### **Presidential Cycles in PEAD**

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#### **Abstract**

Post-earnings announcement drift (PEAD) displays presidential cycles: it earns 4.1% per year during Democratic presidencies but its profitability increases significantly to 14.9% during Republican presidencies. Survey-based evidence also indicates substantial underreaction to earnings news when the US president is Republican. The stronger underreaction likely arises from exposure to tax policy uncertainty. Consistently, we find that investor reactions to earnings announcements are much weaker for firms with greater exposure to tax policy uncertainty, particularly during Republican presidencies. This explanation accounts for the observed presidential cycles in PEAD, whereas existing explanations for PEAD cannot. The cycles are more pronounced among non-microcap firms.

JEL Classification: G12, G14, G40, G41

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### 1 Introduction

Post-earnings announcement drift (PEAD) is arguably one of the most puzzling anomalies in the stock market. The efficient market theory suggests that stock prices should quickly incorporate all relevant information, including earnings surprises at the time of an earnings announcement. However, extensive evidence shows that prices often continue to drift in the direction of earnings surprise for one or two months after the announcement, meaning that the unexpected earnings information is gradually incorporated into stock prices. Risk-based explanations appear inconsistent with this phenomenon, and the prevailing explanations attribute it to the market's underreaction to earnings news. Indeed, Fama (1998) refers to PEAD as the "granddaddy" of underreaction-related anomalies. Similarly, Daniel et al. (2020) find that as a short-horizon behavioral factor, the PEAD factor subsumes many short-term stock market anomalies.

While evidence of underreaction is ubiquitous, there is limited discussion on how the political climate affects investors' reactions to earnings news. A key political factor in this context is the president's party affiliation. Different parties have distinct economic priorities when implementing policies (see, e.g., Alesina, 1987). For instance, in the US, Democrats generally focus on stimulating economic growth, while Republicans typically prioritize reducing inflation. Additionally, the two parties have fundamentally different preference for the tax policy: Democrats are generally in favor of higher taxes, while Republicans advocate for lower taxes (see, e.g., Pástor and Veronesi, 2020).

In this paper, we document a striking difference in PEAD between periods based on the political party of the US presidents. We find that investors' announcement date reactions to earnings news weaken substantially during Republican eras: the inter-quantile spread of two-day abnormal return following earnings announcements between firms with highest and lowest earnings surprises is 4.99% for Democratic terms and 4.59% for Republican terms. This translates to an economically and statistically significant differ-

ence of 0.40% (t = 3.84).

Furthermore, consistent with the weakened immediate reactions to earnings news, we document much stronger post-earnings announcement drifts under Republican presidencies. The inter-quantile spread of the post-announcement 30-day cumulative abnormal returns between firms with highest and lowest earnings surprises is 1.56% for Republican terms. In a sharp contrast, the spread is only 0.92% during Democratic periods. This converts to an economically and statistically significant difference of 0.64% (t=4.18), which is nearly a 70% proportional increase. Similarly, in multivariate regressions that control for the effect of limited attention, limits to arbitrage, other firm characteristics and calendar effects, the announcement date return response is still significantly less sensitive to earnings news while post announcement drift is significantly stronger during Republican presidencies.

To better visualize the presidential cycles in PEAD, we employ the standard calendar-time portfolio approach that invests in the stock the day following its announcements. Over ten presidential terms from January 1984 to December 2023, the PEAD effect is weak and statistically insignificant during Democratic presidencies. The spread portfolio that buys stocks in the highest earnings surprises quintile and sells stocks in the lowest earnings surprises quintile only earns a value-weighted return of 4.13% per year over those periods. In contrast, the PEAD effect is notably pronounced under Republican administrations, with the spread portfolio generating an average return of 14.88% per year. The cross-regime difference of 10.76% is both economically meaningful and statistically significant (t = 2.32). The presidential cycles in PEAD are robust and survive DGTW characteristic adjustments and various factor-based risk adjustments, including the market model (CAPM), Fama and French (2015) five factor model, and the Q-factor model by Hou et al. (2014).

Previous literature documents that the PEAD effect is stronger for microcap stocks, potentially due to their less favorable information environments or higher trading costs

(see, e.g., Chordia et al., 2009; Martineau, 2021). However, we show that the presidential cycles are stronger among non-microcap stocks. Hence our findings generalize to a broader and more economically significant segment of the stock market.

We show that the presidential cycles in PEAD are not related to other political dimensions affecting the stock market. It is not driven by a specific year in presidents' terms or mid-term election effects. Different from the impact of divided government on equity premium (Papamichalis et al., 2024), the presidential cycles in PEAD are not driven by the Congressional majority dynamics and remain strong even amid heightened partisan conflict in recent years. Furthermore, they are not tied to any particular president. Meanwhile, while existing literature highlights the role of limited attention in explaining PEAD, our analysis reveals that the presidential cycles we identify are not driven by investor inattention on Fridays (DellaVigna and Pollet, 2009) or distractions from extraneous news events (Hirshleifer et al., 2009).

We observe similar patterns for belief underreaction. Using the test developed by Coibion and Gorodnichenko (2015), we find stronger underreactions to earnings news from sell-side analysts during Republican presidencies. When revising their short-term earnings forecasts following recent earnings announcements during Republican periods, analysts' revisions underreact three to four times more to earnings news compared to Democratic periods.<sup>1</sup>

The stronger underreaction likely relates to the substantial tax policy uncertainty when the US president is Republican. Empirically, the corporate tax is a sizable part of corporate earnings. Meanwhile, there are striking differences in desired tax policies between the two major political parties. Republicans are generally viewed as favoring lower corporate taxes, whereas Democrats tend to support higher taxes (see, e.g., Reed, 2006; Wright, 2012; Pástor and Veronesi, 2020). Different desired policies can lead to

<sup>&</sup>lt;sup>1</sup>Bouchaud et al. (2019) document unconditional underreaction by sell-side analysts when revising the short-term earnings forecasts. Interestingly, we show that this underreaction is significantly stronger during Republican terms.

different levels of tax policy uncertainty. For example, although tax cuts under Republican administrations may appear favorable to the economy, their implementation is often complex and subject to considerable uncertainty. Concerns about fiscal deficits may cast doubt on the sustainability of such cuts, while a divided government can further complicate their enactment and longevity. In contrast, tax policy uncertainty under Democratic presidencies may be less impactful, as tax increases tend to be less politically popular and much more difficult to enact than tax cuts.

Therefore, we conjecture that exposure to potentially high tax policy uncertainty during Republican presidencies may help explain our findings. If investors face significant uncertainty about the tax component of firms' income, they are likely to be more uncertain about after-tax earnings, leading to stronger underreaction to earnings news.

Consistent with our conjecture, we find that the stronger PEAD effects during Republican presidencies are concentrated among firms with high exposure to tax policy uncertainty. When restricting the sample to these firms, the presidential cycles become even more pronounced. In contrast, among all other firms, the PEAD effect is generally weaker and shows no evidence of presidential cyclicality. Taken together, the empirical findings support our hypothesis that the observed presidential cycles in PEAD are likely driven by heightened tax policy uncertainty when a Republican is in the White House.

We perform extensive tests to ensure the robustness of our findings. We control for a comprehensive set of explanatory variables, including measures of limited attention, limits to arbitrage, common firm characteristics, industry and weekday dummies. Despite accounting for these effects, which cover most of the existing explanations for PEAD, the influence of presidential cycles on PEAD remains both economically large and statistically significant.

This article contributes to the long-standing and still expanding literature on postearnings announcement drift. Since the seminal studies by e.g., Ball and Brown (1968); Bernard and Thomas (1989, 1990); Abarbanell and Bernard (1992), considerable research has focused on deepening our understanding of PEAD. For instance, Frazzini (2006); DellaVigna and Pollet (2009); Hirshleifer et al. (2009, 2011) examine mechanisms that may induce underreaction to earnings news. Mendenhall (2004); Zhang (2006); Narayanamoorthy (2006); Cao and Narayanamoorthy (2012); Chordia et al. (2014); Martineau (2021); Hansen and Siggaard (2023) explore how the PEAD effect varies across different stocks and over time. Additionally, Foster et al. (1984); Livnat and Mendenhall (2006); Kishore et al. (2008); Meursault et al. (2023) investigate how different measurements of information from earnings announcements affect subsequent price drift. Chordia and Shivakumar (2006); Daniel et al. (2020) relate PEAD with other stock return anomalies. Hung et al. (2015); Nozawa et al. (2022) study PEAD in other asset markets. Fink (2021) provides a review of the extensive PEAD literature. Our contribution is to offer a novel explanation for PEAD that differs from the existing literature, with a focus on its strong connection to political cycles in the U.S.

Our paper also relates to the literature on the interaction between political forces and financial markets (see, e.g., Santa-Clara and Valkanov, 2003; Pastor and Veronesi, 2012; Pástor and Veronesi, 2013; Belo et al., 2013; Addoum and Kumar, 2016; Chan and Marsh, 2021; Chen et al., 2023; Papamichalis et al., 2024). However, existing research primarily examines the implications of political cycles for topics such as risk aversion, aggregate stock returns, and industry performance, without addressing PEAD, one of the most puzzling anomalies that challenge market efficiency. To the best of our knowledge, we are the first to document the much stronger performance of PEAD during Republican presidencies. The economic channel we propose is also novel: biased perceptions of Republican tax policies lead to stronger underreaction to earnings news.

### 2 Data

### 2.1 Standardized unexpected earnings

Following prior literature on PEAD (see, e.g., DellaVigna and Pollet, 2009; Hirshleifer et al., 2009), we analyze quarterly earnings announcements for US firms. Our main variable of interest is the standardized unexpected earnings (SUE), defined as the scaled difference between the realized quarterly EPS and the consensus forecasts for firm *i* and fiscal quarter *t*:

$$SUE_{i,t} = \frac{EPS_{i,t} - FEPS_{i,t}}{P_{i,t-5}}. (1)$$

Here  $EPS_{i,t}$  is the actual earnings per share of quarterly earnings for firm i-fiscal quarter t, and  $FEPS_{i,t}$  is the expected earnings per share, measured by the consensus analyst forecast. We scale the surprise by the stock price  $(P_{i,t-5})$  five trading days before the quarterly announcement (following, e.g., Martineau, 2021).

To calculate the consensus forecasts, for each firm–fiscal quarter, we extract individual analysts' earnings per share (EPS) forecasts from the I/B/E/S Unadjusted Detail file. We only include forecasts issued or reviewed within the last 90 calendar days before the quarterly earnings announcement to mitigate the impact of stale forecasts, similar to e.g., Hirshleifer et al. (2009). If the same analyst issued multiple forecasts within the 90-day window, we retain only the most recent forecast. The consensus forecast is then defined as the median of all individual forecasts. For realized values, we collect the actual EPS for the same fiscal quarter from the I/B/E/S actual files. Stock prices, earnings, and forecasts are split-adjusted using the split factor from CRSP. Our sample period spans from January 1984 to December 2023.

### 2.2 Other variables

Our main empirical analysis focuses on the impact of the political party affiliation of US presidents. Following Santa-Clara and Valkanov (2003), we set the presidential cycle dummy variable  $RD_t$  to 1 if a Republican president is in office at the end of month t, and zero otherwise. Note that while presidential elections occur every four years on the first Tuesday of November, the presidential term begins on the following January 20th. Consequently, even if a president affiliated with the other party is elected in November, we maintain the existing value for the political dummy until January.<sup>2</sup>

We obtain monthly stock returns from the Center for Research in Security Prices (CRSP) and quarterly and annual accounting data from Compustat. An important variable for our study is the quarterly earnings announcement date (Compustat quarterly item RDQ), which is the date when the *Wall Street Journal* publishes quarterly earnings releases. Our data sample includes all common stocks listed on the NYSE, Amex, and Nasdaq exchanges with share codes of 10 or 11.

