive than forecast errors in 13-week quarters.

H2: Analyst *revenue* forecast errors in 14-week quarters are more positive than forecast errors in 13-week quarters.[12]

Finding more positive analyst forecast errors in 14-week quarters compared to 13-week quarters, will be consistent with analysts' failure to incorporate the 14th week into their forecasts. An additional implication is that analysts who are aware of the extra week should be more accurate in their forecasts than analysts who are not. Although it is impossible to objectively determine whether the analyst was "aware" of the extra week, we can proxy for "awareness" based on whether the analyst mentions the extra week in her analyst report. [13] Conversely, if an analyst report does not mention the extra week, we assume that the analyst is not aware that the firm has an additional week in its reporting quarter. We expect analysts who are aware of the extra week to have expended more effort in the forecasting process and therefore likely provide more accurate forecasts. This leads to the following hypothesis:

H3: 14-week quarter forecasts of analysts who mention the extra week in their reports are more accurate than 14-week quarter forecasts of analysts who do not.

B. Investors

Although analysts serve as information intermediaries to investors, it is still possible that the marginal investor anticipates and adjusts expectations for 14-week quarters, even if financial analysts fail to adjust their forecasts. In this case information about 14-week quarters should not

[12] Earnings (revenue) forecast errors for quarter *q* are reported earnings (revenues) less forecasted earnings (revenues), scaled by the firm's market value of equity at the end of *q-4*.

[13] Unless explicitly stated in the report, it is impossible for an investor to know whether a particular analyst's forecast includes the extra week. It is important for the investor to know whether the forecast is a 13-week or 14-week estimate because the pricing implications of the resulting revenue and earnings surprise depends on whether the forecast includes or excludes the extra week. If the forecast includes the impact of the extra week, then the surprise is purely due to unexpected performance and is relatively more permanent. However, if it is a 13-week forecast, then the "surprise" is not solely due to unexpected performance, but also has a less persistent component related to the impact of the extra week that is ignored in the forecast. Since investors need to know whether the analyst forecast includes or excludes the extra week, we assume that analysts who are aware of the extra week will also disclose it in their reports, irrespective of whether their forecast includes the impact of the extra week or not. Interestingly, in the more than 500 analyst reports we examined (see section III), we did not come across a single instance where the analyst explicitly mentions that he/she *excluded* the extra week in his/her forecast.

lead to predictable returns in the quarter. This implies that, in a regression of quarterly returns on seasonally adjusted unexpected earnings (SUE) and seasonally adjusted unexpected revenues (SUR), the coefficient on SUE and SUR should be lower in 14-week quarters since the "unexpected" earnings and revenues contain a transitory component related to the extra week. Alternatively, if the SUE and SUR in 14-week quarters are separated into an "expected" component (relating to the extra week) and an "unexpected" (residual) component, then the expected component will not be priced because it contains no new information about firm performance. However, if investors, like analysts, fail to identify 14-week quarters they will treat the apparent surprise in earnings and revenues the same way they treat these surprises in 13-week quarters, and the predictable components of SUE and SUR will be positively related to stock returns. For example, suppose at the start of a 14-week quarter, investors use a seasonal random walk model to predict earnings. Since earnings and revenues in the same quarter last year are based on 13 weeks, earnings and revenue expectations will be lower (all else equal, by roughly 1/13 or 7.7%). As information is revealed during the quarter (e.g., earnings and revenue guidance), the stock price will rise to reflect this better than expected performance as if the better performance were solely for economic reasons and not attributable to the extra week. We test the following hypotheses:

H4: The "expected" component of the 14-week SUE is priced by investors.

H5: The "expected" component of the 14-week SUR is priced by investors.

II. Data and Sample Selection

We obtain our sample from the SEC's EDGAR database during the 1994 to 2006 period by identifying consecutive quarter ending dates that are exactly 14 weeks apart. From an initial sample of 1,282 14-week firm-quarters, we eliminate observations for which we are unable to find relevant data on CRSP and Compustat. We also eliminate firms that do not strictly follow the 52/53-week fiscal year convention consistently.[14] Our final sample consists of 658 unique firms with 886 14-week firm-quarters over the sample period.

As detailed in Table I, Panel A, during the sample period 440 firms have one 14-week observation, 208 firms have two and 10 firms have three 14-week quarters. Most firms include the additional week in their fourth fiscal quarter (77.2%); otherwise the first fiscal quarter is common (15.01% - see Panel B of Table I). Panel C of Table I shows that most sample firms choose to end the quarter either on Saturday (58.35%) or Sunday (26.52%). In Panel D of Table I, we report the industry composition of our sample. Roughly 34% of our sample is drawn from the retail industry (including restaurants; SIC codes 50-59) whose reported numbers are more likely to be distorted by conventional (three-month) quarters as discussed in Section I. Further, a

[14] As explained earlier, if firms define their fiscal years in terms of full weeks (rather than 365 or 366 days, a year), they will have four or five 52-week years followed by a 53-week year in their fifth or sixth year. We found that a few firms have 14-week quarters within a "normal" fiscal year, by redefining their fiscal quarters as 12-14-12-14 weeks (12 weeks in the first and third quarters and 14 weeks in the second and fourth quarters). For our study, not only is it important to isolate 14-week quarters, but it is also crucial to have the non 14-week quarters be exactly 13 weeks in length. Therefore, we eliminate these firms from the sample and include only firms that strictly follow the 52/53-week fiscal year.

fair proportion of the sample constitutes firms that supply to the retail industry, for example, Textile Mill Products, and Food Products.

In Panel E of Table I, we report means and medians of SUR, SUE, and abnormal stock returns in 14-week quarters relative to 13-week quarters for the 658 firms in our sample. On a univariate basis, mean (median) SUE is 0.0005(0.0025) in 14-week quarters and 0.0059 (0.0017) in 13-week quarters, but only the medians are significantly different ($p<.05$). Mean (median) SUR is 0.0833 (0.0438) in 14-week quarters, compared to 0.0393 (0.0211) for 13-week quarters. Both the mean and median SUR in 14-week quarters are significantly higher than the mean and median SUR in 13-week quarters ($p<.01$). The cumulative quarterly abnormal returns (QTRBHAR) are significantly higher in 14-week quarters (mean=2.89%, median=0.56%) compared to 13-week quarters (mean=-0.02%, median=-1.49%). Although the univariate results are suggestive of the expected differences in 14-week quarters, we base our conclusions on multivariate tests that control for other possible effects on the metrics of interest.

III. Results

A. Impact of Additional Week on Earnings and Revenues - Multivariate analysis

The univariate results above confirm that unexpected revenues (*SUR*) are significantly higher in 14-week quarters. The evidence on unexpected earnings (*SUE*) is mixed with no significant difference in the means, but significantly higher median *SUE* in 14-week quarters. Prior to testing our main hypotheses, we first verify that earnings and revenues are higher in 14-week quarters after controlling for other known determinants of *SUE* and *SUR*. Specifically, we examine whether firm performance in 14-week quarters has predictable upward shifts in earnings and revenues after controlling for the positive serial correlation in firm performance (Fairfield et al. 2009).

We measure *SUE* (*SUR*) as the seasonally adjusted unexpected earnings (revenues) scaled by the market value of equity at the end of the same quarter in the previous year. We use the following regression to test whether earnings (revenues) in 14-week quarters are higher than expected:

$$X_{i,q} = \propto_0 + \propto_1 X_{i,q-1} + \propto_2 14WK_{i,q} + \propto_3 14WK\_QM4_{i,q} + \propto_4 FQ4 * X_{i,q-1} + \sum_{k=1}^{k=3} \beta_k FQ_k + e_{i,q} \qquad \text{(I)}$$

where *X* is *SUE* or *SUR* ; *14WK* is a dummy variable that equals one if the current quarter (*q*) contains 14 weeks, and zero otherwise; *14WK_QM4* is a dummy variable set equal to one if *q-4* is a 14-week quarter, zero otherwise;[15] $FQ4*X_{q-1}$ is an interactive variable that allows for lower persistence of fourth fiscal quarter *SUE* and *SUR*;[16] and FQ_k (*k=1,2,3*) are dummy variables that equals one if the fiscal quarter equals *k*, and zero otherwise. We control for the fiscal quarter of the observation because as reported in Panel B of Table I, a majority of the 14-week observations in our sample (77.2%) happen in the fourth fiscal quarter; not controlling for documented differences in the behavior of financial measures in the fourth vs. other fiscal quarters (e.g.,

[15] If *q* is a 13-week quarter and *q-4* is a 14-week quarter, we expect less income and revenues ($\propto_3 < 0$) than predicted by a seasonal random walk model (because the current quarter has one less week).

