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► **To cite this version:**

Zhaobo Zhu, Licheng Sun. Economic policy uncertainty and short-term reversals. *Journal of Financial Research*, 2024, 47 (3), pp.877-899. hal-04691597

HAL Id: hal-04691597

<https://hal.science/hal-04691597v1>

Submitted on 9 Sep 2024

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Economic policy uncertainty and short-term reversals

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Abstract

In this article, we provide new evidence on the impact of economic policy uncertainty (EPU) on asset pricing. Specifically, we find that short-term return reversals are stronger following high-EPU periods, likely due to an uncertainty-induced decrease in stock market liquidity. However, EPU does not appear to have a significant effect on accounting-based anomalies, possibly because these anomalies are not driven by stock illiquidity. Our findings suggest that EPU affects short-term asset prices mainly through stock liquidity. However, EPU may contain incremental information beyond stock liquidity. Moreover, the arrival of the latest fundamental information could significantly mitigate the effect of EPU on short-term reversals.

JEL CLASSIFICATION E44, G11, G12, G14

1 INTRODUCTION

There is substantial evidence that uncertainty is a key channel through which various factors affect financial markets (e.g., Baker et al., 2016; Bali et al., 2017; Zhang, 2006). Recent financial crises such as the 2007–2009 market turmoil highlight the importance of understanding economic policy uncertainty (EPU) and its impact on asset prices. Many recent studies provide both theoretical and empirical support for the significant impact of political or policy uncertainty on asset prices (e.g., Brogaard & Detzel, 2015; Brogaard et al., 2020; Gu et al., 2021; Kelly et al., 2016; Liu et al., 2017; Pastor & Veronesi, 2012, 2013).¹ In this article, we shed light on the impact of policy uncertainty on asset prices by exploring the impact of policy uncertainty on asset pricing anomalies.

In particular, we explore the impact of policy uncertainty on short-term reversals because we find that EPU has a significant impact only on price-based relative strength strategies such as momentum and short-term reversals. In contrast, policy uncertainty has no significant and consistent effect on accounting-based anomalies. A potential explanation is that EPU significantly affects momentum and short-term reversals mainly through stock liquidity. We take momentum as an example. Avramov et al. (2016) document a positive impact of market liquidity on momentum. Duong et al. (2019) document a negative impact of policy uncertainty on stock liquidity. Gu et al. (2021)

¹Studies also show that EPU has a significant impact on investors' portfolio decisions, corporate finance such as cash dynamics, board monitoring, and insider trading, and analyst behaviors (e.g., Chen et al., 2022; Chen et al., 2023; Frye & Pham, 2020; Ghoul et al., 2022; Lee et al., 2021; Tut, 2022; Zhu et al., 2023).

document a negative impact of policy uncertainty on momentum. However, studies provide no evidence that accounting-based anomalies are mainly driven by stock illiquidity.

In this article, therefore, we explicitly and systematically explore the impact of EPU on short-term reversals. Short-term reversals in monthly US stock returns are a well-established phenomenon in financial markets (e.g., Jegadeesh, 1990). Da et al. (2014) and Hameed and Mian (2015) show that industry-based short-term reversals are economically and statistically significant even in the recent decade. A prominent explanation for short-term reversals is liquidity provision (e.g., Da et al., 2014; Hameed & Mian, 2015; Nagel, 2012).² Because Duong et al. (2019) show that policy uncertainty is negatively associated with several measures of stock liquidity, it seems reasonable to conjecture that policy uncertainty should exert a large impact on return reversals through stock liquidity.

We use the news-based EPU index in Baker et al. (2016) to quantify policy uncertainty. Brogaard and Detzel (2015) argue that the news-based EPU index has two advantages over the alternative proxy based on some political events in our empirical setting. First, the news-based EPU index is continuous and available on a monthly basis. Second, the EPU index efficiently quantifies uncertainty.

Our empirical results provide strong evidence that EPU exerts a positive and significant impact on short-term reversals. Our portfolio analysis shows that, on average, the return to short-term reversal portfolios is higher by 1.21% per month following high-EPU versus low-EPU periods. The return spread is economically and statistically

² Studies also show that firm fundamentals and behavioral biases have significant effect on short-term reversals (e.g., Zhu et al., 2019; Zhu et al., 2021).

significant after controlling for the Fama–French (1993) three factors as well as an additional liquidity factor. This finding is confirmed by predictive regression analysis, which shows that the 1-month lagged EPU index is positively and significantly associated with the return of long–short reversal portfolios. Moreover, the predictive regression analyses show that the significant impact of policy uncertainty on short-term reversals is robust after controlling for other related macro factors such as the market state over the past 3 months, stock market volatility, and investor sentiment. In addition, in Fama–MacBeth (1973) regressions, the coefficient of the past 1-month return is significant (insignificant) in the subsample where policy uncertainty is high (low) in month $t-1$.

We then explicitly examine the role of stock illiquidity in explaining the impact of EPU on short-term reversals. In the portfolio analysis, we find that short-term reversal does exist in the subsample of highly liquid stocks following high EPU and that short-term reversal is stronger following high EPU versus low EPU in the subsample of highly illiquid stocks. Moreover, EPU has a significant effect only on past losers with high illiquidity. Our results suggest that EPU affects short-term reversals mainly through stock illiquidity.

More important, we show that the arrival of the latest fundamental information could efficiently mitigate the positive and significant impact of policy uncertainty on short-term stock prices. Specifically, the positive impact of heightened policy uncertainty on short-term reversals is significantly weakened among stocks with earnings announcements in the given portfolio-formation month.

In addition, we conduct a series of robustness tests. We provide international evidence on the positive and significant impact of high policy uncertainty on short-term

reversals in Japan. Moreover, our results indicate that policy uncertainty has no differential effect on individual investors and institutional investors in terms of short-term reversals. However, other policy uncertainty measures such as temporary federal tax code provisions and disagreement among economic forecasters do not have a significant effect on short-term reversals.

This article contributes to the literature in the following main aspects. First, we provide new evidence on the impact of EPU on asset prices. Specifically, we document the significant explanatory power of policy uncertainty on a well-known market anomaly—short-term reversals. In contrast, policy uncertainty has no significant effect on accounting-based anomalies. Thus, our article extends and enriches the literature on the impact of policy uncertainty in asset pricing (e.g., Brogaard & Detzel, 2015). Second, the different impact of policy uncertainty on price-based relative strength strategies and accounting-based anomalies provides novel evidence on the role of stock liquidity in the economic consequences of policy uncertainty. Stock liquidity is a main channel through which policy uncertainty affects asset prices. Third, our results indicate that the latest fundamental information could efficiently mitigate the significant impact of heightened policy uncertainty on short-term asset prices. In particular, a joint consideration of the latest fundamental information and stock liquidity could efficiently identify short-term price trends in different policy uncertainty conditions.