# 3 Presidential Cycles and Underreaction to Earnings News

# 3.1 PEAD strongly depends on the party in the White House

To rigorously examine the price drifts following earnings announcements, this subsection investigates how prices react differently to earnings news under presidential regimes. Following the methodologies of Hirshleifer et al. (2009) and DellaVigna and Pollet (2009), we calculate cumulative abnormal returns (CARs) in the announcement and post-announcement windows. For each earnings announcement of stock *i*, we compute the difference between its buy-and-hold return and the return of a matched size, book-to-market, and momentum portfolio, following Daniel et al. (1997). Specifically, for

<sup>&</sup>lt;sup>2</sup>Our results remain very similar if we adjust the dummy to reflect the election month.

each fiscal quarter announcement of firm i, we calculate

$$CAR_{i,t}[T_0, T_1] = \prod_{j=T_0}^{T_1} (1 + r_{i,t+j}) - \prod_{j=T_0}^{T_1} (1 + r_{DGTW,t+j}),$$
(2)

where  $r_{i,t+j}$  and  $r_{DGTW,t+j}$  are the daily returns for firm i and the matched portfolio. The return is accumulated from trading day  $T_0$  to  $T_1$  following the announcement.

By assigning different values to  $T_0$  and  $T_1$ , we can assess both the immediate and delayed price responses to earnings news. For instance, CAR[0,1] is the return from the close on the trading day before the earnings announcement to the close on the trading day after the earnings announcement (DellaVigna and Pollet, 2009). Hence, CAR[0,1] reflects the initial price reaction immediately after the earnings release and typically shows positive (negative) returns if the earnings surprise is favorable (unfavorable). Additionally, if the PEAD effect exists, the subsequent cumulative abnormal returns will continue to drift in the direction of the initial response.

For each month t, we rank all stocks with earnings announcements into quintiles based on their SUEs. We then evaluate whether the stock-level SUE rank is associated with its price response by running regressions after pooling all earnings announcements in the top and the bottom quintiles (similar to, e.g., DellaVigna and Pollet, 2009; Hirsh-leifer et al., 2009)

$$CAR_{i,t}[0,1] = \alpha_0 + \beta_0 SUE5_{i,t} + \epsilon_{i,t},$$

$$CAR_{i,t}[2,31] = \alpha_1 + \beta_1 SUE5_{i,t} + \nu_{i,t},$$
(3)

where  $SUE5_{i,t}$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile.<sup>3</sup> Meanwhile, although Bernard and Thomas (1989) find that most of the drift occurs during the first 60 trading days after announcements, the difference in post announcement drift between Republican and Democratic

<sup>&</sup>lt;sup>3</sup>All dependent variables are trimmed at the 0.5% and 99.5% levels to mitigate the impact of outliers.

presidencies appears to persist for a shorter period.<sup>4</sup> Therefore, our analysis primarily focuses on the price drift during the first 30 trading days following the announcement (CAR[2,31]), with a discussion of results over different time horizons provided in Section 5.3.

Column (1) and (3) of Table 1 report the results. If the PEAD effect exists, we would expect an immediate yet insufficient stock price reaction to earnings news. Empirically, we confirm this pattern. The two-day returns following the earnings announcement are on average 4.80% higher when moving from the lowest to the highest SUE quintile. The subsequent price drift in 30 days (CAR[2,31]) is also substantial: stocks in the highest SUE quintile outperform those in the lowest quintile by 1.22% on average (t = 15.85). Both of the differences in immediate response and post-announcement drift are statistically significant at the 1% level using standard errors clustering by announcement date.

#### [Table 1 about here]

We then examine whether the party in office influences price responses to earnings announcements by running the following regressions

$$CAR_{i,t}[0,1] = \alpha_0 + \beta_0 SUE5_{i,t} + \gamma_0 RD_t + \theta_0 SUE5_{i,t} \times RD_t + \epsilon_{i,t},$$

$$CAR_{i,t}[2,31] = \alpha_1 + \beta_1 SUE5_{i,t} + \gamma_1 RD_t + \theta_1 SUE5_{i,t} \times RD_t + \nu_{i,t},$$
(4)

where the presidential dummy  $RD_t$  equals 1 when the US president is Republican at the end of month t (and zero otherwise). Based on the results from Table 2, if the PEAD effect is indeed stronger when  $RD_t = 1$ , we would expect  $\theta_1 > 0$  in the second regression. Meanwhile, if the stronger PEAD effect arises from greater underreaction to earnings news during Republican terms, we would expect  $\theta_0 < 0$ .

Column (2) and (4) in Table 1 confirm the predictions. We find that the initial

<sup>&</sup>lt;sup>4</sup>As discussed in Section 5.3, the cross-regime divergence in drift becomes statistically significant around 30 days post-announcement (CAR[2,31]) and levels off by 45 days.

response CAR[0,1] weakens significantly during Republican eras: the inter-quantile spread of announcement date two-day abnormal returns between firms with highest and lowest earnings surprises is 4.99% for Democratic terms and 4.59% for Republican terms. This translates to an economically and statistically significant difference of -0.40% (t=-3.84). Consistent with the weakened immediate price responses, the post-announcement drift is stronger. The inter-quantile spread of the post-announcement 30-day cumulative abnormal returns between firms with highest and lowest earnings surprises is 1.56% for Republican terms. In sharp contrast, the spread is only 0.92% during Democratic periods. This translate to an economically and statistically significant difference of 0.64% (t=4.18), which is nearly a 70% (i.e., 0.64/0.92) proportional difference.

In Columns (5) and (6), we report results from regressions by pooling observations from all quintiles, after replacing SUE5 in (4) with the earnings surprise quintile rank for stock i in month t ( $SUE_{Rank}$ ). Consistent with the past literature (e.g., Kothari, 2001; DellaVigna and Pollet, 2009; Hirshleifer et al., 2009), we use the cross-sectional rank of SUEs instead of the raw SUE values in the regressions, as the relationship between earnings surprises and price responses may be nonlinear. As shown, the results remain similar when we include all portfolios in the pooled regression. The initial response CAR[0,1] significantly weakens during Republican presidencies while post-announcement drift CAR[2,31] is significantly stronger.

The upper plot of Figure 2 offers a graphical comparison of the post-announcement cumulative abnormal returns at various horizons for the highest and the lowest SUE portfolios across different presidential administrations. Following DellaVigna and Pollet (2009), the average cumulative abnormal return is calculated for the spread portfolio from day 2 through day h after the earnings announcement, with h extending up to 35 days. The plot indicates large presidential differences of drifts in both the lowest and the highest SUE portfolios. The difference actually becomes more pronounced beyond the

short-term response window. This pattern is further corroborated in the lower figure, where we plot the drift difference between the lowest and the highest SUE portfolios across different presidential parties.

#### [Figure 2 about here]

### 3.2 Calendar-time portfolio analysis

To best visualize different patterns of PEAD over presidential cycles, we examine returns to a standard calendar-time portfolio methodology. We follow previous work (e.g., Barber et al. (2007), Cohen et al. (2010), Birru et al. (2022)) and construct the daily calendar time portfolios as follows. At each earnings announcement date t, we calculate the quintile breakpoints based on all stocks with available SUEs from trading day t-30 to t-1. Then, we sort stocks with earnings announcement on day t into quintile portfolios and include them in the calender-time portfolio at the end of trading day t+1 to ensure that the portfolio daily with an investment horizon of 30 trading days. For instance, if a stock t makes announcement on date t and belongs to the top (bottom) SUE portfolio, we add stock t to the trading buy (sell) at the end of trading day t and hold this stock in the calendar-time portfolio until trading day t and hold this trade idea and the investment horizon implied by the trade idea.

To capture abnormal returns, we compute risk-adjusted returns based on Fama and French (2015) five-factor model and DGTW characteristic-adjusted returns. We also report risk-adjusted returns based on CAPM model and Hou et al. (2014) HXZ-Q factor model. We report the value-weighted annualized returns for the bottom (L) and top (H) quintile portfolios, and the spread portfolios that buy the top and sell the bottom

<sup>&</sup>lt;sup>5</sup>In many previous studies, the sorted portfolios are based on the most recent announcements over the past one to six months. As will be clear from Section 5.3, our results are more pronounced within 30 days after the announcement, so portfolio sorts based on lagged information would weaken the presidential cycles.

portfolios. If the PEAD effect exists, then stocks with higher past SUE will outperform those with lower past SUE.

Over the full sample period from 1984 to 2023, we observe a strong PEAD effect. The daily-rebalanced spread portfolio generates an average value-weighted annualized return of 9.78% (t = 4.40). Panel A of Table 2 shows that the returns increase monotonically from low SUE to high SUE. The risk-adjustment via the Fama-French five-factor model (Fama and French, 2015) does not change the results. Overall, these outcomes align with the long-standing literature demonstrating a robust PEAD effect.

#### [Table 2 about here]

We now evaluate the performance of PEAD under different presidential administrations. In our sample, there have been ten presidential terms, with five of these served by Republican presidents. We divide the full time-series of monthly PEAD returns into two subsamples based on whether a Democratic or Republican president was in office when the spread portfolios were formed. Panel B and C of Table 2 highlight sharp differences between these two subsamples. During Democratic presidencies, the PEAD effect is weak and statistically insignificant (around 4% per year).

In contrast, under Republican presidencies, the PEAD effect is very pronounced. The spread portfolio generates an average annual return of 14.88% per year (t=4.71). The cross-regime difference is 10.76%, which is both economically large and statistically significant. The risk-adjusted returns display a similar pattern with cross-regime difference of 10.01%. Table OA.1 reports similar results using risk-adjusted returns based on the CAPM and the HXZ Q-factor model.

Figure 1 plots the cumulative returns and FF5 alphas of the SUE spread portfolio from January 1984 to December 2023. The payoff is scaled using the natural logarithm, with separate highlights for performance during Democratic and Republican administrations.

<sup>&</sup>lt;sup>6</sup>These alphas are obtained from regressions of portfolio returns on presidential dummy together with Fama and French (2015) five factors. And our results remain robust when the alphas are derived from the same regressions but estimated within Democratic and Republican samples separately.

Under Republican presidencies, the returns and alphas of the spread portfolio exhibit a steady upward trend. In contrast, the PEAD effect is generally weak during Democratic terms. Overall, Figure 1 clearly depicts the contrasting performance of the PEAD effect across Republican and Democratic presidencies.

#### [Figure 1 about here]

Our results are unlikely to be driven by the presidential cycles in market returns documented by Santa-Clara and Valkanov (2003). They find that market returns are much higher during Democratic terms. We confirm this finding within our sample period, with market returns 7.44% higher during Democratic periods. One might question whether the presidential cycles in PEAD are driven by cycles in the components of market returns. However, as shown in Table OA.1, significant presidential cycles in alphas persist even after adjusting PEAD returns for market returns. Moreover, our findings remain robust when accounting for other well-established market return predictors from the literature. We test the predictive power of the Republican dummy on the PEAD spread portfolio's returns, controlling for a comprehensive set of predictors as identified by Goyal et al. (2024). Column (1) of Table OA.2 shows that the Republican dummy alone has significant predictive power, with an in-sample  $R^2$  of 1.24 and an out-of-sample  $R^2$  of 1.18, which is significant at the 1% level. Column (2) demonstrates that the predictive power remains robust even after controlling for other predictors. Thus, the presidential cycles in PEAD are not driven by determinants of the aggregate stock market premium.

### 3.3 Cycles in non-microcap firms

Previous literature documents that the PEAD effect is stronger for microcap stocks, potentially due to their less favorable information environments or higher trading costs (see, e.g., Chordia et al., 2009; Martineau, 2021). Similarly, Hou et al. (2020) show that the high returns observed among microcap stocks in many anomalies likely reflect high

transaction costs or illiquidity. Beyond concerns about tradability, Fama and French (2008) note that microcap stocks collectively account for only about 3% of total market capitalization.

We thus evaluate whether the presidential cycles are more pronounced among non-microcap stocks. This is important to ensure that our findings generalize to a broader and more economically significant segment of the market. Following e.g., Hou et al. (2020), we identify non-microcaps as those with stock market capitalizations higher than the 20th percentile of NYSE breakpoints in each month.

Restricting the analysis in Table 1 on this subset, we continue to find strong presidential cycles. Column (1) and (2) in Table 3 show that the initial response CAR[0,1] again weakens, with a presidential difference of -0.54% (t=-4.67). The post-announcement drift is also stronger during Republican presidencies, with a difference of 0.55% (t=2.86). Hence our results are robust and unlikely driven by the performance of microcap stocks.

#### [Table 3 about here]

### 3.4 Controlling for existing explanations for PEAD

Having established the presidential cycles in PEAD using both portfolio sorts and regression analysis, we now investigate whether these cycles are subsumed by existing explanations for PEAD. In this subsection, we conduct multivariate tests using pooled regressions controlling for a wide range of firm and industry characteristics to assess the incremental power of presidential cycles on PEAD.