[16] Rangan and Sloan (1998) demonstrate that fourth quarter earnings innovations are less persistent. Donelson (2008) documents similar results for revenues.

Kross and Schroeder 1990) will lead to incorrect inferences about 14-week quarter effects. In all multivariate tests we also include year and industry fixed effects, to control for possible time and industry effects. Further, all reported t-statistics are based on Huber-White standard errors clustered at the firm level.

Prior research (e.g., Fairfield et al. 2009) suggests that both *SUE* and *SUR* will be positively related to their lagged measures ($\alpha_1 > 0$). We expect the coefficient on the *14WK* dummy to be positive ($\alpha_2 > 0$) because of the longer reporting period. Conversely, we expect the coefficient on *14WK_QM4* to have a negative coefficient ($\alpha_3 < 0$), because there is one less week in the quarter than the seasonal random walk benchmark (*q-4* was a 14-week quarter). Following Rangan and Sloan (1998), we expect $\alpha_4 < 0$ for *SUE*; similarly we expect $\alpha_4 < 0$ for *SUR* based on Donelson (2008).

Mean and median values of *SUE* and *SUR* reported in Panel E of Table I suggest that both distributions are skewed. Therefore, throughout the paper we use non-parametric methods to test our hypotheses.[17] Specifically, we first rank all non-indicator dependent and independent variables from zero to one and then use the fractional ranks in place of the original variables in all our regressions.

We report results for *SUE* (*SUR*) in Column 1 (2) of Table II. Consistent with prior studies that report positive serial correlation in unexpected earnings, *SUE* in the current quarter is strongly positively related to the prior quarter's *SUE* ($\alpha_1 > 0$, $p < 0.001$). Consistent with higher income in 14-week quarters, the coefficient on the 14-week dummy is significantly positive ($\alpha_2 > 0$, $p < 0.05$). There is also evidence of relatively lower earnings in the fourth quarter following a 14-week quarter ($\alpha_3 < 0$, $p < 0.10$). Consistent with Rangan and Sloan (1998), fiscal fourth quarter earnings innovations are less persistent ($\alpha_4 < 0$, $p < 0.001$). Also note that the sign and magnitude of the coefficients on the fiscal quarter dummies vary considerably, which reinforces the need to control for differing fiscal quarter effects (recall that most of the 14-week observations are in the fourth fiscal quarter).

Consistent with prior research, *SUR* in the current quarter is strongly positively related to *SUR* in the previous quarter. As expected, *SUR* in 14-week quarters are significantly higher ($\alpha_2 > 0$, $p < 0.001$) even after controlling for known determinants of *SUR*. Similarly, *SUR* in the fourth quarter following 14-week quarters are significantly lower ($\alpha_3 < 0$, $p < 0.001$). Consistent with Donelson (2008), fiscal fourth quarter revenue innovations are less persistent ($\alpha_4 < 0$, $p < 0.001$). Once again, we observe strong fiscal quarter effects in the level of *SUR*. Overall, while both unexpected earnings and revenues are significantly higher in 14-week quarters, the effect of an additional week seems much stronger in reported revenues than on reported income. We discuss possible explanations for the weaker effect on earnings later in the paper.

B. Analyst Forecasts in 14-week Quarters

We next examine whether analysts seem to anticipate and adjust for the higher earnings and revenues in 14-week quarters. If analyst expectations do not incorporate the effect of the additional week then their earnings and revenue forecast errors will be predictably positive.

[17] Our approach is similar to past research, such as, Rangan and Sloan (1998) and Donelson (2008) who use ranked transformations of SUE and SUR, respectively, in their tests. In addition, Kraft et al. (2006) encourage researchers to use non-parametric procedures (e.g., Least Trimmed Squares or ranked regressions), when testing for causal inferences in returns regressions.

Analyst earnings forecast data is available in the I/B/E/S database for 409 of our sample firms. We compute earnings forecast errors (*EFE*) as the actual earnings in quarter q less the median earnings forecast for the quarter, scaled by stock price at the end of the previous quarter.[18] In computing the median forecast, we include forecasts made between one day after the previous quarter's earnings announcement date and one day prior to the current quarter's earnings announcement. If there are multiple forecasts from the same analyst, we only include the last forecast of that analyst in computing the median.

Revenue forecast errors (*RFE*) are computed analogously, except we scale revenue forecast errors by market value of equity at the end of the previous quarter (rather than stock price). In addition, because IBES started gathering revenue forecast data much later in our sample period, we use revenue forecasts from the Value Line Investment Survey (when available) if IBES revenue forecasts are not available for that firm-quarter. To avoid biasing towards finding more positive earnings and revenue forecast errors in 14-week quarters, we exclude observations from the fourth quarter following a 14-week quarter. Recall that earnings and revenues are expected to be lower in these quarters; leaving these observations in the sample will accentuate the positive effect in 14-week quarters.

The sample includes a total of 9,731 (7,775) firm-quarters for *EFE* (*RFE*), of which 473 (396) are 14-week quarters. We report univariate statistics related to the earnings and revenue forecast errors in Panel A of Table III. The differences in analyst forecast errors (*EFE* and *RFE*) between 14-week and 13-week quarters resemble the time-series innovation results (*SUE* and *SUR*) reported in Panel E of Table I. Specifically, the differences in the mean and median *RFE* are consistent and substantially stronger than the differences in the mean and median *EFE* across the 14-week and 13-week quarters (similar to the *SUE* and *SUR* evidence). Regardless, we test hypotheses 1 and 2 based on a multivariate analysis that controls for positive serial correlation in *EFE* and *RFE* (Mendenhall 1991; Ertimur et al. 2003):

$$X_{i,q} = \alpha_0 + \alpha_1 X_{i,q-1} + \alpha_2 14WK_{i,q} + \alpha_3 FQ4 * X_{i,q-1} + \sum_{k=1}^{k=3} \beta_k FQ_k + e_{i,q} \qquad \text{(II)}$$

where X is *EFE* or *RFE*; *14WK* is a dummy variable that equals one if the quarter contains 14 weeks, and zero otherwise; $FQ4*X_{q-1}$ is an interactive variable that allows for lower persistence of fourth fiscal quarter forecast errors; and FQ_k ($k=1,2,3$) are dummy variables that equal one if the fiscal quarter equals *k*, and zero otherwise. Once again we include year and industry fixed effects in the regressions and report t-statistics based on Huber-White standard errors clustered at the firm level.

We report results for *EFE* in column 1 of Panel B, Table III. Consistent with analyst underreaction documented in prior research (e.g., Mendenhall 1991), forecast error from the previous quarter is strongly positively related to the current quarter's forecast error ($\alpha_1 > 0$, $p < 0.001$). The *14WK* dummy is significantly positive as predicted in H1 ($\alpha_2 > 0$, $p < 0.05$), confirming that analysts seem to, on average, underestimate or ignore the effect of the additional week in their earnings forecasts.

We report results from analyzing revenue forecast errors in the second column of Table III. Once again, we find significantly positive serial correlation in analysts' revenue forecast errors ($\alpha_1 > 0$, $p < 0.001$). Consistent with H2, we find that analysts' revenue forecasts are

[18] Using the mean or the most recent forecast does not qualitatively alter our results.

significantly more downward biased in 14-week quarters ($\alpha_2 > 0$, $p < 0.001$), providing strong evidence that analysts do not adequately factor in the effect of the additional week's revenues into their 14-week quarter revenue forecasts. The analyst forecast results are consistent with the time-series effect of 14-week quarters on earnings and revenues and suggest a seasonal random walk approach to earnings and revenue forecasting. Further, much like the time-series results in Table II, it is interesting to note that the analyst forecast results are substantially more pronounced in the case of revenues than earnings.