2 DATA

The sample stocks are common stocks (share codes 10 and 11) listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), and Nasdaq. The stock

return and price data are obtained from the Center for Research in Security Prices (CRSP). The main sample period is January 1985 to December 2017. Following Fama and French (1997), we use the classification of 17 industries based on four-digit Standard Industrial Classification (SIC) codes. To alleviate concerns about market microstructure and liquidity-related issues, we exclude firms with prices less than \$5 at the end of the portfolio-formation period. Fama–French factors are from Kenneth French’s website.³ Investor sentiment data are from Jeffrey Wurgler’s website.⁴ Following Shumway (1997) and Shumway and Warther (1999), we set delisting returns of –30% for NYSE/AMEX delisted stocks and –50% for Nasdaq delisted stocks if their delisting returns are missing or zero and delisting is due to performance reasons.

The EPU index, developed by Baker et al. (2016), is an overall index of policy-related economy uncertainty, including newspaper coverage, temporary federal tax code provisions, and disagreement among economic forecasters. This overall index weights 1/2 on the news-based policy uncertainty index (an index based on the frequency of uncertainty-related words in 10 leading US newspapers) and 1/6 on each of other three measures (temporary federal tax code index, forecast disagreement on the Consumer Price Index [CPI], and forecast disagreement on federal/state/local purchases). It covers a wide range of economic uncertainty related to policies. We mainly use the news-based EPU index to quantitatively identify policy uncertainty because the news-based EPU index varies monthly and the other component index is relatively stable at a monthly

³https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

⁴<https://pages.stern.nyu.edu/~jwurgler/>

frequency.

The stock price data for Japanese stock markets are from Thomson ONE. Sample stocks are from three main exchanges (Tokyo, Osaka, and Jasdaq) in Japan. The sample period is 1987–2017. We exclude stocks whose market capitalization at the end of the formation month is in the bottom 40% of all sample stocks. Fama–French three-factor data for Japanese stock markets are from Kenneth French’s website. The EPU in Japan is from Baker, Bloom, and Davis’s website.⁵

3 EMPIRICAL RESULTS

3.1 Portfolio analysis

In this subsection, we use portfolio analysis to examine the impact of EPU on conventional and intra-industry short-term reversals conditional on EPU. Following Stambaugh et al. (2012), we classify month t as a high (low) policy uncertainty month if the Baker et al. (2016) news-based EPU index in month t is above (below) the sample median.⁶ In the portfolio analysis, we then examine the returns of portfolios in month $t+1$.

⁵<https://www.policyuncertainty.com/>

⁶To mitigate concerns about look-ahead bias, we define high- and low-EPU states using rolling median values of EPU. Specifically, for month t , we first identify the median values of EPU using past 3-year EPU data. Then, we compare the EPU value in month t with the rolling median value of EPU. Month t is the high-EPU (low-EPU) month when the EPU index in month t is greater (smaller) than the rolling median value. Our results are robust to alternative definitions of EPU states.

For the simple short-term reversal, we assign stocks to 10 decile portfolios based on the past 1-month returns in descending order. For intra-industry short-term reversals, following Da et al. (2014) and Hameed and Mian (2015), we first assign stocks to 10 decile portfolios in each industry based on the past 1-month returns in descending order. Then, we merge stocks in the same decile portfolio in 17 industries into a larger decile portfolio in the whole sample. Finally, we have 10 industry-adjusted decile portfolios. The long portfolio is the top-decile portfolio including stocks with the largest negative past 1-month returns. The short portfolio is the bottom-decile portfolio including stocks with the largest positive past 1-month returns. The long–short portfolio measures the return difference between recent losers and recent winners.

Table 1 reports the equal-weighted returns in excess of 1-month Treasury rates and Fama–French (2015) five-factor (FF5) alphas and the Fama–French five factors plus the Pastor and Stambaugh liquidity factor (FF6) alphas for short-term reversals. Panels A and B report the results for simple and intra-industry short-term reversals, respectively. We take the intra-industry short-term reversal as an example in the main analysis because the unconditional intra-industry short-term reversal outperforms the simple short-term reversal. Our results for the impact of policy uncertainty on short-term reversals are robust for the simple short-term reversal.

First, we confirm that the intra-industry short-term reversal generates economically and statistically significant profits from 1985 to 2017. The excess return of the reversal strategy is 0.81% (t -value = 4.67) per month, though the Fama–French (2015) five-factor-adjusted return decreases to 0.63% (t -value = 2.76). Because illiquidity is an important factor in the short-term reversal, we find that the six-factor-adjusted return of

the long–short portfolio is only 0.39% each month, though it is still statistically marginally significant even after controlling for the Pastor and Stambaugh (2003) liquidity factor. Moreover, the risk-adjusted returns show that the short leg (i.e., recent winners) contribute most to the profitability of the intra-industry short-term reversal.

Second, we find that the short-term reversal is significantly stronger following high-EPU versus low-EPU periods. For instance, the excess return of the long–short portfolio is 1.41% (t -value = 4.74) per month following high EPU, whereas the return is only 0.20% (t -value = 0.94) following low EPU. The return difference of 1.21% is highly significant. This finding is robust after controlling for the Fama–French (2015) five factors and the Pastor and Stambaugh (2003) liquidity factor. Our results hold for the simple short-term reversal.

Moreover, both long and short legs significantly contribute to the profitability of the short–term reversal following high EPU, compared to the long and short legs of unconditional short-term reversals. For instance, the alpha of the short leg is -0.39% (t -value = -2.72) after controlling for six factors, and the alpha of the long leg is 0.55% (t -value = 3.26). In contrast, for the unconditional intra-industry short-term reversal, the six-factor alphas of the short leg and long leg are -0.22% and 0.17% , respectively.

To sum up, these results provide strong evidence that policy uncertainty has a positive and significant impact on short-term reversals. Moreover, high policy uncertainty seems to have a greater impact on recent losers than on recent winners.

3.2 Predictive regression analysis

Stambaugh et al. (2012) argue that the high versus low sentiment classification is simply

a binary measure within a given sample period and ignores variations in the same classification. Following the predictive regression analysis in Stambaugh et al. (2012), we conduct the same analysis to examine the impact of policy uncertainty on short-term reversals.

Table 2 reports the results. Panels A, B, and C report the coefficients from the regressions for the long–short, long, and short portfolios of intra-industry short-term reversals, respectively. There are four main findings. First, the coefficient of the 1-month lagged EPU index is positive and significant, suggesting that the short-term reversal is stronger following high policy uncertainty. For instance, the coefficients of the 1-month lagged EPU index are 1.83 (t -value = 2.87) and 1.71 (t -value = 2.99) with or without controlling for six factors in the regressions, respectively.

Second, the significant impact of policy uncertainty is robust after controlling for other related macro factors such as the market state, stock market volatility, and investor sentiment. Studies show that the down or volatile market is associated with binding liquidity, leading to strong subsequent short-term reversals (e.g., Da et al., 2014; Hameed et al., 2010; Hameed & Mian, 2015). Da et al. (2014) document that investor sentiment could explain the reversal of recent winners. Nagel (2012) shows that short-term reversals are significantly linked to the level of the Chicago Board Options Exchange (CBOE) Volatility Index (VIX). Following Hameed et al. (2010), we use a dummy variable, DOWN, which equals 1 if the past 3-month return on the CRSP value-weighted market index is negative. Consistent with prior studies, we find that the coefficient of DOWN is positive and significant, suggesting that short-term reversal is stronger when recent aggregate market valuation declines. Moreover, the coefficient of the 1-month

lagged EPU index remains positive and significant after controlling for DOWN. We find similar results after controlling for market volatility, investor sentiment, macroeconomic uncertainty in Jurado et al. (2015), and VIX. These findings suggest that policy uncertainty has a distinct and incremental effect on the short-term reversal beyond other related macro factors.