Our controls can be grouped into three categories. The first category includes measures of limited attention, such as the number of announcement quintile rank (NRank) following Hirshleifer et al. (2009), stock market return on the announcement date ( $MKT_{Ann}$ ) (Kottimukkalur, 2019), weekday dummy controlling for reduced attention on Friday

(DellaVigna and Pollet, 2009), and price delay (*PDelay*) from (Hou and Moskowitz, 2005). The second category focuses on limits to arbitrage, such as the number of analysts following the firm (#*Analyst*) in Bhushan (1994), expected risk, abnormal risk (Mendenhall, 2004), idiosyncratic volatility (Ang et al., 2006) and illiquidity Amihud (2002). The third category includes other firm characteristics such as size, book-to-market ratio, momentum and industry dummy variables. Table A.1 details the construction of these variables.

We re-run regressions as eq. (4) with control variables and their interactions with SUE:

$$CAR_{i,t}[0,1] = \alpha_0 + \beta_0 SUE_{i,t} + \gamma_0 RD_t + \theta_0 SUE_{i,t} \times RD_t$$

$$+ \sum_{i=1}^{n} c_i X_i + \sum_{i=1}^{n} b_i (SUE_{i,t} \times X_i) + \epsilon_{i,t},$$

$$CAR_{i,t}[2,31] = \alpha_1 + \beta_1 SUE_{i,t} + \gamma_1 RD_t + \theta_1 SUE_{i,t} \times RD_t$$

$$+ \sum_{i=1}^{n} c_i X_i + \sum_{i=1}^{n} b_i (SUE_{i,t} \times X_i) + \nu_{i,t}.$$
(5)

Table 4 presents the results. Although we include a comprehensive set of control variables which cover a majority of the existing explanations for PEAD, the influences of presidential cycles on PEAD remain economically meaningful and statistically significant. Specifically, the initial response CAR[0,1] weakens significantly during Republican presidency periods ( $\theta_0 = -0.54$ , t = -4.83), with an economically significant difference: the market response is 8.29% weaker (0.54/6.51) during Republican periods. Consistent with the dampened immediate price responses, the post-announcement drift is stronger, with the interaction term's coefficient being both economically meaningful and statistically significant ( $\theta_1 = 0.59$ , t = 3.22). This suggests that the PEAD effect is 86.76% (0.59/0.68) stronger during Republican presidential terms compared to Democratic ones. In sum, our finding regarding the impact of presidential cycles on PEAD is novel and not attributable to any existing explanations.

#### [Table 4 about here]

### 3.5 Presidential Cycles and Belief Underreaction to Earnings News

The price reaction is solely one aspect of market response to earnings news. An equally important dimension is investors' *beliefs*. In this section, we explore whether the beliefs similarly underreact more to earnings news. Furthermore, to be consistent with our PEAD results, we evaluate whether such underreaction also varies systematically across different presidential affiliations.

We follow e.g., Coibion and Gorodnichenko (2015); Bordalo et al. (2019); Bouchaud et al. (2019) by first estimating the following regression

$$e_{i,t+1} - E_t e_{i,t+1} = \alpha + \beta (E_t e_{i,t+1} - E_{t-1} e_{i,t+1}) + \epsilon_{i,t+1}. \tag{6}$$

Here, the dependent variable is the forecast error for firm i that announce its outcome for the fiscal period t + 1.  $E_t e_{i,t+1}$  represents the consensus forecast for earnings  $e_{t+1}$  conditional on announced outcome for the fiscal period t. To obtain  $E_t e_{i,t+1}$ , we follow Bouchaud et al. (2019) and calculate the median of all individual earnings forecasts for  $e_{i,t+1}$  that are issued between the end of firm i's fiscal quarter t and the end of fiscal quarter t + 1. Similarly,  $E_{t-1}e_{i,t+1}$  is computed using forecasts issued between fiscal quarter t - 1 and t.

Regression (6) utilizes revisions in consensus earnings forecasts to predict subsequent forecast errors. Under rational expectation, forecast errors should not be predictable, implying  $\beta = 0$ . However, if the market underreacts to earnings news, forecast errors will be predictable. Following good (or bad) earnings news in fiscal quarter t, investors will revise their future earnings forecasts upward (or downward), but these revisions will be insufficient. As a result, subsequent forecast errors will positively (negatively)

surprise the investors, leading to a positive  $\beta$ .<sup>7</sup>

To further explore whether this underreaction varies with presidential cycles, we extend (6) to:

$$e_{i,t+1} - E_t e_{i,t+1} = \alpha + \beta (E_t e_{i,t+1} - E_{t-1} e_{i,t+1}) + \gamma R D_t$$

$$+ \theta (E_t e_{i,t+1} - E_{t-1} e_{i,t+1}) \times R D_t + \epsilon_{i,t+1}.$$
(7)

Similar to eq. (4), we add the interaction term  $(E_t e_{i,t+1} - E_{t-1} e_{i,t+1}) \times RD_t$  to test if the relationship between forecast errors and past revisions is stronger during Republican presidencies. We also include the lagged forecast error and its interaction with presidential dummy to control for the autocorrelation in forecast errors. If investors underreact more to earnings news during these periods, we would expect  $\theta > 0$ .

Similar to Bouchaud et al. (2019), we pool firm-level quarterly earnings announcements in the lowest and highest SUE quintiles to estimate regression (6) and (7). To ensure comparability across firms, we scale both forecast errors and revisions by the stock price at the end of fiscal quarter t-1. Column (1) in Table 5 presents the estimation results. First, consistent with Bouchaud et al. (2019), we find that forecast revisions independently have significant predictive power for subsequent forecast errors—higher forecast revisions are strongly associated with higher forecast errors. Second, the degree to which forecast errors are predictable based on revisions varies significantly by presidential regime. During Republican presidencies, the underreaction to earnings news is around four times stronger than during Democratic presidencies.<sup>8</sup> In Column (2), we find similar patterns even after including additional controls as in regression (5) and

<sup>&</sup>lt;sup>7</sup>Coibion and Gorodnichenko (2015) document that the slope coefficient is linked to structural parameters that capture information stickiness or noise. Higher β could reflect more sticky information or noisier information, both would contribute to more underreaction to news. An advantage of analyzing (6) is that we can quantify how large the underreaction could be, without taking a stand on the mechanism that generates underreaction.

<sup>&</sup>lt;sup>8</sup>Coibion and Gorodnichenko (2015) show that the slope coefficient equals to  $\frac{\lambda}{1-\lambda}$ , where higher  $\lambda$  reflects higher information stickiness or noisiness, and thus more underreaction. Our estimates imply  $\lambda = 0.05$  (0.19) when the US president is Democrat (Republican).

their interaction with the presidential dummy. Third, Column (3) and (4) show that the relationship robustly holds under the full-sample that includes all SUE quintiles. Therefore, the evidence is consistent with stronger market's underreaction to earnings news during Republican administrations.

[Table 5 about here]

# 4 Political Uncertainty and Presidential Cycles

The return- and survey-based evidence echo each other and implies stronger underreaction and PEAD effect during Republican presidencies. The existing explanations based on investor inattention to earnings news (DellaVigna and Pollet, 2009; Hirshleifer et al., 2009) or disposition effect (Frazzini, 2006), are unlikely to account for the low-frequency variation in PEAD that aligns with presidential party affiliation.

In this section, we explore the connection of our results with the political uncertainty. The impact of political uncertainty on the macroeconomy and the financial market has been both substantial and persistent (see, e.g., Baker et al., 2016; Pastor and Veronesi, 2012; Pástor and Veronesi, 2013). Periods of heightened economy-wide political uncertainty—particularly during Republican presidencies—may lead investors to become *excessively* uncertain about firm-level earnings, thereby amplifying the PEAD effect. This is also consistent with the theoretical discussion in Daniel et al. (1997, 2001) and empirical findings in Zhang (2006), who show that higher firm-level information uncertainty can lead to stronger price underreaction to earnings news.

### 4.1 Tax part of corporate earnings and tax policy uncertainty

However, various dimensions of policy uncertainty can influence firm-level outcomes. A natural starting point is tax policy. First, taxes constitute a significant portion of firms'

pretax income and are pervasive across US firms. Second, there are stark differences in desired tax policies between the two major political parties. Republicans are generally viewed as favoring lower corporate taxes, whereas Democrats tend to support higher taxes (see, e.g., Reed, 2006; Wright, 2012; Pástor and Veronesi, 2020). Indeed, Wright (2012) document that Republican politicians have consistently advocated for tax cuts since 1980.

Third, and perhaps more importantly, different desired policies can lead to different levels of tax policy uncertainty. For example, although tax cuts under Republican administrations may appear favorable to the economy, their implementation is often complex and subject to considerable uncertainty. Concerns about fiscal deficits may cast doubt on the sustainability of such cuts, while a divided government can further complicate their enactment and longevity. In contrast, tax policy uncertainty under Democratic presidencies may take a different form, as tax increases tend to be much more difficult to enact and less politically popular than tax cuts.

Therefore, we conjecture that exposure to potentially high tax policy uncertainty during Republican presidencies may help explain our findings. If investors face significant uncertainty about the tax component of firms' income, they are likely to be more uncertain about after-tax earnings, leading to an underreaction to earnings news.

To highlight the significance of the tax component in firms' earnings, we note the following accounting identity for realized (after-tax) earnings:

$$Earnings = Income + Special item - Interest expense - Tax + Other,$$
 (8)

where *Other* represents all other minor components in after-tax earnings, such as extraordinary item, minority interest and dividend payout. Using firm-level accounting data on each component, we run a cross-sectional variance decomposition of earnings based on the above identity. Table 6 shows the results. While a firm's income is un-

surprisingly the dominant component of actual earnings, the tax component accounts for a substantial portion of the cross-sectional variations in actual after-tax earnings. For instance, the two income components, operating income after depreciation (OIADP) and non-operating income (NOPI) account for around 69% of after-tax earnings and tax component contributes nearly 16% for the after-tax earnings. Other components such as interests (XINT), extraordinary item (XI) account for much smaller portion (below 5%) in actual earnings.

#### [Table 6 about here]

### 4.2 Connection with presidential cycles in PEAD

Next, we connect the tax policy uncertainty with the presidential cycles in PEAD. A natural test is to focus on firms with large exposure to tax policy uncertainty, as we would expect the presidential cycles in PEAD to be particularly pronounced among these stocks. Furthermore, if the tax policy uncertainty indeed explains observed presidential cycles, we would expect these cycles to disappear for stocks with low exposure to tax policy uncertainty.

To capture a firm's exposure, we define the following measure:

Tax exposure = 
$$\frac{|\text{Tax}|}{|\text{Pretax income}|}.$$
 (9)

Intuitively, whether a firm faces a large tax burden (positive Tax) or a tax benefit (negative Tax), it is more exposed to potential changes in tax policy. Therefore, we expect that tax policy uncertainty will amplify the PEAD effect among these firms.

<sup>&</sup>lt;sup>9</sup>The special items also contribute significantly, likely due to their frequent zero values and occasional large, infrequent entries on firms' balance sheets. However, this does not affect our results. Table OA.3 shows that the tax component is actually the second most important determinant, when restricting the sample to firms with zero special items. Table OA.4 further demonstrates that the presidential cycles in PEAD remain significant for this subset of firms.

For each firm-quarter, we calculate tax exposure using the total tax amount and total pretax income from the past three fiscal years. We then independently double-rank all stocks based on their SUE and tax policy exposures. In each month, we sort the stocks into quintiles based on their SUE, and into two groups based on the cross-sectional median of tax exposures. We define firms that have above median tax exposures as the group with high tax exposures.

We then examine whether the presidential cycles in PEAD are mostly driven by firms with high tax exposure. To make this test more stringent, we evaluate the results separately for the lowest (short-leg) and highest (long-leg) SUE-sorted quintiles. Specifically, we estimate the following regressions by pooling firms within either the short- or long-leg groups:

$$CAR_{i,t}[2,31] = \alpha + \theta_S RD_t + \gamma_S RD_t \times HighExposure_{i,t} + \nu_{i,t}, \tag{10}$$

$$CAR_{i,t}[2,31] = \alpha + \theta_L RD_t + \gamma_L RD_t \times HighExposure_{i,t} + \epsilon_{i,t}. \tag{11}$$

Panel A of Table 7 reports the results. When the interaction term is omitted, we find significantly negative (positive) coefficients on  $RD_t$  in the short-leg (long-leg) portfolios. This is consistent with our earlier findings in Table 1, where firms from both legs were pooled together.