To provide additional evidence on whether seasonal random walk expectations drive analysts' earnings and revenue forecasts, in Table IV we report results based on a similar analysis as in Table III, except now our target quarter is the same fiscal quarter in the year following a 14-week quarter. If analysts rely on seasonal random walk models, we now expect them to overestimate earnings and revenues because their base quarter had 14 weeks, whereas the current quarter contains only 13 weeks. To avoid biasing towards finding more negative forecast errors in these quarters, we exclude 14-week observations from the analysis. Recall that forecast errors are more positive in 14-week quarters; leaving these observations in the sample, will bias towards finding relatively more negative errors four quarters ahead.

In Panel A of Table IV, we report the univariate results. The sample is somewhat smaller than in Table III, because we lose a few observations for lack of four quarters ahead data. We find weak evidence that both the mean and median *EFE* (the mean is significant, but the median is not) in the fourth quarter following a 14-week quarter are negative, consistent with overestimation of firms' earnings. The results for revenues are much stronger, especially in the median, and suggest that analysts seem to not factor in the absence of an extra week in the next year, at least not fully.

We again test to see whether the univariate evidence bears out when we control for lagged firm performance. Results in Panel B, provide evidence in support of revenue overestimation in the fourth quarter following 14-week quarters (the coefficient on *14WK_QM4* is negative and significant at $p<0.001$), suggesting that analysts anchor on revenue numbers from four quarters ago, and seem to ignore the reversion to 13 weeks in the current year. The coefficient on the 14-week dummy variable is negative in the earnings regression, but not significant at conventional levels. Considering that the 14-week quarter happened only a year ago, it is surprising that analysts seem to not make the adjustment for the lack of an extra week in the current quarter. The overall evidence provides support for analyst fixation on a seasonal random walk expectation in forecasting revenues and earnings.

C. Further tests on Analysts' forecasts in 14-week quarters

In the preceding analyses we provide evidence that, on average, analysts seem to ignore, or at least not fully factor in, the effect of the additional week in their 14-week earnings and revenue forecasts. However, this evidence is based on observed errors in analyst forecasts and does not explicitly take into account whether analysts were aware of the additional week. In this section, we address this issue by reading analyst reports and identifying forecasts where the analyst explicitly mentions that the fiscal quarter includes an additional week. We assume that analysts who are aware of the 14-week quarter will also disclose it in their reports. As with other items that have a significant impact on earnings and revenues (e.g., new sales contract), analysts should disclose this to readers of the report so the reader can be confident that the analyst made

the proper adjustment.[19] If some analysts factor in the extra week into their forecasts, but do not disclose it in their reports, our tests will be biased against rejecting the null.

From the Investext database, we obtain available analyst reports pertaining to the 14-week quarter for the biggest firms in the sample, i.e., sample firms in the top two deciles in terms of market value of equity. We restrict the sample to reports made within one week following the previous quarter's earnings announcement date for two reasons: 1) most analysts update their earnings forecasts for the following quarter in the first week after the previous quarter's earnings announcement; and 2) to maximize effort differences across analysts, we seek to obtain analyst forecasts that are made early in the quarter (with minimal guidance from the firm). We code analyst reports as "mentions 14-week" if the analyst explicitly refers to an "extra," "additional," or "14th week" in their report. For reports in which the analyst provides explicit earnings forecasts for the 14-week quarter, we find that the analyst "mentions" the extra week in 132 of 516 reports (approximately 26% of the reports). Similarly, of the 368 analyst reports in which the analyst provides revenue forecasts for the 14-week quarter, only 101 reports (27%) explicitly refer to the presence of an extra week. Thus, while some analysts are aware, or at least explicitly state their awareness, of the extra week, a majority of the analysts do not seem to be aware, or at least do not mention, the presence of an additional week in their reports.

We then analyze the accuracy of analysts' earnings and revenue forecasts based on whether the analyst mentions the extra week in their report.[20] If analysts are aware of and incorporate the effect of the extra week into their reports, but do not explicitly mention it in their reports, there should be no difference in the accuracy of analyst forecasts based on whether analysts mention the presence of an extra week in their report. If on the other hand, analysts' mentioning the extra week is an indication of whether they factor in the extra week into their projections, then reports that mention the extra week will contain more accurate forecasts.

In Table V, we present tests of differences in mean and median forecast errors, partitioning on whether analysts explicitly mention the extra week in their reports. In our first set of tests, we focus on general accuracy based on the *magnitude* of absolute earnings and revenue forecast errors. Consistent with H3, we find that analysts who mention the extra week provide more accurate forecasts of earnings (Panel A) and revenues (Panel B) than analysts who do not mention the extra week in their reports. This difference is significant at the one percent level, suggesting that analysts who exert the effort to identify and include the extra week in their projections provide more accurate forecasts of earnings and revenues than analysts who do not.

We further test whether analysts who mention the extra week are less likely to *underestimate* earnings and revenues for 14-week firms. Prior research (e.g., Clement 1999) shows that earnings forecast errors of analysts with superior ability are smaller in *magnitude* than forecast errors of analysts with lesser ability. However, in this situation we can isolate the *direction* of the error*;* analysts who are aware of the 14th week and build it into their expectations will not *underestimate* earnings and revenues as much as analysts who do not incorporate the extra week into their forecasts. In Panels C and D, we provide evidence on whether earnings and revenue forecast errors of analysts who mention the 14th week are less positive (i.e., smaller underestimates) than those of analysts who do not. Although directionally consistent, Panel C

[19] As explained in footnote 13, we expect analysts who are aware of the extra week to mention it in their reports.

[20] Note that these are not IBES forecasts. To maintain consistency, we obtain the earnings and revenue forecast from the same analyst report (on Investext) from which we code whether *that* analyst mentioned, or did not mention, the extra week.

does not provide statistically significant support for this conjecture with respect to earnings. However, Panel D provides evidence that analysts who mention the extra week in their reports tend to not underestimate revenues as much as analysts who do not mention the extra week in their report, which strongly supports the effort related hypothesis. Overall, this evidence provides support for H3 and the inferences we draw from our tests in Tables III and IV. Forecast errors are greater in 14-week quarters because the majority of analysts either ignore or are not aware of the extra week and, therefore do not, on average, incorporate the effect of the extra week into their forecasts.

D. Stock Return tests

We focus on quarterly returns rather than short-window announcement period returns because our expectations model is a seasonal random walk expectation that ignores information releases during the quarter. To capture all information emanating in the quarter, the cumulative abnormal returns we report in this section cover the period from two days after the previous quarter's earnings announcement to one day after the earnings announcement for the 14-week quarter. As reported in the univariate tests (Table I, Panel E), taking a long position two days after the prior quarter's earnings announcement to one day after the 14-week quarter earnings announcement, earns buy-and-hold size-adjusted returns of about 2.9% per quarter, on average (11.6% annualized).[21] This suggests that investors may be attributing the earnings and revenues from the extra week to improved performance that is expected to persist in future quarters (Hypotheses 4 and 5).
Consider the following regression:

$$QTRBHAR_{i,q} = \propto_0 + \propto_1 14WK_{i,q} + \propto_2 SUE_{i,q-1} + \propto_3 \widehat{SUE}_{i,q} + \propto_4 \widehat{SUR}_{i,q} + \propto_5 FQ4 * \widehat{SUE}_{i,q} + \propto_6 FQ4 * \widehat{SUR}_{i,q} + \propto_7 EXWKSUE_{i,q} + \propto_8 EXWKSUR_{i,q} + e_{i,q} \quad \text{(III)}$$

where,

$QTRBHAR_{i,q}$ is the cumulative size-adjusted buy-and-hold return for firm *i* from two days after the earnings announcement for quarter *q-1* to the day after the earnings announcement for quarter *q*.
14WK is a dummy variable that equals one if *q* is a 14-week quarter, and zero otherwise.
SUE is the change in income before extraordinary items (adjusted for special items) from quarter *q-4* to quarter *q*, scaled by market value of equity in quarter *q-4*.
$EXWKSUE_q$, for 14-week quarters is 1/13 of the income before extraordinary items (adjusted for special items) for quarter *q-4*, scaled by market value of equity (MVE) in quarter *q-4*; $EXWKSUE_q$ equals zero for 13-week quarters.
$\widehat{SUE}$ = *SUE (-) EXWKSUE*.
SUR is the seasonally adjusted change in sales, scaled by market value of equity in quarter *q-4*.
$EXWKSUR_q$ for 14-week quarters is 1/13 of the revenues for quarter *q-4*, scaled by market value of equity in quarter *q-4*; $EXWKSUR_q$ equals zero for 13-week quarters.
$\widehat{SUR}$ = *SUR (-) EXWKSUR.*
FQ_k*(k=1,2,3,4)* are indicator variables set equal to one if the fiscal quarter = *k*, and zero otherwise.