Third, the coefficient of 1-month lagged EPU is positive and significant for the long leg (i.e., recent losers) even after controlling for other macro variables and the six risk factors, suggesting that illiquidity could significantly explain the reversal of recent losers if policy uncertainty is positively associated with stock illiquidity. This finding seems consistent with Da et al. (2014) that stock illiquidity better explains the short-term reversal of recent losers.

Last, we find a conflicting impact of policy uncertainty on the short leg (i.e., recent winners). The coefficient of 1-month lagged EPU is positive and significant without controlling for risk factors, but the coefficient becomes negative and significant after controlling for risk factors. The negative coefficient of EPU suggests that the liquidity provision also explains the reversal of recent winners.

In sum, consistent with the results in the portfolio analysis, the results from predictive regressions support that policy uncertainty has positive and significant impact on short-term reversals even after controlling for other well-known proxies for market conditions.

3.3 Fama–MacBeth regressions

In this subsection, we conduct Fama–MacBeth (1973) monthly cross-sectional

regressions to verify the impact of policy uncertainty on short-term reversals because we can control for a set of well-known related firm-level variables simultaneously. Specifically, we run monthly firm-level regressions in high- and low-EPU subsamples. Following Stambaugh et al. (2012), we classify month $t-1$ as a high- (low-) EPU month if the Baker et al. (2016) news-based EPU index in month t is above (below) the sample median. The high- (low-) EPU subsample includes observations when the EPU is high (low) in month $t-1$.

Table 3 reports the average estimated coefficients from monthly firm-level regressions. First, we confirm that the past 1-month return significantly predicts low future returns in month t for the whole sample. The coefficient of past 1-month return is -1.58 (t -value = -3.94). The coefficients of other control variables such as firm size, book-to-market ratio, momentum, idiosyncratic volatility, and illiquidity have expected signs and significance. Second, the coefficient of past 1-month returns is negative and significant for the high-EPU subsample, whereas it is insignificant for the low-EPU subsample. The negative and significant coefficient of -2.67 in the high-EPU subsample is also greater than that of -1.58 in the whole sample in absolute value. These findings suggest that the past 1-month return can significantly predict future returns only when policy uncertainty is high in month $t-1$ and that the short-term reversal is positively and significantly associated with policy uncertainty. These results are consistent with those in the portfolio and predictive regression analyses.

In particular, we find that the coefficient of illiquidity is negative and highly significant in the high-EPU subsample but positive and insignificant in the low-EPU subsample. Moreover, the magnitude of the coefficient in the high-EPU subsample is

greater than that in the whole sample in absolute value. These results suggest that a negative relation between stock illiquidity and subsequent returns is stronger when policy uncertainty is high. However, the significant impact of policy uncertainty on the short-term reversal remains robust even after controlling for stock illiquidity during heightened policy uncertainty.

3.4 Role of stock liquidity

Previous studies document that short-term reversals are stronger among illiquid versus liquid stocks (e.g., Avramov et al., 2006; Da et al., 2014). In addition, Duong et al. (2019) show that policy uncertainty has a negative impact on stock liquidity. Taken together, we expect that the short-term reversal could be stronger during heightened policy uncertainty among illiquid stocks.

In this subsection, we formally test whether EPU affects the short-term reversal mainly through affecting stock liquidity. In other words, we are also interested in whether policy uncertainty has any incremental impact on the short-term reversal after controlling for the effect of stock illiquidity. Empirically, we follow the preceding empirical methods to examine how policy uncertainty affects short-term reversals in subsamples of stocks with different liquidities.

First, we use portfolio analysis to examine the performance of short-term reversals conditional on policy uncertainty in subsamples of liquid stocks and illiquid stocks. We use two-way independent sorts to equally divide stocks into three groups based on the stocks' Amihud (2002) illiquidity measures (or the adjusted residual illiquidity measures from a cross-sectional regression of Amihud illiquidity on stocks'

idiosyncratic volatility) and five quintile portfolios based on the stocks' past 1-month returns, respectively. We classify month t as a high- (low-) EPU month if the Baker et al. (2016) news-based EPU index in month t is above (below) the sample median. We then examine the returns of portfolios in month $t+1$.

Table 4 presents the Fama–French (2015) five-factor-adjusted returns for double-sorted portfolios following high- and low-EPU periods. As expected, policy uncertainty has the strongest impact on short-term reversals among illiquid stocks. For example, Panel A shows that following high EPU, the long–short portfolio has an average monthly FF5 alpha of 1.49% (t -value = 5.92) among illiquid stocks, whereas the FF5 alpha is 0.56% (t -value = 1.76) among liquid stocks. The alpha difference of 0.93% is highly significant. In contrast, following low EPU, the long–short portfolio has positive and significant returns only among illiquid stocks. We get consistent results based on the adjusted residual illiquidity measure in Panel B. These results provide strong evidence that policy uncertainty affects short-term reversals mainly among illiquid stocks.

Moreover, we emphasize that policy uncertainty affects short-term reversals mainly through affecting stock liquidity by taking a closer look at the long leg. In the subsample of illiquid stocks, the long leg (i.e., past losers) has an average FF5 alpha of 0.79% (t -value = 5.05) following high EPU, whereas the long leg has an average FF5 alpha of 0.17% (t -value = 1.18) following low EPU. The alpha difference for past losers between high and low EPU is 0.62% (t -value = 3.05). In contrast, the short leg (i.e., past winners) has similar returns following both high and low EPU. Because past losers are more affected by illiquidity, these results suggest that policy uncertainty has a significant impact on the short-term reversal by mainly affecting past losers through stock illiquidity.

Second, we run Fama–MacBeth (1973) cross-sectional regressions in subsamples of liquid stocks and illiquid stocks following high versus low EPU. The Fama–MacBeth (1973) regressions could control for variables such as trading volume and stock volatility that are related to stock illiquidity and short-term reversals simultaneously. Table 5 reports the results. Following high EPU, the coefficient of past 1-month returns (REV) is -3.16 (t -value = -4.99) among illiquid stocks, and it is -1.67 (t -value = -2.08) among liquid stocks. These results suggest that the impact of EPU on short-term reversals is stronger among illiquid stocks and that EPU has an incremental effect on short-term reversals after controlling for stock illiquidity. In contrast, following low EPU, the coefficient of past 1-month returns is -0.87 (t -value = -1.80) among illiquid stocks, and it is 0.77 (t -value = 1.05) among liquid stocks. These results suggest that stock illiquidity is an important source of short-term reversals. Taken together, these results suggest that stock illiquidity is a significant and important channel through which policy uncertainty affects short-term reversals and that policy uncertainty also affects short-term reversals through other channels.