Interestingly, after including the interaction term, the coefficients on  $RD_t$  become statistically insignificant and close to zero, while the coefficients on the interaction terms turn significant. This pattern suggests that the presidential cycles in PEAD are dominantly driven by firms with high tax exposure, consistent with our underlying conjecture.

In Panel B, we replicate the analysis from Table 1, but restrict the sample to firms with high tax exposure. The presidential cycles in PEAD become markedly stronger in this subsample. Specifically, the inter-quantile spread in the 30-day post-announcement

cumulative abnormal returns between firms with the highest and lowest earnings surprises (all with high tax exposure) is 1.88% during Republican presidencies. In sharp contrast, the corresponding spread is only 0.87% during Democratic presidencies. This results in an economically and statistically significant difference of 1.01% (t = 4.65), representing more than a 100% proportional increase. As a complementary results, in Panel C we show that presidential cycles effectively vanish among all other stocks. Neither the coefficient on  $RD_t$  nor the interaction term is statistically significant.

[Table 7 about here]

### 5 Additional Results and Robustness

This section explores whether the presidential cycles in PEAD are resilient to the effect from other political forces. We also perform a battery of robustness checks to test whether our results are driven by specific subsamples.

# 5.1 Alternative political dimensions

#### 5.1.1 President's tenure

We examine whether the observed presidential cycles in PEAD are influenced by the specific years of a president's tenure. We split the sample based on the years within a president's term from year 1 to year 4 with the fifth year counted as the first year. Then, we compare the PEAD effect under Republican and Democratic administrations. As shown in Panel A of Table OA.5, across the first to the fourth year of the president's term, the immediate response (CAR[0,1]) is significantly weaker under Republican presidencies compared to Democratic ones. The post-announcement drift (CAR[2,31]) is stronger for Republican presidents, although not statistically significant due to fewer observations in the first two years of the president's terms.

#### 5.1.2 Mid-term elections

Chan and Marsh (2021) highlight the significant role of U.S. midterm elections in asset pricing, showing that post-midterm election months are characterized by higher equity premiums. To investigate whether the impact of presidential cycles on PEAD is due to mid-term election effects on equity premiums, we follow Chan and Marsh (2021) by defining post-midterm election periods as December through the following April. Then, we divide the sample into post-midterm election periods (50 months) and other months (430 months) and analyze the PEAD effect during Republican and Democratic presidencies. Panel B of Table OA.5 shows that the post-announcement drift (CAR[2,31]) are statistically stronger under Republican presidencies than Democratic ones for both post mid-term election periods and other months. Hence, the impact of presidential cycles on PEAD is independent of the mid-term elections and deserves separate consideration.

#### 5.1.3 Partisan conflict

Recent years have witnessed the increasing divided government and intensified partisan conflict, which have pronounced influences on equity premium (Papamichalis et al., 2024). We delve into two dimensions to explore whether partisan conflict influences the presidential cycles in PEAD. First, we divide the sample into periods when both the Senate and the House are controlled by the same party and when they are controlled by different parties. As shown in Panel C of Table OA.5, no matter for the periods of coherent control or split control, the post-announcement drift (CAR[2,31]) are stronger for Republican presidents than Democratic ones, although lack of significance during periods of split control due to fewer observations (141 months).

Second, we utilize the partisan conflict index from Azzimonti (2018) and classify periods of high (low) partisan conflict as months with above (below) median partisan conflict. Panel C of Table OA.5 shows that the presidential cycles in PEAD persist in low partisan conflict periods, however, becomes insignificant during high partisan conflict

periods. Hence, divided government and intensified partisan conflict does not diminish the impacts of presidential cycles on PEAD.

#### 5.1.4 Which president matters?

As we explore the presidential cycles in PEAD, a key question arises: Which president has the most influence on these observed cycles? Our full sample, spanning from 1984 to 2023, includes ten presidential terms across seven presidents. In this section, we investigate whether our results are disproportionately influenced by any one or two presidents. To do so, we repeat the pooled regression analysis, systematically excluding one president at a time. For Bill Clinton, George W. Bush and Barack Obama, we separate their tenure into the first and second terms and examine the impact separately. Table OA.6 presents the findings, showing that from Ronald Reagan to Joe Biden, no single president uniquely drives the variation in PEAD performance across political regimes. The cross-regime difference in the post-announcement drift are all economically meaningful and statistically significant at the 1% level. These results indicate that the presidential cycles in the PEAD effect are a broad and consistent phenomenon, not attributable to the influence of any specific president.

#### 5.2 Investor inattention and distraction

#### 5.2.1 Friday vs. Non-Friday

DellaVigna and Pollet (2009) find that due to reduced attention on Fridays, earnings announcements experience a lower immediate response and a higher delayed response, which supports that PEAD is driven by underreaction caused by limited attention. In this part, we further address this "Friday effect" through a subsample analysis. Panel A of Table OA.7 shows that no matter for Friday or non-Friday announcements, the immediate response (CAR[0,1]) is significantly weaker while post-announcement drift (CAR[2,31])

is significantly stronger under Republican presidencies compared with Democratic ones. Therefore, the impact of the presidential cycles on the PEAD effect are not attributable to investors' inattention on Fridays.

#### 5.2.2 High number of announcements vs. Low number of announcements

Hirshleifer et al. (2009) find that when a greater number of same-day earnings announcements are made by other firms, the immediate price and volume reactions to a firm's earnings surprise are much weaker, while the post-announcement drift is much stronger. This supports the investor distraction hypothesis, which suggests that extraneous news inhibits market reactions to relevant information. To further distinguish with such distraction hypothesis, we divide the sample into subsamples based on the number of earnings announcements made on the same day and examine the impact of the presidential cycles within each subsample. Panel B of Table OA.7 shows that presidential cycles in PEAD are present in both subsamples, with immediate response (CAR[0,1]) being significantly weaker while post-announcement drift (CAR[2,31]) being significantly stronger for Republican presidents than Democratic ones. Hence, the presidential cycles in PEAD are not driven by investor distraction due to extraneous news.

# 5.3 Presidential cycles over longer horizons

Even though investors exhibit a stronger underreaction to earnings news during Republican presidencies, the mispricing will gradually be corrected as new information is incorporated into the stock price. Much of the correction may occur within the next one or two earnings announcements. To assess how long the presidential difference in post-earnings announcement drift persists, we analyze the post-earnings announcement drift over multiple horizons, from 30 to 120 trading days following announcements. Table OA.8 shows that the correction does not begin immediately; it becomes marginally significant only within the first 15 trading days after the announcement (t = 3.22) in the

regression of CAR[2,15]. The cross-regime difference in drift become significant around 30 days after the announcement (CAR[2,31]) and reach a plateau by 45 days with the coefficient on  $SUE_{Rank} \times RD$  being 0.10 (t = 2.23). Beyond this period, the difference in post-earnings announcement drift diminishes over longer horizons, becoming small and statistically insignificant by 60 trading days after the earnings announcement. Notably, apart from the initial 30-day period, the cumulative presidential effect (the coefficient on  $SUE_{Rank} \times RD$ ) as a percentage of the drift (the coefficient on  $SUE_{Rank}$ ) is monotonically decreasing over time as we expand the horizon from 45 days to 90 days. This accords well with the previous results that investors underreact more when a Republican is in office, and the mispricing due to such underreaction eventually will be corrected.

### 5.4 Alternative earnings surprise measures

In this part, we examine the robustness of presidential cycles in PEAD using alternative earnings surprise measures. Following the previous literature (e.g., Foster et al. (1984), Chordia and Shivakumar (2006), Avramov et al. (2013)), we scale the forecast error by its volatility over the past eight quarters. Specifically, the standardized unexpected earnings (SUE) is defined as:

$$SUE_{i,t} = \frac{EPS_{i,t} - FEPS_{i,t}}{Vol_{t-8,t}}.$$
(12)

Here  $EPS_{i,t}$  is the actual earnings per share of quarterly earnings for firm i-fiscal quarter t, and  $FEPS_{i,t}$  is the expected earnings per share, measured by the consensus analyst forecast. We scale the surprise by the volatility  $(Vol_{t-8,t})$  over the past eight quarters and repeat the pooled regression as Eq. (5). Table OA.9 shows that the results remain similar when using this alternative measure of earnings surprise. The initial response (CAR[0,1]) weakens significantly while post-announcement drift (CAR[2,31]) is stronger during Republican eras than Democratic ones. Hence, the impacts of presidential cycles

on PEAD are not due to any particular measure of standardized unexpected earnings.

### 6 Conclusion

In this paper, we document novel presidential cycles in post-earnings announcement drift (PEAD): it earns an average annual return of 4.13% during Democratic presidencies but surges significantly to 14.88% under Republican administrations. By analyzing price responses to earnings news, we find that investors' announcement date reactions to earnings news weaken substantially during Republican eras, whereas post-announcement drift is much stronger under Republican presidencies. Such presidential cycles are more pronounced among non-microcap firms, and are not driven by existing explanations of PEAD and remains significant among extensive robustness tests. Survey evidence also suggests a stronger belief underreaction during Republican eras.

The stronger underreaction likely arises from exposure to tax policy uncertainty. Consistently, we find that investor reactions to earnings announcements are much weaker for firms with greater exposure to tax policy uncertainty—particularly during Republican presidencies. This explanation accounts for the observed presidential cycles in PEAD.

# Appendix

**Table A.1:** Variable definitions

This table describes the constructions of the variables used in this paper.

Variable	Definition				
Main variables					
Standardized unexpected	Realized quarterly EPS minus the consensus forecast,				
earnings (SUE)	divided by stock price five trading day before the announcement Consensus forecasts are the median of individual analysts' earning per share (EPS) forecast from the I/B/E/S Unadjusted Detail file (FPI: 6, 7). Realized values are the actual EPS for the same fiscal quarter from the I/B/E/S actual files.				
Cumulative abnormal	Difference between the buy-and-hold return of the announcing				
returns ( $CAR[T_0, T_1]$ )	firm and that of a size, book-to-market (B/M) and momentum				
	matching portfolio over the window $T_0$ to $T_1$ in trading days relative to the announcement date.				
Firm characteristics					
Number of announcement	Monthly sorts of the earnings announcement				
quintile rank (NRank)	observations by the number of announcements on the				
	announcement day (Compustat: rdq). (Hirshleifer et al., 2009)				
Market return	Stock market return on the announcement date.				
$(MKT_{Ann})$	(Kottimukkalur, 2019)				
Price delay	Difference in $R^2$ between regressions of daily stock returns				
(PDelay)	on lagged market returns and without lagged market returns. (Hou and Moskowitz, 2005)				
Number of analyst	Number of analyst following the firm. (Bhushan, 1994)				
(#Analyst)	I/B/E/S Unadjusted Summary file (numest).				
Expected risk	Explained variance from a market model regression				
(ERisk)	estimated over the last 200 trading days ending 30 days prior to the earnings announcement month. (Mendenhall, 2004)				
Abnormal risk	Residual variance from a market model regression				
(ARisk)	estimated over the last 200 trading days ending 30 days prior to the earnings announcement month. (Mendenhall, 2004)				

Idiosyncratic volatility Standard deviation of the stock's daily idiosyncratic returns relative to the Fama-French three-factor model. (IVol) (Ang et al., 2006) Ratio of the daily absolute stock return to the daily dollar Illiquidity (Illig) trading volume averaged in each month. Amihud (2002) Size Product of price and the number of shares outstanding. Book-to-market Book value of shareholder equity plus deferred taxes and (BM)investment tax credit (if available) minus the book value of preferred stocks at the end of the last fiscal year, scaled by the market value at the end of December of last year. (Fama and Franch, 1992) Momentum Cumulative return of a stock over an 11-month window (MOM)ending one month before the portfolio formation. Current tax expenses Ratio of current income tax expenses (total income tax (Compustat: txt) minus the deferred income tax (Compustat: txdi)) over pretax income (Compustat: pi). We require strictly positive pretax income. Tax expense at the end of fiscal year t is matched to the following four fiscal quarters in year t + 1. Earnings component Operating income after Compustat item oiadpq scale by market capitalization depreciation (*OIADP*) of the fiscal quarter. Compustat item xintq scale by market capitalization Interest expense (XINT)of the fiscal quarter. Special item Compustat item spiq scale by market capitalization (SPI)of the fiscal quarter. Non-operating income Compustat item nopiq scale by market capitalization (NOPI)of the fiscal quarter. Tax expense Compustat item txtq scale by market capitalization (TAX)of the fiscal quarter.

of the fiscal quarter.

of the fiscal quarter.

of the fiscal quarter.