[21] In any given month during our sample period, we have a minimum (maximum) of three (138) stocks in the long portfolio. The mean (median) number of firms in the portfolio in a month is 27.6 (20).

Under the assumption of market efficiency the coefficient on *EXWKSUE* (*EXWKSUR*), α_7 (α_8), in the regression represented by equation (3) will be zero, because the marginal investor will be aware that this part of the *SUE* (*SUR*) generated in the 14-week quarter is caused by the extra week (and not due to improved performance).

Table VI reports results from our estimation of variants of equation (1). As in our previous analyses, we substitute the continuous variables with their respective ranks. In Model 1, we ignore the current quarters' *SUE* and *SUR* and examine whether abnormal returns in 14-week quarters are positive after controlling for known determinants of returns such as the post earnings announcement drift. Because the majority of 14-week quarters happen in the fourth fiscal quarter, we also control for possible differences in quarterly returns across fiscal quarters. We also include year and industry fixed effects in the regressions and report t-statistics based on Huber-White standard errors clustered at the firm level. Consistent with prior research on post earnings announcement drift (PEAD), returns in the current quarter are positively related to the *SUE* from the previous quarter. The coefficient on the *14WK* dummy is positive and significant ($p < 0.001$) suggesting that the positive returns in 14-week quarters is not solely attributable to PEAD or fiscal quarter effects.

Insert Table VI here

In Model 2 we include current quarter $\widehat{SUE}$ and $\widehat{SUR}$, where both variables exclude the estimated effect of the extra week in 14 week quarters. We also allow for the $\widehat{SUE}$ and $\widehat{SUR}$ in the fourth fiscal quarter to have differential persistence than in other quarters. Consistent with prior research, the coefficients on $\widehat{SUE}$ and $\widehat{SUR}$ are both positive (Swaminathan and Weintrop 1991), and fourth quarter $\widehat{SUE}$ has lower impact on returns (Rangan and Sloan 1998). The *14WK* dummy still continues to be significantly positive; thus, investors seem to positively react to firms in their 14-week quarters beyond "normal" $\widehat{SUE}$ and $\widehat{SUR}$.

In Model 3, we introduce the additional earnings (*EXWKSUE*) and revenues (*EXWKSUR*) attributable to the extra week as variables in the regression. If markets are cognizant of the extra week and understand the (zero) pricing implications of performance due to extended time periods, the coefficients on *EXWKSUE* and *EXWKSUR* should be zero. However, we find that the coefficient on *EXWKSUE* is significantly positive ($p < 0.001$) suggesting that the market does seem to value the (predictable) earnings due to the extra week. The coefficient on *EXWKSUR* is not significantly different from zero. In addition, the coefficient on the *14WK* dummy is no longer significant; thus, the positive returns in 14-week quarters is not some unexplained phenomenon, but is mostly attributable to investors (mis)pricing the predictable earnings (*EXWKSUE*) due to the extra week in the quarter. Overall, investors seem to value the additional earnings attributable to the extra week as if it were a "surprise," rather than as an anticipated component of earnings.

Both the univariate and multivariate returns results are consistent with investors failing to take into account the effect of 14-week quarters in their expectations and being seemingly surprised by higher earnings (and revenues) in the quarter. This suggests a potential inefficiency with respect to information about 14-week quarters. As with the analyst forecast results, this evidence is quite surprising given the ease with which this information can be obtained and built into expectations.

IV. Further Analyses

A. Disclosure of the extra week at the earnings announcement

The anomalous behavior of investors documented in the previous section could be mitigated if firms prominently disclose and discuss the impact of the extra week at the earnings announcement date. We examine the returns around the earnings announcement date to determine whether stock returns of firms that prominently disclose the presence of the extra week differ from firms that do not disclose the presence of the extra week.[22] One incentive for firms to not clearly mention or discuss the extra week at the announcement may be to obfuscate the additional revenues and earnings attributable to the extra week. As discussed earlier, the extra week's contribution to revenues and earnings are purely transitory and therefore should not be priced at the announcement date. If the firms do not clearly disclose the presence of the extra week, it is more likely that the market will (mistakenly) price the additional earnings and revenues.

For 14-week quarters before 2002, we search the Lexis-Nexis database and examine newswire and press reports around the announcement date to determine whether the firm discloses the extra week. After 2002, we obtain earnings press release information filed with the SEC (Form 8-K).[23] Out of the 886 14-week quarters in the sample, we are unable to find press releases for 76 observations; we exclude these observations from further analysis, because it is impossible to discern the level of disclosure. Of the remaining 810 observations, in 462 cases the presence of the extra week is clearly mentioned in the report, whereas in the other 348 cases, a keyword search for the term "week" within the press release returns no hits.[24] Thus in the latter category, there is no mention of the extra week either in the body of the press reports or in the abstracts of the financial statements, if any are presented. We categorize the former observations as *DISCLOSE* and the latter as *NONDISCLOSE*.

As discussed above, investors are more likely to be misled when the firm does not clearly disclose the presence of the extra week in their earnings announcement press release. Accordingly, we examine whether returns around earnings announcements are more positive for the *NONDISCLOSE* firms and whether the positive returns are associated with the extra week's revenues and earnings. Specifically, we run variants of the following regression model:

$$EADCAR_{i,q} = \propto_0 + \propto_1 DISCLOSE_{i,q} + \propto_2 NONDISCLOSE_{i,q} + \propto_3 SUE_{i,q-1} + \propto_4 \widehat{SUE}_{i,q} + \propto_5 \widehat{SUR}_{i,q} + \propto_6 FQ4 * \widehat{SUE}_{i,q} + \propto_7 FQ4 * \widehat{SUR}_{i,q} + \propto_7 DISCLOSE * EXWKSUE_{i,q} + \propto_8 DISCLOSE * EXWKSUR_{i,q} + \propto_9 NONDISCLOSE * EXWKSUE_{i,q} + \propto_{10} NONDISCLOSE * EXWKSUR_{i,q} + e_{i,q} \quad \text{(IV)}$$

where, $EADCAR_{i,q}$ is the cumulative size-adjusted return for firm *i* from the day before to the day after the earnings announcement for quarter *q*; $\widehat{SUE}$ and $\widehat{SUR}$ again exclude the effect of the extra week in 14-week quarters and *EXWKSUE* and *EXWKSUR* are 1/13 of the earnings and

[22] As opposed to the previous returns analysis (Table 6) where we examine long-window (quarterly) returns, here we focus on short-window announcement period returns because the disclosure we examine is at the earnings announcement.

[23] Firms are required to file their earnings announcement press releases in form 8-K after 2002.

[24] The level of emphasis of the extra week varies within the observations where the extra week is mentioned. In a few cases, the firm actually discloses the impact of the extra week (mostly as it relates to revenues), but in a majority of the cases, the firm only captions the income statement with the term "for the 14 weeks ended" followed by the last day of the quarter. Due to the insufficient number of observations across the finer disclosure spectrum, we collapse the disclosure into "mentioned" and "not mentioned" based on whether the report mentions the presence of the extra week (irrespective of where the reference to the extra week falls in the report).

revenues , respectively, for the same quarter in the year prior to the 14-week quarter (as in Table VI).