To summarize, our empirical results suggest that EPU has a stronger positive impact on short-term reversals among illiquid stocks than liquid stocks. Policy uncertainty affects short-term reversals mainly through affecting stock liquidity. However, policy uncertainty may contain incremental information beyond stock liquidity. That is, policy uncertainty affects short-term reversals through other additional channels. A joint consideration of policy uncertainty and stock liquidity could better explain the short-term reversal.

3.5 Arrival of fundamental information

Nagel (2012) and Hameed and Mian (2015) show that short-term reversals are weakened by the arrival of the latest fundamental information. In particular, in our setting, the latest fundamental information could mitigate the high uncertainty during the heightened policy uncertainty period. Therefore, we expect that the positive impact of policy uncertainty on short-term reversals should be weakened when the latest fundamental information is available, and vice versa.

We use the quarterly earnings announcements (Report Date of Quarterly Earnings [RDQ]) to identify the arrival of the latest public fundamental information. We first divide all sample stocks into decile portfolios based on stocks' past 1-month returns. Then, within recent winner or loser portfolios, we further divide recent winners into recent winners/losers with earnings announcements (EA) in the formation month or recent winners/losers without EA in the formation month. We compare the performance of short-term reversals in EA versus no-EA settings.

Table 6 presents the results. As expected, short-term reversals are significantly weaker in the EA subsample than in the no-EA subsample following high EPU. The Fama–French (2015) five-factor alpha of the short-term reversal in the EA subsample is only 0.60% (t -value = 1.66) following high EPU, but it is 1.55% (t -value = 4.60) in the no-EA subsample. The difference is economically and statistically significant. Moreover, recent winners continue to win and recent losers continue to lose in the EA subsample following low EPU. Overall, these results indicate that the arrival of latest fundamental information could mitigate the significant impact of high policy uncertainty on short-term stock prices, but high policy uncertainty still has some effect on stock returns even when

the latest fundamental information arrives.

3.6 Additional tests

In this subsection, we conduct additional tests to verify the impact of EPU on short-term reversals and the role of stock liquidity in the impact of policy uncertainty on short-term reversals.

3.6.1 EPU and anomalies

Only a small number of studies such as Gu et al. (2021) examine the impact of EPU on anomalies, although a large number of studies examine the impact of policy or political uncertainty on asset prices (e.g., Brogaard & Detzel, 2015; Brogaard et al., 2020; Kelly et al., 2016; Pastor & Veronesi, 2012, 2013). In particular, Gu et al. (2021) document a negative impact of policy uncertainty on price momentum. In this subsection, we examine whether policy uncertainty has a systematic impact on the universe of both price- and accounting-based anomalies.

Table 7 presents the Fama–French (1993) three-factor alphas for various asset pricing anomalies. An unreported table presents similar results after controlling for the illiquidity factor. Interestingly, we find that policy uncertainty has a significant impact only on price momentum and short-term reversals, which are price-based anomalies. In contrast, policy uncertainty has no significant effect on accounting-based anomalies. A potential explanation is that accounting-based anomalies are not significantly driven by stock illiquidity, whereas momentum and short-term reversals are significantly related to stock illiquidity (e.g., Avramov et al., 2006; Avramov et al., 2016). These results provide

additional evidence that policy uncertainty affects short-term asset prices mainly through stock liquidity.

3.6.2 Investor sophistication

Some studies argue that short-term reversals are mainly caused by investor overreaction (e.g., Da et al., 2014; Lehmann, 1990). In this subsection, we examine whether policy uncertainty has an impact on short-term reversals through affecting investors' behavioral biases. Stocks with low institutional ownership are preferred by less sophisticated individual investors, who are expected to be more likely to be affected by high policy uncertainty. In contrast, stocks with high institutional ownership are preferred by sophisticated institutional investors, who are relatively more rational than individual investors during heightened policy uncertainty. Therefore, we expect that the impact of policy uncertainty on short-term reversals could be stronger among stocks with low institutional ownership if policy uncertainty has a greater positive impact on individual investors than on institutional investors.

Table 8 reports the results. We follow the method in Table 4 to form double-sorted portfolios based on stocks' institutional ownership and past 1-month returns. There are two main findings. First, policy uncertainty has a positive and consistent impact on short-term reversals in three subsamples of stocks with different institutional ownership. This finding suggest that policy uncertainty seems to have no differential effect on individual investors and institutional investors. Moreover, short-term reversals seem to be stronger among high-institutional-ownership stocks than among low-institutional-ownership stocks after controlling for the liquidity factor. These results are contrary to

the hypothesis that policy uncertainty has a greater impact on individual investors who are more likely to overreact to shocks during heightened uncertainty. These results provide indirect evidence against the behavioral-based explanation.

3.6.3 Policy uncertainty and short-term reversals in Japan

In this subsection, we examine the robustness of the impact of policy uncertainty on short-term reversals in Japan. Only a small number of studies examine short-term reversals in international stock markets. For example, Chang et al. (1995) document significant short-term reversals in Japan.

Table 9 reports the equal- and value-weighted returns for simple short-term reversals in Japan. First, we confirm that short-term reversals are significant in Japan during 1987–2017. Second, consistent with findings in the United States, policy uncertainty has a positive and significant impact on short-term reversals in Japan. The equal-weighted return of the long–short portfolio between high and low EPU is economically large. The short-term reversal is significant only following high EPU. The value-weighted excess return of the long–short portfolio between high and low EPU is 1.76% per month (t -value = 2.68). The results hold after controlling for the Fama–French (2015) five factors in Japan. In sum, these results provide strong evidence for the impact of policy uncertainty in short-term asset pricing in the second largest developed capital market.

3.6.4 Alternative measures of EPU

The EPU index in Baker et al. (2016) is a weighted index based on three components: newspaper coverage, temporary federal tax code provisions, and disagreement among

economic forecasters. This overall index weights 1/2 on the news-based policy uncertainty index (an index based on the frequency of uncertainty-related words in 10 leading US newspapers) and 1/6 on each of three other measures: temporary federal tax code index, forecast disagreement on the CPI, and forecast disagreement on federal/state/local purchases. In our main analysis, we use the news-based EPU index to quantitatively identify policy uncertainty mainly because the news-based EPU index varies monthly and the other component index is relatively stable at a monthly frequency. In this subsection, we investigate whether and how the other three components are related to the short-term reversal.

We run the predictive regressions used in Section 3.2 to test the impact of the other three EPU components on the short-term reversal. Table 10 reports the results. Interestingly, we find that the coefficients of the other three EPU components are not significant. The coefficients of tax code index, CPI, and disagreement on purchases are -0.15 (t -value = -1.51), -0.37 (t -value = -0.63), and 0.23 (t -value = 0.59), respectively. The coefficients remain insignificant after controlling for the Fama–French five or six factors. These results suggest that only the news-based EPU index is positively and significantly related to the short-term reversal.

We argue there are two potential explanations for these results. First, the news-based EPU index varies monthly and the other component index is relatively stable in monthly frequency. The short-term reversal is a monthly anomaly. Therefore, the news-based EPU index is more likely to reflect variations in stock illiquidity at a monthly frequency. Second, the scope of the news-based EPU index is larger and contains more information about EPU than the other components. In contrast, the tax code index focuses

only on tax-related policy, though tax-related policy is an important policy for the economy.