Compustat item miiq scale by market capitalization

Compustat item dvpq scale by market capitalization

Compustat item xiq scale by market capitalization

Minority interest

Dividend payout

Extraordinary item

(MII)

(DVP)

(XI)

### References

- Abarbanell, J. S. and Bernard, V. L. (1992). Tests of analysts' overreaction/underreaction to earnings information as an explanation for anomalous stock price behavior. *The journal of finance*, 47(3):1181–1207.
- Addoum, J. M. and Kumar, A. (2016). Political sentiment and predictable returns. *The Review of Financial Studies*, 29(12):3471–3518.
- Alesina, A. (1987). Macroeconomic policy in a two-party system as a repeated game. *The Quarterly journal of Economics*, 102(3):651–678.
- Amihud, Y. (2002). Illiquidity and stock returns: Cross-section and time-series effects. *Journal of Financial Markets*, 5:31–56.
- Ang, A., Hodrick, R. J., Xing, Y., and Zhang, X. (2006). The cross-section of volatility and expected returns. *The Journal of Finance*, 61(1):259–299.
- Avramov, D., Chordia, T., Jostova, G., and Philipov, A. (2013). Anomalies and financial distress. *Journal of Financial Economics*, 108(1):139–159.
- Azzimonti, M. (2018). Partisan conflict and private investment. *Journal of Monetary Economics*, 93:114–131.
- Baker, S. R., Bloom, N., and Davis, S. J. (2016). Measuring economic policy uncertainty. *Quarterly Journal of Economics*, 131:1593–1636.
- Ball, R. and Brown, P. (1968). Empirical evaluation of accounting income numbers. *Journal of Accounting Research*, 6(2):159–178.
- Barber, B. M., Lehavy, R., and Trueman, B. (2007). Comparing the stock recommendation performance of investment banks and independent research firms. *Journal of Financial Economics*, 85(2):490–517.
- Belo, F., Gala, V. D., and Li, J. (2013). Government spending, political cycles, and the cross section of stock returns. *Journal of financial economics*, 107(2):305–324.
- Bernard, V. L. and Thomas, J. K. (1989). Post-earnings-announcement drift: delayed price response or risk premium? *Journal of Accounting Research*, 27:1–36.
- Bernard, V. L. and Thomas, J. K. (1990). Evidence that stock prices do not fully reflect the implications of current earnings for future earnings. *Journal of accounting and economics*, 13(4):305–340.

- Bhushan, R. (1994). An informational efficiency perspective on the post-earnings announcement drift. *Journal of Accounting and Economics*, 18(1):45–65.
- Birru, J., Gokkaya, S., Liu, X., and Stulz, R. M. (2022). Are analyst short-term trade ideas valuable? *The Journal of Finance*, 77(3):1829–1875.
- Bordalo, P., Gennaioli, N., Porta, R. L., and Shleifer, A. (2019). Diagnostic expectations and stock returns. *The Journal of Finance*, 74(6):2839–2874.
- Bouchaud, J.-P., Krueger, P., Landier, A., and Thesmar, D. (2019). Sticky expectations and the profitability anomaly. *The Journal of Finance*, 74(2):639–674.
- Cao, S. S. and Narayanamoorthy, G. S. (2012). Earnings volatility, post–earnings announcement drift, and trading frictions. *Journal of Accounting Research*, 50(1):41–74.
- Chan, K. F. and Marsh, T. (2021). Asset prices, midterm elections, and political uncertainty. *Journal of Financial Economics*, 141(1):276–296.
- Chen, Z., Da, Z., Huang, D., and Wang, L. (2023). Presidential economic approval rating and the cross-section of stock returns. *Journal of Financial Economics*, 147(1):106–131.
- Chordia, T., Goyal, A., Sadka, G., Sadka, R., and Shivakumar, L. (2009). Liquidity and the post-earnings-announcement drift. *Financial Analysts Journal*, 65(4):18–32.
- Chordia, T. and Shivakumar, L. (2006). Earnings and price momentum. *Journal of Finan-cial Economics*, 80(3):627–656.
- Chordia, T., Subrahmanyam, A., and Tong, Q. (2014). Have capital market anomalies attenuated in the recent era of high liquidity and trading activity? *Journal of Accounting and Economics*, 58(1):41–58.
- Clark, T. E. and West, K. D. (2007). Approximately normal tests for equal predictive accuracy in nested models. *Journal of Econometrics*, 138:291–311.
- Cohen, L., Frazzini, A., and Malloy, C. (2010). Sell-side school ties. *The Journal of Finance*, 65(4):1409–1437.
- Coibion, O. and Gorodnichenko, Y. (2015). Information rigidity and the expectations formation process: A simple framework and new facts. *American Economic Review*, 105(8):2644–2678.

- Daniel, K., Grinblatt, M., Titman, S., and Wermers, R. (1997). Measuring mutual fund performance with characteristic-based benchmarks. *The Journal of finance*, 52(3):1035–1058.
- Daniel, K., Hirshleifer, D., and Sun, L. (2020). Short-and long-horizon behavioral factors. *The Review of Financial Studies*, 33(4):1673–1736.
- Daniel, K. D., Hirshleifer, D., and Subrahmanyam, A. (2001). Overconfidence, arbitrage, and equilibrium asset pricing. *The Journal of Finance*, 56(3):921–965.
- Della Vigna, S. and Pollet, J. M. (2009). Investor inattention and friday earnings announcements. *The Journal of Finance*, 64(2):709–749.
- Fama, E. F. (1998). Market efficiency, long-term returns, and behavioral finance. *Journal of Financial Economics*, 49(3):283–306.
- Fama, E. F. and Franch, K. R. (1992). The cross-section of expected stock returns. *The Journal of Finance*, 47(2):427–465.
- Fama, E. F. and French, K. R. (2008). Dissecting anomalies. *The journal of finance*, 63(4):1653–1678.
- Fama, E. F. and French, K. R. (2015). A five-factor asset pricing model. *Journal of Financial Economics*, 116(1):1–22.
- Fink, J. (2021). A review of the post-earnings-announcement drift. *Journal of Behavioral and Experimental Finance*, 29:100446.
- Foster, G., Olsen, C., and Shevlin, T. (1984). Earnings releases, anomalies, and the behavior of security returns. *Accounting Review*, pages 574–603.
- Frazzini, A. (2006). The disposition effect and underreaction to news. *The Journal of Finance*, 61(4):2017–2046.
- Goyal, A., Welch, I., and Zafirov, A. (2024). A comprehensive 2022 look at the empirical performance of equity premium prediction. *Review of Financial Studies*.
- Hansen, J. H. and Siggaard, M. V. (2023). Double machine learning: Explaining the post-earnings announcement drift. *Journal of Financial and Quantitative Analysis*, pages 1–28.
- Hirshleifer, D., Lim, S. S., and Teoh, S. H. (2009). Driven to distraction: Extraneous events and underreaction to earnings news. *The Journal of Finance*, 64(5):2289–2325.

- Hirshleifer, D., Lim, S. S., and Teoh, S. H. (2011). Limited investor attention and stock market misreactions to accounting information. *The Review of Asset Pricing Studies*, 1(1):35–73.
- Hou, K. and Moskowitz, T. J. (2005). Market Frictions, Price Delay, and the Cross-Section of Expected Returns. *The Review of Financial Studies*, 18(3):981–1020.
- Hou, K., Xue, C., and Zhang, L. (2014). Digesting Anomalies: An Investment Approach. *The Review of Financial Studies*, 28(3):650–705.
- Hou, K., Xue, C., and Zhang, L. (2020). Replicating anomalies. *The Review of Financial Studies*, 33(5):2019–2133.
- Hung, M., Li, X., and Wang, S. (2015). Post-earnings-announcement drift in global markets: Evidence from an information shock. *The Review of Financial Studies*, 28(4):1242–1283.
- Kishore, R., Brandt, M. W., Santa-Clara, P., and Venkatachalam, M. (2008). Earnings announcements are full of surprises. *Available at SSRN 909563*.
- Kothari, S. P. (2001). Capital markets research in accounting. *Journal of accounting and economics*, 31(1-3):105–231.
- Kottimukkalur, B. (2019). Attention to market information and underreaction to earnings on market moving days. *Journal of Financial and Quantitative Analysis*, 54(6):2493–2516.
- Livnat, J. and Mendenhall, R. R. (2006). Comparing the post–earnings announcement drift for surprises calculated from analyst and time series forecasts. *Journal of Accounting Research*, 44(1):177–205.
- Martineau, C. (2021). Rest in peace post-earnings announcement drift. *Critical Finance Review*.
- Mendenhall, R. R. (2004). Arbitrage risk and post-earnings-announcement drift. *The Journal of Business*, 77(4):875–894.
- Meursault, V., Liang, P. J., Routledge, B. R., and Scanlon, M. M. (2023). Pead. txt: Postearnings-announcement drift using text. *Journal of Financial and Quantitative Analysis*, 58(6):2299–2326.
- Narayanamoorthy, G. (2006). Conservatism and cross-sectional variation in the post–earnings announcement drift. *Journal of Accounting Research*, 44(4):763–789.

- Nozawa, Y., Qiu, Y., and Xiong, Y. (2022). Disagreement and bond pead. *Available at SSRN* 3990000.
- Papamichalis, T., Ryu, D., and Wilson, M. I. (2024). Divided government and stock returns. *Available at SSRN 4287033*.
- Pastor, L. and Veronesi, P. (2012). Uncertainty about government policy and stock prices. *The Journal of Finance*, 67(4):1219–1264.
- Pástor, L. and Veronesi, P. (2013). Political uncertainty and risk premia. *Journal of Financial Economics*, 110(3):520–545.
- Pástor, L. and Veronesi, P. (2020). Political cycles and stock returns. *Journal of Political Economy*, 128(11):4011–4045.
- Reed, W. R. (2006). Democrats, republicans, and taxes: Evidence that political parties matter. *Journal of Public Economics*, 90(4-5):725–750.
- Santa-Clara, P. and Valkanov, R. (2003). The presidential puzzle: Political cycles and the stock market. *The Journal of Finance*, 58(5):1841–1872.
- Wright, J. R. (2012). Unemployment and the democratic electoral advantage. *American Political Science Review*, 106(4):685–702.
- Zhang, X. F. (2006). Information uncertainty and stock returns. *The Journal of Finance*, 61(1):105–137.

**Table 1:** Presidential cycles in PEAD: Regression analysis

This table reports the effects of the presidential cycles on the relation between earnings surprises and announcement or post-announcement returns. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]).  $SUE_5$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. Dependent variables are truncated at 0.5% and 99.5% level. All regressions include industry dummy and weekday dummy. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01 - 2023:12.

	CAR[0,1]	CAR[0,1]	CAR[2,31]	CAR[2,31]	CAR[0,1]	CAR[2,31]
	(1)	(2)	(3)	(4)	(5)	(6)
$\overline{SUE_5}$	4.80	4.99	1.22	0.92		
	(92.12)	(70.70)	(15.85)	(8.44)		
$SUE_5 \times RD$		-0.40		0.64		
		(-3.84)		(4.18)		
$SUE_{Rank}$					1.24	0.23
					(74.42)	(9.80)
$SUE_{Rank} \times RD$					-0.08	0.13
					(-3.42)	(3.90)
RD		0.23		-0.27	0.25	-0.30
		(3.44)		(-2.42)	(3.19)	(-2.72)
Constant	-2.32	-2.43	-0.39	-0.26	-3.63	-0.64
	(-33.25)	(-31.59)	(-3.01)	(-1.85)	(-54.78)	(-5.64)
Adjusted $R^2$	0.11	0.11	0.01	0.01	0.07	0.01
Obs.	113,831	113,831	113,498	113,498	288,889	287,898

**Table 2:** Presidential cycles in PEAD: Calendar-time portfolio

This table reports returns of the calendar-time daily portfolio sorted on earnings surprise, where Low (High) refers to the portfolio with lowest (highest) earnings surprise, and High – Low refers to the strategy that buys High and sells Low. Daily portfolio returns include average excess returns, abnormal returns adjusted by Fama and French (2015) and DGTW characteristic-adjusted returns (all in annualized terms). Democratic and Republican refer to the samples that are split in time series into Democratic and Republican presidency periods. REP – DEM refers to the difference between Democratic and Republican presidency periods. Bootstrapped *t*-values are reported in parentheses. All portfolios are value weighted and rebalanced at a daily frequency. The sample period is 1984:01 – 2023:12.