Results are reported in Table VII. In the first regression, Model 1, we only control for post earnings announcement drift and fiscal quarter effects. As expected the coefficient on the previous quarter's *SUE* is significantly positive consistent with post earnings announcement drift. The *DISCLOSE* dummy is not significant, while the *NONDISCLOSE* dummy is significantly positive ($p < 0.05$) suggesting that earnings announcement period returns are positive only for firms that do not disclose the extra week in their earnings press release.

Insert Table VII here

In Model 2, we drop the previous quarter's *SUE*, and introduce the current quarter's unexpected earnings ($\widehat{SUE}$) and revenues ($\widehat{SUR}$). We also control for the fiscal fourth quarter effect (Rangan and Sloan 1998). Note that the $\widehat{SUE}$ and $\widehat{SUR}$ variables exclude the estimated effects of the extra week as described in the previous section. Both $\widehat{SUE}$ and $\widehat{SUR}$ are significantly positively related to announcement period returns consistent with previous research. The *NONDISCLOSE* dummy continues to be significantly positive ($p < 0.01$), consistent with positive returns to firms that do not clearly disclose the extra week.

Finally, in Model 3 we introduce the transitory earnings and revenue component attributable to the extra week. If the positive reaction to *NONDISCLOSE* firms is associated with investors (mis)pricing the earnings and revenues attributable to the extra week, then the coefficient on the interacted variables *NONDISCLOSE*EXWKSUE* and *NONDISCLOSE*EXWKSUR* will be positive. We find that the coefficient on *NONDISCLOSE*EXWKSUE* is significantly positive, while the coefficient on *NONDISCLOSE*EXWKSUR* is not significant (similar to the effects documented in Table VI). Moreover, the intercept dummy variable *NONDISCLOSE* is no longer significant, consistent with the positive return at the earnings announcement attributable to the extra week's earnings for these firms. None of the interaction variables are significant for the *DISCLOSE* category. The overall result from Table VII suggests that returns are greater at the announcement for firms that do not clearly disclose the presence of the extra week and the positive return is associated with the additional earnings attributable to the extra week. Firms that disclose the extra week in their press releases, on the other hand, do not exhibit similar return behavior.

B. Abnormal Accruals

The evidence with respect to revenues and earnings in 14 week quarters suggests that the effect of the extra week in the 14-week quarter is much more pronounced in revenues than in earnings. It is possible that firms strategically exploit the extra earnings arising in the 14-week quarter. Managers likely have incentives to offset the higher income in 14-week quarters with income-decreasing accruals. This may offset previous income increasing accruals or allow the firm to keep the increased earnings attributable to the extra week in reserve for use in future quarters. Based on prior research which suggests that firms may manage earnings through "abnormal" accruals (e.g., Dechow and Sloan 1995), we examine whether firms in our sample manage earnings downward through lower abnormal accruals in 14-week quarters. To do so, we estimate the following regression with industry and fiscal quarter fixed effects.

$$TOTACCL_{i,q} = a_0 + a_1 \Delta SALES_{i,q} + a_2 PPE_{i,q} + a_3 14WK_{i,q} + e_{i,q} \qquad \text{(V)}$$

where

TOTACCL is the working capital accruals from the balance sheet excluding cash and the current portion of long-term debt; *ΔSALES* is the change in sales from the previous quarter; *PPE* is Net Property, Plant and Equipment; and *14WK* = 1 if it is a 14-week quarter and zero, otherwise.

In untabulated results, we find that the coefficient on *14WK* is negative and statistically significant ($p<.001$), which is consistent with managers making income-decreasing accruals in 14-week quarters. [25]

In a second set of tests we estimate firm-specific accrual models (Jones 1991; Dechow and Sloan 1995) and include an indicator variable for the 4th quarter since accruals tend to be more negative in the 4th quarter. For this set of tests, we require at least 11 firm-quarters for a firm to be included in the sample, which reduces our sample to 483 firms, 539 14-week quarters, and a total of 10,878 quarters. For each firm, we estimate the model using all quarters excluding the 14-week quarters. We then use the fitted values from these regressions to estimate abnormal accruals in the 14-week quarters. We find that the 14-week abnormal accruals for these firms are negative, but not significantly different from zero.

Overall, we find some evidence that the somewhat weaker effect of the extra week for earnings compared to revenues is partially explained by firms strategically making income-decreasing accruals in 14-week quarters.

V. Conclusions

In this study we identify an attractive setting to test whether investors and information intermediaries (analysts) fixate on past earnings when forecasting future earnings. In the case of 14-week quarters, we know that a seasonal random walk model is downward biased and we know the magnitude (roughly 1/13) of the bias. Further, the fact that the timing of 14-week quarters is pre-determined gives us confidence that our variable of interest is uncorrelated with other firm performance-based characteristics that might drive our results. Finally, because the forecast correction needed in 14-week quarters is very simple and predictable (we know when these quarters will occur) any observed fixation is likely due to a lack of effort on the part of the average analyst or marginal investor, as opposed to a lack of ability.

Consistent with past evidence on fixation, we find that analysts, on average, appear to either ignore or are unaware of 14-week quarters and systematically underestimate both earnings and revenues in those quarters. For the same quarter in the year following a 14-week quarter, analysts again appear to overestimate revenues and, to a lesser extent, earnings (they appear to "forget" there was an extra week in the same fiscal quarter of the previous year). In more detailed tests, we find that analysts who are aware of the extra week in the quarter (those that disclose this fact in their reports) have smaller forecast errors than those who do not seem to be aware of the extra week.

Stock return tests lead us to similar conclusions about the marginal investor. First, we find that a trading strategy of buying stocks two days after the prior earnings announcement and holding until one day after the earnings announcement for the 14-week quarter, earns abnormal

[25] We also control for performance using ROA in the previous quarter (Kothari, et al. 2005) and our results are unaffected.

returns of 2.9% per quarter (11.6% annualized). Results of a regression of returns on unexpected earnings and revenues suggest that investors seem to price the "unexpected" earnings related to the extra week, which one would not expect in an efficient market, since such innovations are predictable and will not persist.

Our findings add to the discussion on market efficiency. Using methods similar to past research but in a unique research setting, we find evidence consistent with analysts and investors failing to incorporate clearly available information about future earnings and revenues into forecasts and prices. These results are quite surprising in light of the ease with which this information can be obtained and incorporated into expectations. Our evidence suggests opportunities for future research on potential impediments to the rational pricing of past accounting information. For analysts, perhaps there are not sufficient incentives to provide accurate forecasts. For investors, perhaps there are other impediments to arbitrage than those that researchers typically point to (e.g., firm size and inability to short). What is peculiar about our setting is that the returns are in the long-position, which eliminates many of the traditional concerns about implementability, but perhaps other impediments exist.