3.6.5 Historical EPU index

To alleviate the concern that our results may be spurious because of the short EPU sample period in our main analysis, we take advantage of the historical EPU index in Baker et al. (2016) to test the impact of EPU on short-term reversals. Specifically, we examine the role of EPU on short-term reversals in two subsamples using the historical EPU index because the newspapers used are different even during 1926–2014. To mitigate the effect of the systematic difference in historical EPU based on different newspaper sources during 1926–2014, we further divide the historical sample into two subsamples: July 1926–December 1984 and January 1985–October 2014. For a detailed description of the historical EPU index, see Baker, Bloom, and Davis’s website.

Table 11 reports the results. Overall, we find consistent results based on the widely used EPU index (since 1985) in our main analysis and the historical EPU index (1926–2014). The differences in the short-term reversal between high- and low-EPU periods are 1.36% and 1.42% per month in terms of excess returns for 1926–1984 and 1985–2014, respectively. The results hold under the Fama–French (1993) three-factor model. These additional results provide robust evidence for our main argument.

4 CONCLUSION

This article provides new evidence on the impact of EPU on asset prices. Specifically, we find that policy uncertainty has a positive and significant impact on short-term reversals.

Short-term reversals are significantly stronger following high versus low EPU. Moreover, the impact of EPU on short-term reversals is stronger among illiquid stocks. These results suggest that high EPU leads to decreasing liquidity in the stock market, resulting in strong short-term reversal.

However, the arrival of the latest fundamental information could significantly mitigate the positive impact of EPU on short-term reversals. Moreover, we find that EPU has no significant effect on accounting-based asset pricing anomalies, possibly because accounting-based anomalies are not mainly driven by stock illiquidity. In addition, we provide international evidence on the impact of EPU on short-term reversals in Japan. Last, we find that only the news-based EPU index is significantly associated with the short-term reversal, whereas the other components of the EPU index have no relation with the short-term reversal.

ACKNOWLEDGMENTS

We are grateful for helpful comments from Erik Devos (the editor), the reviewer, and seminar and conference participants at Old Dominion University, Shenzhen University, University of Nottingham Ningbo China, and the 2021 International Conference of the French Finance Association (AFFI). This work is supported by Shenzhen Humanities & Social Sciences Key Research Bases. Zhu acknowledges that this study was partially funded by Audencia Foundation.

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TABLE 1 Policy uncertainty and short-term reversals: Portfolio analysis.

	Excess returns				FF5 alphas				FF6 alphas			
	Full sample	High	Low	High – low	Full sample	High	Low	High – low	Full sample	High	Low	High – low
<i>Panel A: Simple short-term reversals</i>												
Short leg	0.35 (1.02)	0.94 (2.06)	-0.23 (-0.48)	1.17 (1.88)	-0.17 (-1.13)	-0.35 (-1.93)	0.17 (0.76)	-0.51 (-1.76)	-0.03 (-0.17)	-0.31 (-1.74)	0.24 (1.01)	-0.55 (-1.79)
Long leg	0.84 (2.38)	2.21 (4.07)	-0.53 (-1.12)	2.74 (3.77)	0.12 (0.71)	0.44 (2.17)	-0.38 (-1.87)	0.82 (2.76)	0.01 (0.09)	0.46 (2.25)	-0.40 (-1.81)	0.86 (2.71)
Long – short	0.49 (2.26)	1.27 (3.56)	-0.30 (-0.95)	1.57 (2.96)	0.29 (0.97)	0.74 (2.13)	-0.58 (-1.49)	1.31 (2.42)	0.04 (0.14)	0.77 (2.21)	-0.64 (-1.48)	1.40 (2.39)
<i>Panel B: Intra-industry short-term reversals</i>												
Short leg	0.23 (0.72)	0.84 (1.87)	-0.38 (-0.95)	1.22 (2.18)	-0.37 (-3.27)	-0.40 (-2.77)	-0.17 (-1.23)	-0.23 (-1.14)	-0.22 (-2.08)	-0.39 (-2.72)	-0.06 (-0.4)	-0.33 (-1.57)
Long leg	1.03 (3.13)	2.25 (4.42)	-0.19 (-0.45)	2.43 (3.75)	0.27 (1.91)	0.51 (3.08)	-0.16 (-1.04)	0.67 (2.96)	0.17 (1.40)	0.55 (3.26)	-0.18 (-1.05)	0.72 (2.98)
Long – short	0.81 (4.67)	1.41 (4.74)	0.20 (0.94)	1.21 (3.12)	0.63 (2.76)	0.86 (3.17)	0.00 (-0.01)	0.87 (2.29)	0.39 (1.93)	0.94 (3.36)	-0.12 (-0.40)	1.06 (2.53)

Note: This table presents equal-weighted returns in excess of 1-month Treasury bill and risk-adjusted returns to the portfolios of simple and intra-industry short-term reversal strategies following high and low economic policy uncertainty (EPU). The long leg refers to the returns to past 1-month losers, the short leg refers to the returns to past 1-month winners, and the long–short portfolio refers to the return differences between past 1-month losers and winners. EPU is measured by the news-based EPU index in Baker et al. (2016). Month t is defined as a high- (low-) EPU month if the Baker et al. (2016) news-based EPU index in month t is above (below) the sample median. FF5 alphas refer to Fama–French (2015) five-factor-adjusted returns. FF6 alphas refer to the five factors and the Pastor and Stambaugh (2003) liquidity factor. Sample stocks include common stocks listed on the NYSE/AMEX/Nasdaq. Stocks with prices less than \$5 at the end of formation periods are excluded. The holding period is 1 month. The returns are equal weighted. The sample period is 1985–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 2 Policy uncertainty and short-term reversals: Predictive regressions.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<i>Panel A: Past 1-month losers – past 1-month winners</i>														
EPU	1.83	1.71	1.29	1.21	1.61	1.27	1.99	1.90	1.96	1.74	1.11	1.08	1.17	1.21
	(2.87)	(2.99)	(2.13)	(2.26)	(2.81)	(2.24)	(3.26)	(3.50)	(3.18)	(3.04)	(1.81)	(1.85)	(2.09)	(2.21)
DOWN			1.42	1.31									1.21	0.90
			(3.05)	(3.14)									(2.03)	(1.82)
Volatility					0.31	0.62							-1.90	-0.72
					(0.62)	(1.48)							(-1.32)	(-0.60)
Sentiment							0.66	0.82					0.63	0.90
							(2.09)	(1.99)					(1.87)	(2.20)
MU									-0.02	-0.40			-0.04	-0.02
									(-0.98)	(-0.25)			(-1.33)	(-0.66)
VIX											0.06	0.06	0.19	0.10
											(1.83)	(2.03)	(2.38)	(1.54)
MKT		0.29		0.29		0.30		0.29		0.29		0.32		0.31
		(4.22)		(4.17)		(4.28)		(4.23)		(4.18)		(3.88)		(3.82)
SMB		-0.02		-0.01		-0.02		-0.04		-0.01		-0.05		-0.05
		(-0.14)		(-0.08)		(-0.18)		(-0.31)		(-0.12)		(-0.36)		(-0.43)
HML		0.34		0.35		0.36		0.33		0.34		0.38		0.36
		(2.36)		(2.47)		(2.50)		(2.28)		(2.33)		(2.42)		(2.45)
RMW		0.11		0.09		0.10		0.07		0.11		0.12		0.08
		(0.56)		(0.46)		(0.51)		(0.31)		(0.57)		(0.61)		(0.36)
CMA		-0.50		-0.50		-0.52		-0.52		-0.50		-0.58		-0.60
		(-2.78)		(-2.75)		(-2.83)		(-2.85)		(-2.76)		(-3.03)		(-3.18)
LIQ		-0.10		-0.09		-0.09		-0.10		-0.10		-0.08		-0.08
		(-2.77)		(-2.56)		(-2.39)		(-2.86)		(-2.79)		(-2.06)		(-2.16)
<i>Panel B: Past 1-month winners</i>														
EPU	1.25	-0.63	1.81	-0.40	2.33	-0.50	0.99	-0.71	1.77	-0.63	1.46	-0.45	1.34	-0.48