	Low	P2	P3	P4	High	High – Low
Panel A: F	ull sample					
Excess	4.97	7.11	8.62	11.36	14.76	9.78
	(1.36)	(2.36)	(2.87)	(3.52)	(4.03)	(4.40)
$\alpha_{\mathrm{FF5}}$	-4.16	-1.96	0.48	2.56	4.61	8.77
	(-2.41)	(-1.76)	(0.43)	(2.02)	(2.88)	(4.10)
DGTW	-0.68	-1.66	-0.80	1.99	3.52	4.20
	(-0.49)	(-1.70)	(-0.84)	(1.96)	(2.46)	(2.15)
Panel B: D	emocratic					
Excess	12.14	11.11	10.75	13.63	16.27	4.13
	(2.42)	(2.75)	(2.52)	(3.24)	(3.37)	(1.31)
$\alpha_{ ext{FF5}}$	-2.42	-1.91	-1.17	0.65	1.09	3.51
	(-0.92)	(-1.17)	(-0.68)	(0.36)	(0.48)	(1.02)
DGTW	1.88	-1.76	-1.91	1.49	1.67	-0.20
	(0.82)	(-1.18)	(-1.32)	(0.95)	(0.90)	(-0.07)
Panel C: R	epublican					
Excess	-1.49	3.50	6.71	9.32	13.39	14.88
	(-0.28)	(0.78)	(1.65)	(2.08)	(2.55)	(4.71)
$\alpha_{\mathrm{FF5}}$	-5.72	-2.00	1.97	4.28	7.79	13.51
	(-2.45)	(-1.34)	(1.32)	(2.57)	(3.35)	(4.65)
DGTW	-2.99	-1.57	0.20	2.44	5.19	8.17
	(-1.75)	(-1.22)	(0.16)	(1.75)	(2.40)	(3.12)
Panel D: R	lepublican –	Democratic				
Excess	-13.63	-7.60	-4.04	-4.31	-2.87	10.76
	(-1.86)	(-1.32)	(-0.67)	(-0.71)	(-0.39)	(2.32)
$\alpha_{ ext{FF5}}$	-3.30	-0.09	3.14	3.63	6.70	10.01
	(-0.95)	(-0.04)	(1.36)	(1.47)	(1.97)	(2.19)
DGTW	-4.86	0.19	2.11	0.95	3.51	8.38
	(-1.74)	(0.10)	(1.10)	(0.45)	(1.21)	(2.15)

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Table 3: Presidential cycles in PEAD: Non-microcap firms

This table reports the multivariate tests of the effects of presidential cycles on the relation between earnings news and market reactions for non-microcap companies. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]).  $SUE_5$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. Control variables include the number of announcements quintile, stock market return on the announcement day, number of analysts following the firm, abnormal risk, expected risk, price delay, book-to-market ratio, illiquidity, idiosyncratic volatility, momentum and size and their interactions with SUE. Dependent variables are truncated at 0.5% and 99.5% level. All regressions include industry dummy and weekday dummy. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01 - 2023:12.

	CAR[0,1]	CAR[2,31]	CAR[0,1]	CAR[2,31]
	(1)	(2)	(3)	(4)
$\overline{SUE_5}$	6.59	0.87		
	(31.74)	(2.37)		
$SUE_5 \times RD$	-0.54	0.55		
	(-4.67)	(2.86)		
$SUE_{Rank}$			1.79	0.19
			(38.95)	(2.50)
$SUE_{Rank} \times RD$			-0.12	0.11
			(-4.54)	(2.64)
RD	0.35	-0.26	0.37	-0.22
	(4.46)	(-1.72)	(4.49)	(-1.66)
Controls	Y	Y	Y	Y
interacted with SUE	Y	Y	Y	Y
Constant	-3.32	-0.65	-5.18	-0.83
	(-21.46)	(-2.14)	(-34.85)	(-3.18)
Adjusted R <sup>2</sup>	0.11	0.01	0.07	0.01
Obs.	69,412	69,427	228,264	228,023

Table 4: Presidential cycles in PEAD: Control for other explanations

This table reports the multivariate tests of the effects of presidential cycles on the relation between earnings news and market reactions controlling for other explanations. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]).  $SUE_5$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. Control variables include the number of announcements quintile, stock market return on the announcement day, number of analysts following the firm, abnormal risk, expected risk, price delay, book-to-market ratio, illiquidity, idiosyncratic volatility, momentum and size and their interactions with SUE. Dependent variables are truncated at 0.5% and 99.5% level. All regressions include industry dummy and weekday dummy. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01-2023:12.

	CAR[0,1]	CAR[2,31]	CAR[0,1]	CAR[2,31]
	(1)	(2)	(3)	(4)
$\overline{SUE_5}$	6.83	0.84		
	(41.31)	(2.95)		
$SUE_5 \times RD$	-0.29	0.65		
	(-2.95)	(4.16)		
$SUE_{Rank}$			1.75	0.23
			(46.21)	(3.70)
$SUE_{Rank} \times RD$			-0.06	0.12
			(-2.75)	(3.66)
RD	0.18	-0.29	0.18	-0.30
	(2.71)	(-2.59)	(2.47)	(-2.67)
Controls	Y	Y	Y	Y
interacted with SUE	Y	Y	Y	Y
Constant	-3.26	-0.12	-4.98	-0.47
	(-26.65)	(-0.49)	(-39.40)	(-2.14)
Adjusted $R^2$	0.12	0.01	0.08	0.01
Obs.	111,728	111,542	284,011	283,311

**Table 5:** Presidential cycles and analysts underreaction

This table reports the impacts of presidential cycles on analysts underreaction. We calculate forecast error (FE) as actual earnings per share minus the consensus analyst forecast and forecast revision (FR) as the difference between consensus forecast  $E_t e_{i,t+1}$  and  $E_{t-1}e_{i,t+1}$ , both forecast error and forecast revision are scaled by lagged stock price. RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. Control variables include the number of announcements quintile, number of analysts following the firm, abnormal risk, expected risk, price delay, book-to-market ratio, illiquidity, idiosyncratic volatility, momentum and size and their interactions with Republican dummy. All regressions include industry dummy and weekday dummy. Dependent variables are truncated at 0.5% and 99.5% level. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01 - 2023:12.

	Low and 1	High SUE groups	Full s	ample
	(1)	(2)	(3)	(4)
$\overline{FR \times RD}$	0.19	0.19	0.14	0.14
	(4.24)	(4.22)	(3.76)	(3.68)
FR	0.05	0.05	0.05	0.05
	(2.31)	(2.23)	(2.74)	(2.61)
$FElag \times RD$	-0.01	-0.01	0.01	0.01
	(-0.03)	(-0.34)	(0.54)	(0.18)
FElag	0.20	0.19	0.20	0.20
	(14.38)	(13.40)	(15.43)	(14.42)
RD	-0.01	0.01	-0.01	0.01
	(-4.96)	(1.30)	(-6.24)	(1.76)
Controls	N	Y	N	Y
Interacted with RD	N	Y	N	Y
Constant	-0.01	-0.01	-0.01	-0.01
	(-4.48)	(-2.91)	(-4.59)	(-1.94)
Adjusted $R^2$	0.07	0.07	0.06	0.06
Obs	86,276	78,550	236,516	216,913

**Table 6:** Variance decomposition of earnings component

This table reports the cross-sectional variance decomposition of actual earnings based on the identity in Eq. (8). We decompose the earnings into income component, including operating income after depreciation (OIADP) and non-operating income (NOPI), special item (SPI), interest expense (XINT), tax (TAX), minority interest (MII), dividend payout (DVP) and extraordinary item (XI). We also report the variance decomposition of actual earnings under Democratic and Republican presidencies. Newey-west t-values are reported in parentheses. The sample period is 1984:01 – 2023:12.

	Full sample	Democratic	Republican
OIADP	63.95	63.52	64.33
	(27.42)	(28.98)	(16.91)
XINT	4.94	4.28	5.53
	(5.79)	(4.67)	(4.04)
SPI	37.73	41.31	34.47
	(24.67)	(19.78)	(16.62)
NOPI	5.52	4.37	6.57
	(6.18)	(6.40)	(4.10)
TAX	-15.72	-15.25	-16.14
	(-11.88)	(-9.40)	(-8.44)
MII	-0.64	-0.84	-0.45
	(-4.59)	(-3.66)	(-2.82)
DVP	0.88	1.12	0.66
	(4.71)	(3.56)	(3.25)
XI	3.35	1.50	5.03
	(5.56)	(3.40)	(5.16)

Table 7: Presidential cycles and PEAD from tax policy uncertainty

This table reports the results connecting tax policy uncertainty with presidential cycles in PEAD. Dependent variable is the post-announcement cumulative abnormal return (CAR[2,31]). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. High Exposure is a dummy variable that equals one (zero) for firms with above (below) median tax exposures.  $SUE_5$  is an indicator variable which equals which equals one (zero) for top (bottom) earnings quintile. All regressions include industry dummy and weekday dummy. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01 - 2023:12.

Panel A: Tax policy uncertainty in Low and High SUE groups						
	Low	SUE		High SUE		
RD	-0.26 (-2.33)	-0.01 (-0.05)	0.37 (3.35)	0.06 (0.39)		
$HighExposure \times RD$	(2.88)	-0.47	(0.00)	0.49		
HighExposure		(-2.11) 0.47		(2.36) 0.08)		
Tilgriz, posure		(2.81)		(0.53)		
Constant	-0.40	-0.56	0.83	0.90		
Do	(-2.21)	(-2.65)	(4.32)	(4.02)		
R2	0.01	0.01	0.01	0.01		
Obs	56,570	48,424	56,281	48,355		
Panel B: High tax policy	uncertainty		ow and High	- I		
$SUE_5 \times RD$		1.01		1.02		
		(4.65)		(4.60)		
$SUE_5$		0.87		0.62		
		(5.55)		(1.51)		
RD		-0.48		-0.49		
		(-3.03)		(-3.08)		
Controls		N		Y		
Constant		-0.1		0.17		
		(-0.46)		(0.52)		
R2		0.01		0.01		
Obs		46,280		45,587		
Panel C: Other firms in	Low and Hi	igh SUE gro	ups			
$\overline{SUE_5} \times \mathrm{RD}$		0.35		0.36		
		(1.64)		(1.68)		
$SUE_5$		0.97		0.99		
		(6.92)		(2.61)		
RD		-0.11		-0.14		
		(-0.73)		(-0.94)		
Controls		N		Y		
Constant		-0.34		-0.32		
		(-1.85)		(-1.05)		
R2		0.01		0.01		
Obs		65,5 <b>&amp;</b> 5		65,333		

Figure 1: SUE spread portfolio: Cumulative performance

This figure plots the cumulative return and FF5 alpha of the SUE spread portfolio. Payoffs are scaled using the natural logarithm. The sample period associated with Democratic (Republican) presidents is in blue (red) color. All portfolios are value weighted and rebalanced at a monthly frequency. The sample period is 1984:01 – 2023:12.