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Table 1
Sample and Descriptive Statistics

Panel A - 14-week Frequency

	Number of Firms	Number of 14-week Observations
Firms with one 14-week observation in sample	440	440
Firms with two 14-week observations in sample	208	416
Firms with three 14-week observations in sample	10	30
Total	658	886

Panel B - Frequency of 14-week Fiscal Quarter

Fiscal Quarter	Number of 14-week Observations	Percentage of Total
First	133	15.01%
Second	28	3.16%
Third	41	4.63%
Fourth	684	77.20%
Total	886	100.00%

Panel C - Day of the Week in which 14-week Quarter Ends

Day of Week	Number of Observations	Percentage of Total
Sunday	235	26.52%
Monday	2	0.23%
Tuesday	7	0.79%
Wednesday	7	0.79%
Thursday	16	1.81%
Friday	102	11.51%
Saturday	517	58.35%
Total	886	100.00%

Table 1 (continued)

Panel D - Industry Representation of 14-week Sample

Two-digit SIC Code	Industry Description	Number of Firms in Sample	Number of Firms in Compustat	Industry Representation in Sample	Sample as Percentage of Compustat
1	Agricultural production- crops	2	28	0.30%	7.14%
2	Agricultural production- livestock	1	7	0.15%	14.29%
16	Heavy construction contractors	1	42	0.15%	2.38%
20	Food and kindred products	30	294	4.56%	10.20%
21	Tobacco products	1	19	0.15%	5.26%
22	Textile mill products	23	77	3.50%	29.87%
23	Apparel and other textile products	18	124	2.74%	14.52%
24	Lumber and wood products	7	62	1.06%	11.29%
25	Furniture and fixtures	13	71	1.98%	18.31%
26	Paper and allied products	7	131	1.06%	5.34%
27	Printing and publishing	15	175	2.28%	8.57%
28	Chemicals and allied products	12	950	1.82%	1.26%
30	Rubber and miscellaneous plastics products	12	150	1.82%	8.00%
31	Leather and leather products	9	31	1.37%	29.03%
32	Stone, clay, glass, and concrete products	4	83	0.61%	4.82%
33	Primary metal industries	7	190	1.06%	3.68%
34	Fabricated metal products	9	173	1.37%	5.20%
35	Industrial machinery and equipment	44	789	6.69%	5.58%
36	Electrical and electronic equipment	78	991	11.85%	7.87%
37	Transportation equipment	12	267	1.82%	4.49%
38	Instruments and related products	50	776	7.60%	6.44%
39	Miscellaneous manufacturing industries	5	155	0.76%	3.23%
40	Railroad Transportation	1	36	0.15%	2.78%
42	Motor freight transportation and warehousing	3	97	0.46%	3.09%
47	Transportation services	1	63	0.15%	1.59%
48	Communications	1	752	0.15%	0.13%
49	Electric, gas, and sanitary services	1	586	0.15%	0.17%
50	Wholesale trade--durable goods	14	357	2.13%	3.92%
51	Wholesale trade--nondurable goods	8	217	1.22%	3.69%
52	Building materials, hardware	8	29	1.22%	27.59%
53	General merchandise stores	24	80	3.65%	30.00%
54	Food stores	15	93	2.28%	16.13%
55	Automotive dealers and gas stations	7	51	1.06%	13.73%
56	Apparel and accessory stores	44	91	6.69%	48.35%
57	Furniture, home furnishings	12	69	1.82%	17.39%
58	Eating and drinking places	42	217	6.38%	19.35%
59	Miscellaneous retail	51	305	7.75%	16.72%
62	Security, commodity brokers, and services	2	195	0.30%	1.03%
64	Insurance agents, brokers, and service	1	78	0.15%	1.28%
65	Real estate	2	145	0.30%	1.38%
67	Holding and other investment offices	3	536	0.46%	0.56%
70	Hotels, camps, and other lodging places	2	81	0.30%	2.47%

Two-digit SIC Code	Industry Description	Number of Firms in Sample	Number of Firms in Compustat	Industry Representation in Sample	Sample as Percentage of Compustat
72	Personal services	4	39	0.61%	10.26%
73	Business services	28	2037	4.26%	1.37%
75	Automotive repair, services, and parking	1	35	0.15%	2.86%
78	Motion pictures	4	117	0.61%	3.42%
79	Amusement and recreational services	4	181	0.61%	2.21%
80	Health services	1	316	0.15%	0.32%
87	Engineering and management services	13	281	1.98%	4.63%
99	Nonclassifiable establishments	1	138	0.15%	0.72%
	Total	658	12807	100.00%	

Panel E - Descriptive Statistics - Main Variables

	Mean			Median		
	14-WK	13-WK	t-statistic for difference	14-WK	13-WK	Z score for difference
SUE	0.0005	0.0059	0.34	0.0025	0.0017	2.34**
SUR	0.0833	0.0393	4.69***	0.0438	0.0211	11.08***
QTRBHAR	0.0289	-0.0002	2.81***	0.0056	-0.0149	2.71***

The sample includes 886 14-week quarters and 20,584 13-week quarters from the first quarter of 1994 to the second quarter of 2006 for 658 firms that report based on 52/53 week fiscal year.

SUE is the change in income before extraordinary items (adjusted for special items) from quarter q-4 to quarter q, scaled by market value of equity (MVE) in quarter q-4;
SUR is the seasonally adjusted change in sales, scaled by market value of equity (MVE) in quarter q-4; and
QTRBHAR is the size-adjusted buy-and-hold returns cumulated from two days after the earnings announcement date for the previous quarter to one day after the current quarter's earnings announcement date.
Significance of differences in means is determined by t-tests. Significance of differences in medians is based on Wilcoxon Rank Sum tests.
,* indicate significance at the 5% and 1% levels, respectively.

Table 2

Incremental Sales and Income in 14-week Quarters

$$X_{i,q} = \alpha_0 + \alpha_1 X_{i,q-1} + \alpha_2 14WK_{i,q} + \alpha_3 14WK\_QM4_{i,q} + \alpha_4 FQ4 * X_{i,q-1} + \sum_{k=1}^{k=3} \beta_k FQ_k + e_{i,q}$$

	Expected Sign	*X=SUE*	*X=SUR*
Intercept	?	0.2288***	0.1251***
		(10.48)	(6.96)
X_{q-1}	+	0.5217***	0.7080***
		(50.06)	(81.85)
14WK	+	0.0230**	0.0956***
		(2.29)	(12.44)
14WK_QM4	-	-0.0198*	-0.1140***
		(-1.86)	(-13.20)
FQ4 X_{q-1}*	-	-0.1778***	-0.1021***
		(-10.93)	(-7.85)
FQ1	?	0.0726***	0.0394***
		(7.59)	(5.26)
FQ2	?	-0.0036	-0.0098***
		(-0.86)	(-3.08)
FQ3	?	-0.0072	-0.0066**
		(-1.57)	(-2.07)
Industry fixed effects		Yes	Yes
Year fixed effects		Yes	Yes
Adjusted R^2		25.27%	52.61%

The sample includes 886 14-week quarters and 20,584 13-week quarters from the first quarter of 1994 to the second quarter of 2006 for 658 firms that report based on 52/53 week fiscal year. All non-indicator variables are replaced by their fractional ranks in the regression.

SUE is the seasonally adjusted change in income before extraordinary items (adjusted for special items) scaled by market value of equity in quarter *q-4*.

SUR is the seasonally adjusted change in sales, scaled by market value of equity in quarter *q-4*.

14WK is a dummy variable that equals one if the quarter contains 14 weeks, and zero otherwise.

14WK_QM4 is a dummy variable that equals one if the same quarter of the previous year contains 14 weeks, and zero otherwise.

$FQ_k(k=1,2,3,4)$ are indicator variables set equal to one if the fiscal quarter = *k*, and zero otherwise.

$FQ4*X_{q-1}$ allows fourth quarter earnings and revenue surprises to have differential persistence than other quarters (Rangan and Sloan 1998).

T-statistics, based on Huber-White standard errors clustered at the firm level, are provided in parentheses below the coefficient estimates. ***, **, * indicates significance at the 1%, 5% and 10% levels, respectively.