	(1.16)	(-2.30)	(1.79)	(-1.53)	(2.30)	(-1.68)	(0.91)	(-2.71)	(1.94)	(-2.26)	(1.44)	(-1.47)	(1.41)	(-1.72)
DOWN			-1.48	-0.63									-0.94	-0.57
			(-2.28)	(-2.77)									(-1.31)	(-2.06)
Volatility					-1.49	-0.19							-2.18	0.62
					(-2.03)	(-0.79)							(-1.39)	(1.18)
Sentiment							-1.09	-0.31					-1.18	-0.32
							(-2.70)	(-1.82)					(-2.79)	(-1.81)
MU									-0.08	-0.14			-0.08	-0.31
									(-1.22)	(-0.11)			(-0.30)	(-0.22)
VIX											-0.06	-0.02	0.16	-0.05
											(-1.03)	(-1.05)	(1.49)	(-1.58)
MKT		0.88		0.88		0.88		0.88		0.88		0.88		0.88
		(25.67)		(25.84)		(25.02)		(25.69)		(25.21)		(21.71)		(22.12)
SMB		0.83		0.83		0.83		0.84		0.83		0.84		0.85
		(17.6)		(17.12)		(17.83)		(17.83)		(17.9)		(16.93)		(16.95)
HML		-0.05		-0.05		-0.05		-0.04		-0.05		-0.07		-0.06
		(-0.7)		(-0.79)		(-0.75)		(-0.65)		(-0.68)		(-0.84)		(-0.75)
RMW		-0.30		-0.29		-0.30		-0.29		-0.30		-0.30		-0.28
		(-3.8)		(-3.62)		(-3.72)		(-3.37)		(-3.76)		(-3.62)		(-3.21)
CMA		0.08		0.08		0.09		0.09		0.08		0.12		0.12
		(1.03)		(1.01)		(1.06)		(1.10)		(1.02)		(1.38)		(1.41)
LIQ		0.06		0.05		0.06		0.06		0.06		0.06		0.06
		(2.93)		(2.74)		(2.78)		(3.01)		(2.97)		(2.58)		(2.65)

Panel C: Past 1-month losers

EPU	3.08	1.08	3.11	0.82	3.93	0.77	2.98	1.20	3.72	1.11	2.56	0.63	2.52	0.73
	(2.13)	(3.04)	(2.25)	(2.41)	(3.24)	(2.24)	(2.05)	(3.49)	(3.04)	(3.12)	(2.02)	(1.75)	(2.13)	(2.05)
DOWN			-0.06	0.69									0.26	0.34
			(-0.07)	(2.65)									(0.27)	(1.16)
Volatility					-1.18	0.43							-4.07	-0.10
					(-1.18)	(1.77)							(-1.81)	(-0.13)

Sentiment			-0.43 (-0.87)	0.51 (1.80)				-0.56 (-0.97)	0.57 (2.02)	
MU					-0.10 (-1.26)	-0.62 (-0.45)		-0.12 (-1.64)	-0.02 (-1.10)	
VIX							0.00 (-0.01)	0.04 (2.52)	0.35 (2.30)	0.06 (1.22)
MKT	1.17 (27.93)	1.17 (27.68)	1.18 (27.93)	1.17 (27.82)	1.17 (27.86)			1.20 (23.78)	1.19 (24.00)	
SMB	0.82 (9.84)	0.82 (9.80)	0.81 (9.84)	0.80 (9.57)	0.82 (9.74)			0.80 (9.24)	0.79 (8.84)	
HML	0.29 (3.49)	0.30 (3.59)	0.31 (3.75)	0.29 (3.37)	0.29 (3.46)			0.31 (3.59)	0.31 (3.68)	
RMW	-0.19 (-1.64)	-0.20 (-1.68)	-0.20 (-1.66)	-0.22 (-1.69)	-0.19 (-1.62)			-0.18 (-1.50)	-0.20 (-1.56)	
CMA	-0.42 (-3.65)	-0.42 (-3.63)	-0.43 (-3.71)	-0.43 (-3.71)	-0.42 (-3.63)			-0.46 (-3.79)	-0.47 (-3.98)	
LIQ	-0.04 (-1.89)	-0.03 (-1.67)	-0.03 (-1.46)	-0.04 (-1.95)	-0.04 (-1.95)			-0.02 (-1.02)	-0.02 (-1.10)	

Note: This table presents average coefficients for the predictive regression:

$$R_{i,t} = a + \beta_1 \text{EPU}_{t-1} + \beta_x \text{Control}_t + \varepsilon_t$$

The dependent variable $R_{i,t}$ is the equal-weighted returns of the portfolio of past 1-month losers (the long leg), portfolios of past 1-month winners (the short leg), and the return difference between the long and short legs of the intra-industry reversal, respectively. The independent variable EPU_{t-1} is the 1-month lagged news-based economic policy uncertainty (EPU) index. Control variables include the Fama–French (1993) three factors and Pastor and Stambaugh (2003) liquidity factor, and other macro variables. DOWN equals 1 if the past 3-month Center for Research in Security Prices (CRSP) value-weighted market return is less than 0, Volatility is market volatility estimated as the standard deviation of daily market returns in month $t-1$, Sentiment is the Baker and Wurgler (2006) investor sentiment index, macroeconomic uncertainty (MU) is from Jurado et al. (2015), and VIX is the Chicago Board Options Exchange Volatility Index. The sample period is 1985–2017 except for VIX (1990–2017). Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 3 Policy uncertainty and short-term reversals: Fama–MacBeth regressions.