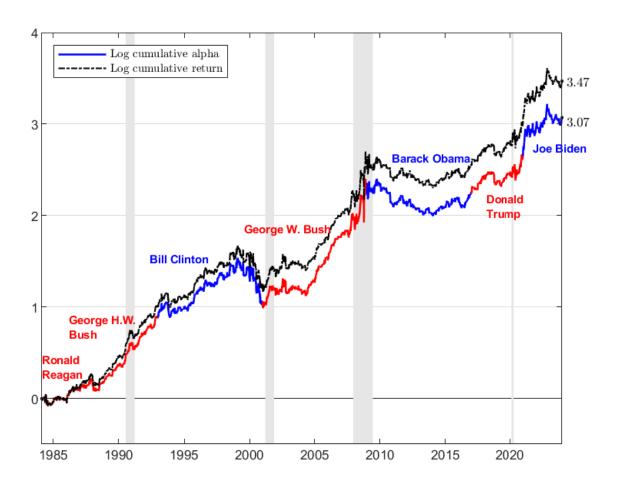
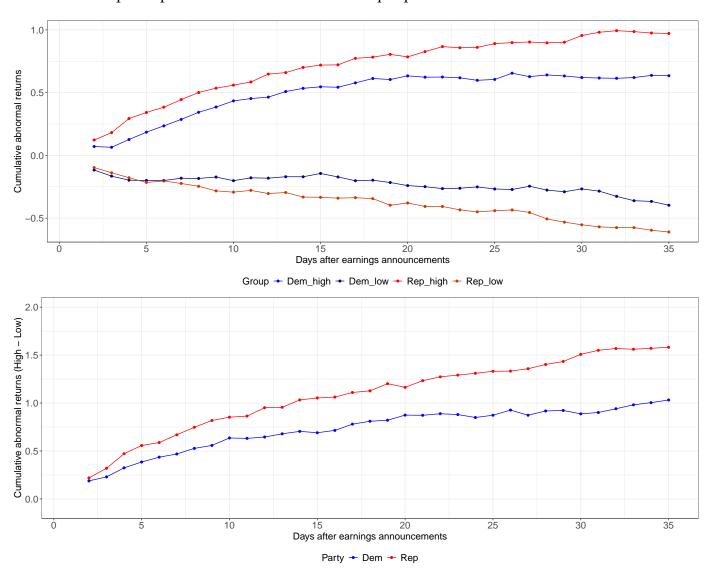


Figure 2: Post-earnings announcement drifts under different presidents

The upper panel plots the post-announcement cumulative abnormal returns from the highest and the lowest SUE portfolios across different presidential administrations. We calculate the average cumulative abnormal return from the spread portfolio from day 2 through day h after the earnings announcement, with h extending up to 35 days. The lower panel plots their difference. The sample period is 1984:01 – 2023:12.



## Online Appendix to "Presidential Cycles in PEAD"

**Table OA.1:** Presidential cycles in PEAD: Calendar portfolio – alternative settings

This table reports returns of the calendar-time daily portfolio sorted on earnings surprise, where Low (High) refers to the portfolio with lowest (highest) earnings surprise, and High – Low refers to the strategy that buys High and sells Low. Daily portfolio returns include abnormal returns adjusted by CAPM model and Hou et al. (2014) Q-factor model (all in annualized terms). Democratic and Republican refer to the samples that are split in time series into Democratic and Republican presidency periods. REP – DEM refers to the difference between Democratic and Republican presidency periods. Bootstrapped *t*-values are reported in parentheses. All portfolios are value weighted and rebalanced at a daily frequency. The sample period is 1984:01 – 2023:12.

	Low	P2	P3	P4	High	High – Low
Panel A:	Full sample					
$\alpha_{\text{CAPM}}$	-4.98	-1.60	-0.19	2.27	5.09	10.08
	(-2.70)	(-1.47)	(-0.16)	(1.85)	(3.03)	(4.41)
$\alpha_{HXZ}$	-2.55	-1.76	-0.13	2.53	5.22	7.77
	(-1.41)	(-1.54)	(-0.11)	(1.95)	(3.22)	(3.41)
Panel B: I	Democratic					
$\alpha_{\text{CAPM}}$	-2.50	-1.69	-2.21	0.26	2.06	4.56
	(-0.95)	(-1.00)	(-1.23)	(0.15)	(0.86)	(1.32)
$\alpha_{HXZ}$	-0.51	-1.82	-1.90	0.54	1.84	2.35
	(-0.19)	(-1.06)	(-1.07)	(0.30)	(0.78)	(0.69)
Panel C: 1	Republican					
$\alpha_{\text{CAPM}}$	-7.22	-1.51	1.63	4.08	7.83	15.05
	(-2.84)	(-1.00)	(1.07)	(2.53)	(3.35)	(5.01)
$\alpha_{HXZ}$	-4.39	-1.71	1.48	4.32	8.27	12.66
	(-1.83)	(-1.12)	(0.97)	(2.51)	(3.41)	(3.91)
Panel D:	Republican –	Democratic				
$\alpha_{\text{CAPM}}$	-4.73	0.18	3.84	3.82	5.77	10.49
	(-1.29)	(0.08)	(1.67)	(1.54)	(1.62)	(2.27)
$\alpha_{HXZ}$	-3.88	0.11	3.38	3.78	6.43	10.30
	(-1.11)	(0.05)	(1.46)	(1.61)	(1.82)	(2.25)

**Table OA.2:** Presidential cycles in PEAD: Time series regression

This table reports the results of predicting the returns of PEAD spread portfolio using Republican dummy as:

$$R_{t+1} = \alpha + \beta RD_t + Controls_t + \epsilon_{t+1}$$

RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. Control variables include the robust stock return predictors in Goyal et al. (2024), which are the technical indicator (TCHI), the short stock interest holdings (SHTINT), the output gap (OGAP), the cross-section based tail risk (TAIL), the average correlation of stock returns (AVGCOR). Reported are regression slope, t-value, in-sample  $R^2$ , and out-of-sample  $R^2_{OS}$ . Statistical significance for  $R^2_{OS}$  is based on the p-value of the Clark and West (2007) MSFE-adjusted statistic for testing:  $H_0: R^2_{OS} \leq 0$  against  $H_A: R^2_{OS} > 0$ . \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% levels, respectively. All portfolios are rebalanced at a monthly frequency. The sample period is 1984:01 – 2023:12 and the out-of-sample period is 2000:01 – 2023:12.

	Value-weighted		Equal-weighted	
	(1)	(2)	(3)	(4)
β	16.48	16.65	13.39	17.23
<i>t</i> -value	(2.48)	(1.97)	(1.98)	(1.68)
$R^2$	1.24	1.88	0.76	2.23
$R_{OS}^2$	1.18***		0.58**	
Controls	N	Y	N	Y

**Table OA.3:** Variance decomposition of earnings component: Sample with zero special items

This table reports the cross-sectional variance decomposition of actual earnings based on the identity in Eq. (8) for the sample with zero special items. We decompose the earnings into income component, including operating income after depreciation (OIADP) and non-operating income (NOPI), interest expense (XINT), tax (TAX), minority interest (MII), dividend payout (DVP) and extraordinary item (XI). We also report the variance decomposition of actual earnings under Democratic and Republican presidencies. Newey-west t-values are reported in parentheses. The sample period is 1984:01 – 2023:12.

	Full sample	Democratic	Republican
OIADP	109	113.62	404.82
	(50.31)	(46.40)	(33.03)
XINT	1.25	-0.21	2.57
	(1.02)	(-0.19)	(1.29)
NOPI	8.03	5.86	9.98
	(6.42)	(3.43)	(5.18)
TAX	-21.55	-20.04	-22.92
	(-16.70)	(-11.49)	(-13.85)
MII	-1.47	-2.17	-0.83
	(-2.97)	(-2.17)	(-2.65)
DVP	0.84	0.92	0.76
	(3.41)	(2.27)	(2.58)
XI	3.91	2.02	5.63
	(5.79)	(3.57)	(5.26)

**Table OA.4:** Presidential cycles in PEAD: Sample with zero special items

This table reports the multivariate tests of the effects of presidential cycles on the relation between earnings news and market reactions for the sample with zero special items. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]).  $SUE_5$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. Control variables include the number of announcements quintile, stock market return on the announcement day, number of analysts following the firm, abnormal risk, expected risk, price delay, book-to-market ratio, illiquidity, idiosyncratic volatility, momentum and size and their interactions with SUE. Dependent variables are truncated at 0.5% and 99.5% level. All regressions include industry dummy and weekday dummy. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01-2023:12.

	CAR[0,1]	CAR[2,31]	CAR[0,1]	CAR[2,31]
	(1)	(2)	(3)	(4)
$\overline{SUE_5}$	7.08	1.19		
	(26.30)	(3.18)		
$SUE_5 \times RD$	-0.33	0.47		
	(-2.40)	(2.35)		
$SUE_{Rank}$			1.79	0.30
			(30.41)	(3.71)
$SUE_{Rank} \times RD$			-0.07	0.11
			(-2.31)	(2.58)
RD	0.16	-0.17	0.16	-0.24
	(1.71)	(-1.17)	(1.62)	(-1.62)
Controls	Y	Y	Y	Y
interacted with SUE	Y	Y	Y	Y
Constant	-3.29	0.05	-4.96	-0.42
	(-18.10)	(0.16)	(-27.11)	(-1.46)
Adjusted $R^2$	0.11	0.01	0.08	0.01
Obs.	65,492	64,117	168,395	165,876

**Table OA.5:** Robustness: Other political dimensions

This table reports multiple robustness tests. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]).  $SUE_5$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. All regressions include control variables, their interactions with SUE, industry dummy and weekday dummy. Dependent variables are truncated at 0.5% and 99.5% level. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. Panel A reports the results across years of the president's terms. Panel B reports the results of mid-term elections. Panel C reports the impacts of partisan conflict. The sample period is 1984:01 - 2023:12.

	CAR[0,1]	CAR[2,31]		CAR[0,1]	CAR[2,31]
Panel A: Year	rs of the presi	dent's term			
$\underline{\text{Year} = 1}$					
$SUE_5 \times RD$	-0.53	0.11	$SUE_{Rank} \times RD$	-0.13	-0.01
	(-2.78)	(0.36)		(-2.95)	(-0.11)
Obs.	27,805	27,749		70,705	70,532
<u>Year &lt;= 2</u>					
$SUE_5 \times RD$	-0.23	0.24	$SUE_{Rank} \times RD$	-0.06	0.03
	(-1.75)	(1.18)		(-1.87)	(0.59)
Obs.	56,495	56,382		143,966	143,605
$\underline{\text{Year}} \leq 3$					
$SUE_5 \times RD$	-0.24	0.66	$SUE_{Rank} \times RD$	-0.05	0.11
	(-2.14)	(3.84)		(-1.84)	(2.94)
Obs.	84,570	84,420		215,321	214,786
$\underline{\text{Year}} \leq 4$					
$SUE_5 \times RD$	-0.29	0.65	$SUE_{Rank} \times RD$	-0.06	0.12
	(-2.95)	(4.16)		(-2.75)	(3.66)
Obs.	111,728	111,542		284,011	283,311

_	CAR[0,1]	CAR[2,31]		CAR[0,1]	CAR[2,31]	
- ID 101		Crit(2)01]		C111(0)1]		
Panel B: Mid-ter						
Post mid-term e		ds 				
$SUE_5 \times RD$	-0.25	1.70	$SUE_{Rank} \times RD$	-0.03	0.31	
	(-0.97)	(3.73)		(-0.50)	(3.17)	
Obs.	10,504	10,488		26,573	26,513	
Other months						
$SUE_5 \times RD$	-0.30	0.53	$SUE_{Rank} \times RD$	-0.07	0.10	
	(-2.87)	(2.98)		(-2.76)	(2.87)	
Obs.	101,224	101,054		257,438	256,798	
Panel C: Partisa	n conflict					
Senate and Hou	ise controlled	by the same p	arty			
$\overline{SUE_5 \times RD}$	0.22	0.89	$\overline{SUE_{Rank}} \times RD$	0.07	0.18	
	(1.94)	(4.98)		(2.47)	(4.64)	
Obs.	83,407	83,309		212,055	211,499	
Senate and Hou	se controlled	by different pa	arties			
$\overline{SUE_5 \times RD}$	-1.88	0.05	$\overline{SU}E_{Rank}\times RD$	-0.47	0.01	
	(-8.91)	(0.14)		(-9.73)	(0.14)	
Obs.	28,321	28,233		71,956	71,812	
High partisan co	onflict period	S		•	•	
$SUE_5 \times RD$	-0.78	_ 0.11	$SUE_{Rank} \times RD$	-0.22	0.02	
<u>o</u>	(-5.24)	(0.47)	Rum	(-6.31)	(0.32)	
Obs.	53,740	53,671		137,083	136,855	
Low partisan co	onflict periods	3				
$\overline{SUE_5} \times RD$	0.57	0.79	$SUE_{Rank} \times RD$	0.16	0.13	
	(4.42)	(3.31)	****	(5.38)	(2.54)	
Obs.	57,988	57,871		146,928	146,456	

Table OA.6: Presidential cycles in PEAD: Which president matters

This table reports the impacts of presidents on presidential cycles in PEAD by dropping the period of one president at a time. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]).  $SUE_5$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. All regressions include control variables, their interactions with SUE, industry dummy and weekday dummy. Dependent variables are truncated at 0.5% and 99.5% level. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01 – 2023:12.