Table 3
Analysts' Earnings and Revenue Forecast Errors in 14-week Quarters

Panel A: Univariate Statistics

	Earnings Forecast Error			Revenue Forecast Error		
	N	Mean	Median	N	Mean	Median
14-week	473	-0.0021	0.0005	396	0.0171	0.0073
13-week	9,258	-0.0002	0.0003	7,379	-0.0038	0.0001
t-statistic (diff in means)		-1.01			7.52***	
Wilcoxon Z (diff in medians)			2.72***			11.46***

Panel B: Multivariate Analysis

$$X_{i,q} = \alpha_0 + \alpha_1 X_{i,q-1} + \alpha_2 14WK_{i,q} + \alpha_3 FQ4 * X_{i,q-1} + \sum_{k=1}^{k=3} \beta_k FQ_k + e_{i,q}$$

	Expected Sign	$X=EFE_{i,q}$	$X=RFE_{i,q}$
Intercept	?	0.3176 ***	0.2524 ***
		(4.60)	(3.30)
X_{q-1}	+	0.2523 ***	0.2496 ***
		(16.42)	(14.83)
14WK	+	0.0372 **	0.1699 ***
		(2.41)	(11.39)
$FQ4 * X_{q-1}$	-	-0.0568 **	-0.0206
		(-2.16)	(-0.71)
FQ1	?	0.0396 **	0.0189
		(2.39)	(1.05)
FQ2	?	-0.0027	-0.0097
		(-0.31)	(-1.07)
FQ3	?	-0.0246 ***	-0.0353 ***
		(-2.86)	(-3.82)
Industry fixed effects		Yes	Yes
Year fixed effects		Yes	Yes
Adjusted R^2		9.20%	11.02%

$EFE_{i,q}$ is the earnings forecast error for firm *i* in quarter *q*, scaled by the firm's stock price at the end of quarter *q-1*.
$RFE_{i,q}$ is the revenue forecast error for firm *i* in quarter *q*, scaled by the firm's market value of equity at the end of quarter *q-1*.
Earnings (Revenue) forecasts are the median of all earnings (revenue) forecasts made for 14-week firms between the earnings announcement dates for quarters *q-1* and *q* and available on IBES from 1994 to 2006. When available, we include revenue forecasts from the Value Line Investment Survey, if IBES revenue forecasts are unavailable for that firm-quarter. The sample excludes observations from the fourth quarter following a 14-week quarter.
14WK is a dummy variable that equals one if quarter q contains 14 weeks, and zero otherwise;
$FQ_k(k=1,2,3,4)$ are indicator variables set equal to one if the fiscal quarter = *k*, and zero otherwise.
$FQ4*X_{q-1}$ allows fourth quarter earnings and revenue forecast errors to have differential persistence than other quarters (Rangan and Sloan 1998);.

All non-indicator variables are replaced by their fractional ranks in the regression.
T-statistics, based on Huber-White standard errors clustered at the firm level, are provided in parentheses below the coefficient estimates. ***, **, * indicates significance at the 1%, 5% and 10% levels, respectively.

Table 4
Analysts' Earnings and Revenue Forecast Errors four quarters following 14-week Quarters

Panel A: Univariate Statistics

Fourth Quarter following	Earnings Forecast Error			Revenue Forecast Error		
	N	Mean	Median	N	Mean	Median
14-week Quarter	393	-0.0019	0.0003	314	-0.0097	-0.0016
13-week Quarter	9,258	-0.0002	0.0003	7,379	-0.0038	0.0001
t-statistic (diff in means)		-1.89*			-1.00	
Wilcoxon Z (diff in medians)			-1.26			-5.66***

Panel B: Multivariate Analysis

$$X_{i,q} = \alpha_0 + \alpha_1 X_{i,q-1} + \alpha_2 14WK\_QM4_{i,q} + \alpha_3 FQ4 * X_{i,q-1} + \sum_{k=1}^{k=3} \beta_k FQ_k + e_{i,q}$$

	Expected Sign	$X=EFE_{i,q}$	$X=RFE_{i,q}$
Intercept	?	0.3009 ***	0.2450 ***
		(4.28)	(3.11)
X_{q-1}	+	0.2638 ***	0.2473 ***
		(17.14)	(14.13)
14WK_QM4	-	-0.0120	-0.0881 ***
		(-0.83)	(-5.40)
$FQ4 * X_{q-1}$	-	-0.0667 ***	-0.0249
		(-2.62)	(-0.87)
FQ1	?	0.0448 ***	0.0273
		(2.77)	(1.48)
FQ2	?	-0.0016	-0.0046
		(-0.18)	(-0.50)
FQ3	?	-0.0218 **	-0.0280 ***
		(-2.50)	(-2.99)
Industry fixed effects		Yes	Yes
Year fixed effects		Yes	Yes
Adjusted R^2		9.46%	9.99%

$EFE_{i,q}$ is the earnings forecast error for firm *i* in quarter *q*, scaled by the firm's stock price at the end of quarter *q-1*.
$RFE_{i,q}$ is the revenue forecast error for firm *i* in quarter *q*, scaled by the firm's market value of equity at the end of quarter *q-1*.
14WK_QM4 is a dummy variable that equals one if quarter *q-4* contains 14 weeks, and zero otherwise.
Earnings (Revenue) forecasts are the median of all earnings (revenue) forecasts made for 52/53 week firms between the earnings announcement dates for quarters *q-1* and *q* and available on IBES from 1994 to 2006. When available, we include revenue forecasts from the Value Line Investment Survey, if IBES revenue forecasts are unavailable for that firm-quarter. The sample excludes observations from 14-week quarters.
$FQ_k(k=1,2,3,4)$ are indicator variables set equal to one if the fiscal quarter = *k*, and zero otherwise.

$FQ4*X_{q-1}$ allows fourth quarter earnings and revenue forecast errors to have differential persistence than other quarters (Rangan and Sloan 1998).
All non-indicator variables are replaced by their fractional ranks in the regression.
T-statistics, based on Huber-White standard errors clustered at the firm level, are provided in parentheses below the coefficient estimates. ***, **, * indicates significance at the 1%, 5% and 10% levels, respectively.

Table 5

Individual Analysts' Earnings and Revenue Forecast Errors
Based on whether "14 week" mentioned in Analyst Report

Panel A: Magnitude of Earnings Forecast Error

14 week mentioned in report?	N	Mean Absolute FE	Median Absolute FE
NO	384	0.52%	0.20%
YES	132	0.20%	0.07%
Difference		0.32%	
t-statistic/Wilcoxon Z (for difference)		4.23***	5.76***

Panel B: Magnitude of Revenue Forecast Error

14 week mentioned in report?	N	Mean Absolute FE	Median Absolute FE
NO	267	1.17%	0.62%
YES	101	0.58%	0.30%
Difference		0.59%	
t-statistic/Wilcoxon Z (for difference)		4.84***	4.12***

Table 5 - continued
Individual Analysts' Earnings and Revenue Forecast Errors
Based on whether "14 week" mentioned in Analyst Report

Panel C: Signed Earnings Forecast Error

14 week mentioned in report?	N	Mean FE	Median FE
NO	384	0.03%	0.04%
YES	132	0.00%	0.04%
Difference		0.03%	
t-statistic/Wilcoxon Z (for difference)		0.31	1.12

Panel D: Signed Revenue Forecast Error

14 week mentioned in report?	N	Mean FE	Median FE
NO	267	0.71%	0.31%
YES	101	0.23%	0.12%
Difference		0.48%	
t-statistic/Wilcoxon Z (for difference)		3.32***	3.11***

The sample includes 516 (368) earnings (revenue) forecasts from analyst reports gathered from Investext for 116 (106) 14-week quarters from 1994 to 2006. These reports are from the one week period following the earnings announcement for the quarter prior to the firm's 14-week quarter. We code the 14-week variable as "mentioned" if the analyst explicitly refers to the additional week included in the 14-week quarter anywhere in the Investext report.
In Panel A, Mean (Median) Absolute FE is the mean (median) of the absolute value of the earnings forecast error in the 14-week quarter, computed as the absolute value of the difference between Actual Earnings and Forecast Earnings, scaled by price at the end of the previous quarter.
In Panel B, Mean (Median) Absolute FE is the mean (median) of the absolute value of the revenue forecast error in the 14-week quarter, computed as the absolute value of the difference between Actual Revenues and Forecast Revenues, scaled by market value of equity at the end of the previous quarter.
In Panels C and D, Mean/Median FE is the mean/median of the earnings (revenue) forecast error computed similar to Panel A (Panel B), but preserving the sign of the error.
*** indicates significance at the 1% level.