	All stocks	High EPU	Low EPU
REV	-1.58 (-3.94)	-2.67 (-4.38)	-0.31 (-0.60)
ME	-0.07 (-2.19)	-0.14 (-3.13)	0.01 (0.13)
BM	0.16 (2.24)	0.09 (1.01)	0.25 (2.14)
MOM	0.44 (2.58)	0.20 (0.68)	0.72 (5.35)
IVOL	-0.16 (-3.47)	-0.07 (-1.00)	-0.26 (-3.94)
ILLIQ	-0.22 (-1.92)	-0.51 (-3.00)	0.13 (0.74)
Adj. R^2	0.040	0.042	0.037

Note: This table presents the average estimated coefficients from the following monthly cross-sectional regression:

$$R_{i,t} = a + \beta_1 \text{REV}_{i,t-1} + \beta_2 \text{Control}_{i,t-1} + \varepsilon_{i,t}$$

The dependent variable is the returns in month t . The independent variables include the return (REV) in month $t-1$ and the following control variables: firm size (ME), book-to-market ratio (BM), past 11-month returns (MOM), idiosyncratic volatility (IVOL), and stock illiquidity (ILLIQ) at the end of month $t-1$. Sample stocks include common stocks listed on the NYSE/AMEX/Nasdaq. Stocks with prices less than \$5 at the end of formation periods are excluded. The sample period is 1985–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 4 Policy uncertainty, liquidity, and short-term reversals: Portfolio analysis.

	High EPU			Low EPU			High EPU – low EPU		
	Long	Short	Long – short	Long	Short	Long – short	Long	Short	Long – short
<i>Panel A: Amihud illiquidity measure</i>									
Low ILLIQ	0.27 (1.40)	-0.29 (-1.77)	0.56 (1.76)	-0.30 (-1.73)	0.13 (0.76)	-0.43 (-1.42)	0.57 (2.37)	-0.42 (-1.72)	0.99 (2.32)
Mid ILLIQ	0.53 (2.55)	-0.31 (-2.23)	0.84 (2.62)	-0.22 (-0.99)	0.03 (0.14)	-0.24 (-0.65)	0.75 (2.54)	-0.34 (-1.44)	1.08 (2.15)
High ILLIQ	0.79 (5.05)	-0.70 (-3.66)	1.49 (5.92)	0.17 (1.18)	-0.51 (-4.15)	0.68 (4.85)	0.62 (3.05)	-0.19 (-0.97)	0.80 (3.02)
High – low	0.52 (2.72)	-0.41 (-1.87)	0.93 (3.46)	0.47 (2.61)	-0.64 (-2.79)	1.11 (3.75)	0.05 (0.19)	0.23 (0.76)	-0.18 (-0.49)
<i>Panel B: Adjusted residual illiquidity measure</i>									
Low ILLIQ	0.26 (1.19)	-0.33 (-2.26)	0.59 (1.86)	-0.49 (-2.5)	0.16 (0.89)	-0.66 (-1.92)	0.75 (2.72)	-0.50 (-2.06)	1.25 (2.72)
Mid ILLIQ	0.67 (3.97)	-0.58 (-4.10)	1.25 (4.78)	0.19 (1.33)	-0.41 (-4.58)	0.60 (3.84)	0.48 (2.38)	-0.17 (-1.11)	0.65 (2.26)
High ILLIQ	1.01 (7.02)	-0.48 (-2.65)	1.49 (7.25)	0.40 (2.91)	-0.63 (-3.79)	1.03 (6.58)	0.61 (3.61)	0.15 (0.7)	0.47 (2.03)
High – low	0.76 (3.17)	-0.15 (-0.68)	0.90 (3.27)	0.89 (4.07)	-0.79 (-2.64)	1.68 (4.08)	-0.14 (-0.48)	0.64 (1.82)	-0.78 (-1.64)

Note: Panel A (B) reports the equal-weighted Fama–French (2015) five-factor-adjusted returns to the portfolios independently double-sorted on the (adjusted) Amihud (2002) illiquidity measure and past 1-month returns following economic policy uncertainty (EPU). The adjusted stock illiquidity measure (ILLIQ) is the residual from a cross-sectional regression of the illiquidity on the stock’s idiosyncratic volatility. Month t is defined as a high- (low-) EPU month if the Baker et al. (2016) news-based EPU index in month t is above (below) the sample median. Sample stocks include common stocks listed on the NYSE/AMEX/Nasdaq. Stocks with prices less than \$5 at the end of formation periods are excluded. The sample period is 1985–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 5 Economic policy uncertainty (EPU), liquidity, and short-term reversals: Fama–MacBeth (1973) regressions.

	High EPU		Low EPU	
	Liquid stocks	Illiquid stocks	Liquid stocks	Illiquid stocks
REV	-1.67 (-2.08)	-3.16 (-4.99)	0.77 (1.05)	-0.87 (-1.80)
ME	-0.18 (-3.75)	0.00 (0.02)	0.06 (1.00)	-0.09 (-1.21)
BM	-0.01 (-0.06)	0.15 (1.82)	0.18 (1.44)	0.33 (3.26)
MOM	-0.10 (-0.30)	0.58 (2.35)	0.73 (4.00)	0.95 (6.66)
IVOL	0.03 (0.34)	-0.16 (-3.84)	-0.20 (-2.35)	-0.20 (-4.11)
TO	-0.03 (-0.63)	0.42 (3.02)	-0.09 (-1.58)	0.17 (1.32)
Adj. R^2	0.076	0.031	0.073	0.028

Note: This table presents the average estimated coefficients from the following monthly cross-sectional regression in subsamples of liquid and illiquid stocks:

$$R_{i,t} = a + \beta_1 \text{REV}_{i,t-1} + \beta_2 \text{Control}_{i,t-1} + \varepsilon_{i,t}.$$

The dependent variable is the returns in month t . The independent variables include the return (REV) in month $t-1$ and the following control variables: firm size (ME), book-to-market ratio (BM), past 11-month returns (MOM), idiosyncratic volatility (IVOL), and stock turnover (TO) at the end of month $t-1$. We equally divide all sample stocks into three groups based on stocks' Amihud (2002) illiquidity measure. Liquid (illiquid) stocks includes stocks in the bottom (top) one-third of the illiquidity distribution. Sample stocks include common stocks listed on the NYSE/AMEX/Nasdaq. Stocks with prices less than \$5 at the end of formation periods are excluded. The sample period is 1985–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 6 Role of earnings announcements.

	EA			No EA		
	High EPU	Low EPU	High – low	High EPU	Low EPU	High – low
<i>Panel A: Excess returns</i>						
Short leg	1.22 (2.56)	0.15 (0.38)	1.07 (1.87)	0.57 (1.28)	-0.69 (-1.65)	1.27 (2.22)
Long leg	1.97 (3.93)	-0.45 (-1.11)	2.43 (3.70)	2.31 (4.39)	-0.21 (-0.50)	2.52 (3.82)
Long – short	0.75 (2.18)	-0.60 (-2.58)	1.35 (3.08)	1.74 (5.66)	0.48 (2.09)	1.26 (3.10)
<i>Panel B: FF5 alphas</i>						
Short leg	-0.29 (-1.24)	0.27 (2.05)	-0.56 (-2.27)	-0.80 (-4.63)	-0.47 (-2.65)	-0.33 (-1.31)
Long leg	0.31 (1.47)	-0.39 (-1.68)	0.70 (2.30)	0.75 (3.72)	-0.11 (-0.64)	0.86 (3.47)
Long – short	0.60 (1.66)	-0.66 (-2.18)	1.26 (2.75)	1.55 (4.60)	0.36 (1.15)	1.19 (2.63)
<i>Panel C: FF6 alphas</i>						
Short leg	-0.16 (-0.78)	0.37 (2.55)	-0.52 (-2.19)	-0.62 (-3.97)	-0.34 (-1.85)	-0.27 (-1.12)
Long leg	0.22 (1.01)	-0.45 (-2.04)	0.67 (2.17)	0.64 (3.66)	-0.19 (-1.06)	0.83 (3.41)
Long – short	0.38 (1.16)	-0.82 (-2.72)	1.19 (2.62)	1.26 (4.35)	0.16 (0.48)	1.10 (2.50)