	CAR[0,1]	CAR[2,31]		CAR[0,1]	CAR[2,31]
Ronald Reag	gan				
$\overline{SUE_5 \times RD}$	0.13	0.69	$SUE_{Rank} \times RD$	0.04	0.13
	(1.31)	(4.19)		(1.82)	(3.55)
Obs.	104,985	104,985		267,030	266,366
George H.W	. Bush				
$\overline{SUE_5 \times RD}$	-0.06	0.59	$SUE_{Rank} \times RD$	0.01	0.10
	(-0.53)	(3.57)		(0.06)	(2.91)
Obs.	102,514	102,307		260,855	260,204
Bill Clinton	first term				
$SUE_5 \times RD$	-0.67	0.71	$SUE_{Rank} \times RD$	-0.16	0.15
	(-6.26)	(4.10)		(-6.28)	(3.92)
Obs.	99,328	99,159		252,755	252,180
Bill Clinton	second term				
$SUE_5 \times RD$	-0.56	0.67	$SUE_{Rank} \times RD$	-0.13	0.14
	(-5.28)	(4.16)		(-5.22)	(3.96)
Obs.	97,269	97,112		247,365	246,823
George W. B	ush first term				
$\overline{SUE_5 \times RD}$	-0.13	0.56	$SUE_{Rank} \times RD$	-0.03	0.12
	(-1.19)	(3.39)		(-1.01)	(3.16)
Obs.	98,925	98,764		251,608	250,976
George W. B	ush second term				
$\overline{SUE_5 \times RD}$	-0.84	0.43	$SUE_{Rank} \times RD$	-0.21	0.08
	(-8.16)	(2.54)		(-9.01)	(2.24)
Obs.	98,476	98,318		250,138	249,506

	CAR[0,1]	CAR[2,31]		CAR[0,1]	CAR[2,31]	
Barack Obama first term						
$\overline{SUE_5 \times RD}$	-0.01	0.62	$SUE_{Rank} \times RD$	0.01	0.11	
	(-0.01)	(3.71)		(0.58)	(3.07)	
Obs.	99,663	99,497		253,499	252,850	
Barack Obam	a second term	<u>1</u>				
$SUE_5 \times RD$	0.01	0.55	$SUE_{Rank} \times RD$	0.01	0.10	
	(0.13)	(3.27)		(0.37)	(2.57)	
Obs.	100,166	100,008		254,157	253,517	
Donald Trum	p					
$\overline{SUE_5 \times RD}$	-0.65	0.97	$SUE_{Rank} \times RD$	-0.14	0.19	
	(-6.29)	(5.96)		(-5.88)	(5.53)	
Obs.	100,524	100,351		255,191	254,539	
Joe Biden						
$\overline{SUE_5}\times \overline{RD}$	-0.22	0.70	$SUE_{Rank} \times RD$	-0.05	0.13	
	(-2.23)	(4.32)		(-2.14)	(3.70)	
Obs.	103,702	103,549		263,501	262,838	

**Table OA.7:** Robustness: Subsample analysis

This table reports results of subsample analysis. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]).  $SUE_5$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. All regressions include control variables, their interactions with SUE, industry dummy and weekday dummy. Dependent variables are truncated at 0.5% and 99.5% level. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. Panel A divides the sample based on whether the earnings announcement occurred on a Friday. Panel B splits the sample based on the number of earnings announcements made by other firms on the same day. The sample period is 1984:01 – 2023:12.

	CAR[0,1]	CAR[2,31]		CAR[0,1]	CAR[2,31]
Panel A: Frid	ay vs. Non-Fri	day			
Friday					
$\overline{SUE_5} \times RD$	-0.55	0.95	$SUE_{Rank} \times RD$	-0.13	0.22
	(-2.05)	(1.96)		(-2.10)	(2.02)
Obs.	10,078	10,042		22,748	22,647
Non-Friday					
$\overline{SUE_5 \times RD}$	-0.22	0.61	$SUE_{Rank} \times RD$	-0.05	0.11
	(-2.15)	(3.69)		(-1.96)	(3.15)
Obs.	101,650	101,500		261,263	260,664
Panel B: Num	nber of annour	ncement on anr	nouncement day		
High number	of announcer	nent			
$\overline{SUE_5 \times RD}$	-0.26	0.64	$SUE_{Rank} \times RD$	-0.06	0.12
	(-1.97)	(2.96)		(-2.07)	(2.46)
Obs.	62,913	62,734		156,385	155,913
Low number	of announcem	<u>ient</u>			
$SUE_5 \times RD$	-0.32	0.65	$SUE_{Rank} \times RD$	-0.06	0.13
	(-2.34)	(2.92)		(-2.03)	(2.74)
Obs.	48,829	48,822		127,658	127,430

Table OA.8: Presidential cycles in PEAD: Long horizon

This table reports the multivariate tests of the effects of presidential cycles on the relation between market reactions and earnings news over long horizon.  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest) and RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. Control variables include the number of announcements quintile, number of analysts following the firm, abnormal risk, expected risk, price delay, book-to-market ratio, illiquidity, idiosyncratic volatility, momentum and size and their interactions with  $SUE_{Rank}$ . Dependent variables are truncated at 0.5% and 99.5% level. All regressions include industry dummy and weekday dummy. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01 - 2023:12.

	CAR[2,15]	CAR[2,31]	CAR[2,45]	CAR[2,61]	CAR[2,75]	CAR[2,90]
	(1)	(2)	(3)	(4)	(5)	(6)
$\overline{SUE_{Rank}}$	0.21	0.23	0.27	0.34	0.28	0.27
	(4.96)	(9.80)	(3.33)	(3.56)	(2.60)	(2.25)
$SUE_{Rank} \times RD$	0.07	0.13	0.10	0.02	-0.02	0.07
	(3.22)	(3.90)	(2.23)	(0.40)	(-0.32)	(1.06)
RD	-0.20	-0.30	-0.33	-0.26	-0.03	-0.27
	(-2.58)	(-2.72)	(-1.78)	(-0.71)	(-0.15)	(-1.25)
Controls	Y	Y	Y	Y	Y	Y
interacted with						
$SUE_{Rank}$	Y	Y	Y	Y	Y	Y
Constant	-0.27	-0.64	-0.25	-0.63	-0.24	-0.34
	(-1.75)	(-5.64)	(-0.88)	(-1.92)	(-0.62)	(-0.81)
Adjusted $R^2$	0.01	0.01	0.01	0.01	0.01	0.01
Obs.	283,573	287,898	282,827	282,241	281,641	281,327

**Table OA.9:** Presidential cycles in PEAD: Earnings surprise scale by volatility

This table reports the multivariate tests of the effects of presidential cycles on the relation between earnings news and market reactions. Earnings surprise is defined as actual EPS minus the consensus forecast of EPS and scaled by its volatility over the past 8 quarters. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]). SUE<sub>5</sub> is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. Control variables include the number of announcements quintile, stock market return on the announcement day, number of analysts following the firm, abnormal risk, expected risk, price delay, book-to-market ratio, illiquidity, idiosyncratic volatility, momentum and size and their interactions with SUE. Dependent variables are truncated at 0.5% and 99.5% level. All regressions include industry dummy and weekday dummy. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01 – 2023:12.

	CAR[0,1]	CAR[2,31]	CAR[0,1]	CAR[2,31]
	(1)	(2)	(3)	(4)
$\overline{SUE_5}$	6.64	0.76		
	(36.88)	(2.56)		
$SUE_5 \times RD$	-0.31	0.39		
	(-3.14)	(2.53)		
$SUE_{Rank}$			1.63	0.22
			(40.05)	(3.26)
$SUE_{Rank} \times RD$			-0.05	0.06
			(-2.29)	(1.92)
RD	0.20	-0.12	0.17	-0.06
	(2.91)	(-0.99)	(2.12)	(-0.46)
Controls	Y	Y	Y	Y
interacted with SUE	Y	Y	Y	Y
Constant	-3.36	-0.36	-4.61	-0.70
	(-24.70)	(-1.37)	(-33.67)	(-2.81)
Adjusted $R^2$	0.12	0.01	0.08	0.01
Obs.	115,291	115,308	290,171	289,419

**Table OA.10:** Presidential cycles in PEAD: Which industry matters

This table reports the impacts of presidents on presidential cycles in PEAD for each industry classified by Fama and French 10 industries. Dependent variables are the average announcement cumulative abnormal return (CAR[0,1]) and post-announcement cumulative abnormal return (CAR[2,31]).  $SUE_5$  is an indicator variable which equals one for the top earnings quintile and zero for the bottom earnings quintile and  $SUE_{Rank}$  is the earnings surprise rank ( $SUE_{Rank}$ =1: lowest, 5: highest). RD is the Republican dummy which equals to one (zero) during Republican (Democratic) presidency periods. All regressions include control variables, their interactions with SUE, industry dummy and weekday dummy. Dependent variables are truncated at 0.5% and 99.5% level. Standard errors are clustered by the day of announcement and t-values are reported in parentheses. The sample period is 1984:01 – 2023:12.

	CAR[0,1]	CAR[2,31]		CAR[0,1]	CAR[2,31]
$\frac{\text{NoDur}}{SUE_5 \times \text{RD}}$	-0.20 (-0.55)	0.69 (1.12)	$SUE_{Rank} \times RD$	-0.07 (-0.93)	0.15 (1.18)
Obs.	5,299	5,310		15,081	15,082
<u>Durbl</u>					
$SUE_5 \times RD$	-0.62 (-1.21)	0.45	$SUE_{Rank} \times RD$	-0.23	0.25
Obs.	3,286	(0.56) 3,304		(-2.11) 7,426	(1.43) 7,439
Manuf					
$\overline{SUE_5} \times RD$	-0.46	0.59	$SUE_{Rank} \times RD$	-0.12	0.14
	(-2.21)	(1.97)		(-2.62)	(1.79)
Obs.	16,167	16,189		40,704	40,649
Enrgy					
$\overline{SUE_5} \times RD$	-0.45	-0.46	$SUE_{Rank} \times RD$	-0.09	-0.08
0.1	(-1.59)	(-0.66)		(-1.34)	(-0.51)
Obs.	6,348	6,254		11,726	11,587
<u>HiTec</u>					
$SUE_5 \times RD$	-0.75	0.82	$SUE_{Rank} \times RD$	-0.14	0.16
O1	(-2.84)	(1.97)		(-2.43)	(1.85)
Obs.	15,999	16,118		223,645	223,056
<u>Telcm</u>	0.40	0.00	CLUE DD	0.4.4	0.10
$SUE_5 \times RD$	0.12	0.80	$SUE_{Rank} \times RD$	-0.14	0.19
Obs.	(0.22) 2,771	(0.79) 2,751		(-5.88) 44,814	(5.53) 44,919
	2,771	2,751		<del>11</del> ,01 <del>1</del>	<del>11</del> ,717
Shops	0.50	1.60	CHE DD	0.05	0.00
$\overline{SUE_5} \times RD$	-0.79	1.63	$SUE_{Rank} \times RD$	0.05	0.08
Obs.	(-2.64) 10,597	(3.37) 10,627		(0.45) 6,577	(0.38) 6,541
	10,577	10,027		0,317	0,041
Hlth	0.12	0.72	CHE VDD	0.14	0.26
$SUE_5 \times RD$	0.12 (0.35)	(1.15)	$SUE_{Rank} \times RD$	-0.14 (-2.24)	0.26 (2.52)
Obs.	7,866	7,751		31,178	31,150
Utils	,	,		,	,
$\frac{O \text{ tils}}{SUE_5} \times \text{RD}$	0.35	0.47	$SUE_{Rank} \times RD$	0.04	0.09
	(2.05)	(1.22)	O G L KUNK / KD	(0.57)	(0.67)
Obs.	5,567	5,565		22,327	22,056
Other					
$\frac{SURE_1}{SUE_5} \times RD$	-0.06	0.50	$SUE_{Rank} \times RD$	-0.01	0.10
	(-0.38)	(2.07)	2 CONTRIV	(-0.35)	(1.82)
Obs.	37,828	37,673		91,620	91,343