Table 6
Market Reaction in 14-week Quarters

$$QTRBHAR_{i,q} = \propto_0 + \propto_1 14WK_{i,q} + \propto_2 SUE_{i,q-1} + \propto_3 \widehat{SUE}_{i,q} + \propto_4 \widehat{SUR}_{i,q} + \propto_5 FQ4 * \widehat{SUE}_{i,q} + \propto_6 FQ4 * \widehat{SUR}_{i,q} + \propto_7 EXWKSUE_{i,q} + \propto_8 EXWKSUR_{i,q} + e_{i,q}$$

	Expected Sign	*Model 1*	*Model 2*	*Model 3*
Intercept		0.4475 ***	0.3768 ***	0.3769 ***
		(19.47)	(15.56)	(15.61)
14WK	+	0.0370 ***	0.0406 ***	-0.0215
		(3.40)	(3.80)	(-0.83)
SUE_{q-1}	+	0.0704 ***		
		(9.00)		
$\widehat{SUE}_q$	+		0.2633 ***	0.2638 ***
			(27.47)	(27.52)
$\widehat{SUR}_q$	+		0.0647 ***	0.0648 ***
			(7.06)	(7.07)
$FQ4*\widehat{SUE}_q$	-		-0.0810 ***	-0.0747 ***
			(-4.47)	(-4.07)
$FQ4*\widehat{SUR}_q$	-		-0.0159	-0.0209
			(-0.80)	(-1.05)
$EXWKSUE_q$	+			0.1336 ***
				(3.43)
$EXWKSUR_q$	+			-0.0087
				(-0.23)
FQ1	?	0.0568 ***	0.0115	0.0129
		(8.91)	(0.91)	(1.02)
FQ2	?	0.0178 ***	-0.0298 **	-0.0285 **
		(2.85)	(-2.38)	(-2.28)
FQ3	?	-0.0031	-0.0501 ***	-0.0488 ***
		(-0.53)	(-3.97)	(-3.87)
Industry fixed effects		Yes	Yes	Yes
Year fixed effects		Yes	Yes	Yes
Adjusted R^2		2.70%	9.50%	9.58%

The sample includes 886 14-week quarters and 19,837 13-week quarters for 658 firms from the first quarter of 1994 to the second quarter of 2006. The sample excludes observations from the fourth quarter following a 14-week quarter. All non-indicator variables are replaced by their fractional ranks in the regression.

$QTRBHAR_{i,q}$ is the cumulative size-adjusted buy-and-hold return for firm *i* from two days after the earnings announcement for quarter q-1 to the day after the earnings announcement for quarter q.
SUE is the change in income before extraordinary items (adjusted for special items) from quarter *q-4* to quarter *q*, scaled by market value of equity in quarter *q-4*.
$EXWKSUE_q$, for 14-week quarters is 1/13 of the income before extraordinary items (adjusted for special items) for quarter *q-4*, scaled by market value of equity (MVE) in quarter q-4; $EXWKSUE_q$ equals zero for 13-week quarters.
$\widehat{SUE}$ *= SUE (-) EXWKSUE*.
SUR is the seasonally adjusted change in sales, scaled by market value of equity in quarter *q-4*.
$EXWKSUR_q$ for 14-week quarters is 1/13 of the revenues for quarter *q-4*, scaled by market value of equity in quarter *q-4*; $EXWKSUR_q$ equals zero for 13-week quarters.
$\widehat{SUR}$ *= SUR (-) EXWKSUR.*
$FQ_k(k=1,2,3,4)$ are indicator variables set equal to one if the fiscal quarter = *k*, and zero otherwise.
T-statistics, based on Huber-White standard errors clustered at the firm level, are provided in parentheses below the coefficient estimates. ***, **, * indicates significance at the 1%, 5% and 10% levels, respectively.

Table 7
Returns around Earnings Announcements for Disclosers and Non-disclosers

$$EADCAR_{i,q} = \propto_0 + \propto_1 DISCLOSE_{i,q} + \propto_2 NONDISCLOSE_{i,q} + \propto_3 SUE_{i,q-1} + \propto_4 \widehat{SUE}_{i,q} + \propto_5 \widehat{SUR}_{i,q} + \propto_6 FQ4 * \widehat{SUE}_{i,q} + \propto_7 FQ4 * \widehat{SUR}_{i,q} + \propto_7 DISCLOSE * EXWKSUE_{i,q} + \propto_8 DISCLOSE * EXWKSUR_{i,q} + \propto_9 NONDISCLOSE * EXWKSUE_{i,q} + \propto_{10} NONDISCLOSE * EXWKSUR_{i,q} + e_{i,q}$$

	Expected Sign	*Model 1*	*Model 2*	*Model 3*
Intercept	?	0.3399 ***	0.2748 ***	0.2740 ***
		(14.44)	(11.18)	(11.15)
DISCLOSE	?	0.0079	0.0040	-0.0355
		(0.59)	(0.30)	(-0.99)
NONDISCLOSE	+	0.0363 **	0.0448 ***	0.0037
		(2.20)	(2.76)	(0.10)
SUE_{q-1}	+	0.0299 ***		
		(3.71)		
$\widehat{SUE}_q$	+		0.2009 ***	0.2014 ***
			(19.87)	(19.90)
$\widehat{SUR}_q$	+		0.0271 ***	0.0272 ***
			(2.80)	(2.81)
$FQ4*\widehat{SUE}_q$	-		-0.0779 ***	-0.0742 ***
			(-4.17)	(-3.95)
$FQ4*\widehat{SUR}_q$	-		0.0229	0.0198
			(1.21)	(1.04)
$DISCLOSE * EXWKSUE_q$	?			0.0486
				(1.02)
$DISCLOSE * EXWKSUR_q$	?			0.0234
				(0.46)
$NONDISCLOSE * EXWKSUE_q$	+			0.1697 ***
				(2.77)
$NONDISCLOSE * EXWKSUR_q$	+			-0.0871
				(-1.41)
FQ1	?	0.0015	-0.0240 **	-0.0233 **
		(0.23)	(-2.00)	(-1.96)
FQ2	?	-0.0086	-0.0354 ***	-0.0348 ***
		(-1.40)	(-3.01)	(-2.98)
FQ3	?	-0.0229 ***	-0.0494 ***	-0.0488 ***
		(-3.59)	(-4.21)	(-4.18)
Industry fixed effects		Yes	Yes	Yes
Year fixed effects		Yes	Yes	Yes
Adjusted R^2		0.66%	4.37%	4.42%

The sample includes 810 14-week quarters for which disclosure data is available and 19,837 13-week quarters for 658 firms from the first quarter of 1994 to the second quarter of 2006. The sample excludes observations from the fourth quarter following a 14-week quarter. All non-indicator variables are replaced by their fractional ranks in the regression.

$EADCAR_{i,q}$ is the cumulative size-adjusted return for firm *i* from the day before to the day after the earnings announcement for quarter q.

DISCLOSE is a dummy variable that equals one if the firm clearly mentions the extra week in its 14-week quarter press release, zero otherwise;

NONDISCLOSE is a dummy variable that equals one if the firm does not explicitly mention the extra week in its 14-week quarter press release, zero otherwise;

SUE is the change in income before extraordinary items (adjusted for special items) from quarter *q-4* to quarter *q*, scaled by market value of equity in quarter *q-4*.

$EXWKSUE_q$, for 14-week quarters is 1/13 of the income before extraordinary items (adjusted for special items) for quarter *q-4*, scaled by market value of equity (MVE) in quarter q-4; $EXWKSUE_q$ equals zero for 13-week quarters.

$\widehat{SUE}$ = *SUE (-) EXWKSUE*.

SUR is the seasonally adjusted change in sales, scaled by market value of equity in quarter *q-4*.

$EXWKSUR_q$ for 14-week quarters is 1/13 of the revenues for quarter *q-4*, scaled by market value of equity in quarter *q-4*; $EXWKSUR_q$ equals zero for 13-week quarters.

$\widehat{SUR}$ = *SUR (-) EXWKSUR.*

$FQ_k(k=1,2,3,4)$ are indicator variables set equal to one if the fiscal quarter = *k*, and zero otherwise.

T-statistics, based on Huber-White standard errors clustered at the firm level, are provided in parentheses below the coefficient estimates. ***, **, * indicates significance at the 1%, 5% and 10% levels, respectively.