Note: This table reports the equal-weighted returns in excess of 1-month Treasury bill and Fama–French risk-adjusted returns to the intra-industry short-term reversal in the earnings announcements (EA) and no-EA subsamples following economic policy uncertainty (EPU). FF5 is the Fama–French (2015) five factors (FF5) and FF6 is the Fama–French (2015) five factors plus Pastor and Stambaugh’s (2003) liquidity factor. We first divide all sample stocks into decile portfolios based on stocks’ past 1-month returns. Then, within recent winner or loser portfolios, we further divide recent winners into recent winners/losers with EA in the formation month or recent winners/losers without EA (no EA) in the formation month. The EA (no-EA) subsample includes stocks with (without) EA in the formation month. Month t is defined as a high- (low-) EPU month if the Baker et al. (2016) news-based EPU index in month t is above (below) the sample median. Sample stocks include common stocks listed on the NYSE/AMEX/Nasdaq. Stocks with prices less than \$5 at the end of formation periods are excluded. The sample period is 1985–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 7 Economic policy uncertainty and anomalies.

	Long leg			Short leg			Long – short		
	High EPU	Low EPU	High – low	High EPU	Low EPU	High – low	High EPU	Low EPU	High – low
Failure probability	0.44 (4.62)	0.50 (4.43)	-0.06 (-0.44)	-0.75 (-4.06)	-1.22 (-6.66)	0.48 (1.84)	1.19 (5.02)	1.73 (6.89)	-0.54 (-1.61)
Ohlson OSCORE	0.06 (0.60)	0.09 (0.87)	-0.03 (-0.20)	-0.52 (-2.61)	-0.60 (-2.56)	0.08 (0.25)	0.58 (2.34)	0.68 (2.70)	-0.11 (-0.29)
Net stock issues	0.48 (3.88)	0.10 (0.84)	0.39 (2.52)	-0.62 (-5.59)	-0.75 (-5.35)	0.13 (0.73)	1.10 (7.50)	0.85 (5.95)	0.25 (1.48)
Composite equity issues	0.53 (4.29)	0.22 (1.93)	0.31 (2.12)	-0.55 (-4.88)	-0.68 (-5.93)	0.13 (0.87)	1.07 (6.85)	0.90 (6.18)	0.17 (0.98)
Total accruals	-0.11 (-0.75)	-0.17 (-1.22)	0.06 (0.32)	-0.59 (-4.30)	-0.66 (-4.59)	0.07 (0.38)	0.48 (2.73)	0.50 (2.45)	-0.01 (-0.05)
Net operating assets	0.28 (1.71)	0.11 (0.76)	0.17 (0.80)	-0.75 (-4.82)	-0.98 (-5.11)	0.23 (0.92)	1.03 (4.62)	1.09 (3.89)	-0.06 (-0.17)
Asset growth	0.06 (0.59)	-0.01 (-0.05)	0.07 (0.34)	-0.78 (-5.10)	-1.02 (-5.52)	0.23 (0.96)	0.85 (4.76)	1.01 (3.29)	-0.16 (-0.42)
Return on assets	0.40 (3.06)	0.42 (3.72)	-0.02 (-0.12)	-0.90 (-4.08)	-1.03 (-4.47)	0.13 (0.41)	1.31 (4.40)	1.46 (5.01)	-0.15 (-0.38)
Investment to assets	0.17 (1.82)	-0.01 (-0.12)	0.18 (1.48)	-0.81 (-4.51)	-0.90 (-4.58)	0.09 (0.35)	0.98 (5.26)	0.89 (3.92)	0.09 (0.30)
Gross profitability	0.34 (2.62)	0.13 (1.19)	0.22 (1.38)	-0.36 (-2.04)	-0.32 (-1.63)	-0.04 (-0.16)	0.70 (2.84)	0.44 (1.75)	0.26 (0.73)
Momentum	0.13 (0.62)	0.83 (3.73)	-0.70 (-2.26)	-0.66 (-2.41)	-1.56 (-6.29)	0.89 (2.30)	0.79 (1.77)	2.38 (5.68)	-1.59 (-2.51)
Short-term reversal	0.44 (2.40)	-0.29 (-1.89)	0.72 (2.80)	-0.68 (-4.16)	-0.32 (-2.04)	-0.37 (-1.50)	1.12 (3.64)	0.03 (0.11)	1.09 (2.40)

Note: This table presents the Fama-French (1993) three-factor alphas for various anomalies following high and low economic policy uncertainty (EPU). The long (short) leg refers to the return to the decile portfolio of stocks that have high (low) future returns in the subsequent 1 month. EPU is measured by the news-based EPU index in Baker et al. (2016). Month t is defined as a high- (low-) EPU month if the Baker et al. (2016) news-based EPU index in month t is above (below) the sample median. Sample stocks include common stocks listed on the NYSE/AMEX/Nasdaq. Stocks with prices less than \$5 at the end of formation periods are excluded. The returns are equal weighted. The sample period is 1985–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 8 Policy uncertainty, institutional ownership, and short-term reversals.

	High EPU			Low EPU			High EPU – low EPU		
	Long	Short	Long – short	Long	Short	Long – short	Long	Short	Long – short
<i>Panel A: Excess returns</i>									
Low IO	1.63 (3.80)	0.71 (1.72)	0.92 (3.96)	-0.32 (-0.81)	-0.35 (-0.85)	0.03 (0.13)	1.95 (3.44)	1.06 (2.00)	0.89 (2.60)
Mid IO	2.36 (4.91)	1.11 (2.54)	1.25 (4.48)	0.06 (0.16)	-0.19 (-0.51)	0.25 (1.38)	2.30 (3.72)	1.29 (2.43)	1.01 (2.87)
High IO	2.30 (4.48)	1.01 (2.28)	1.29 (4.83)	0.03 (0.08)	-0.20 (-0.62)	0.23 (1.37)	2.27 (3.71)	1.21 (2.33)	1.05 (3.26)
High – low	0.66 (3.59)	0.30 (1.52)	0.37 (1.86)	0.35 (1.83)	0.14 (0.74)	0.21 (1.15)	0.31 (1.24)	0.15 (0.59)	0.16 (0.63)
<i>Panel B: FF5 alphas</i>									
Low IO	0.31 (1.98)	-0.52 (-3.09)	0.83 (3.24)	-0.17 (-1.03)	-0.12 (-0.66)	-0.06 (-0.19)	0.48 (2.10)	-0.41 (-1.80)	0.89 (2.30)
Mid IO	0.84 (5.03)	-0.29 (-1.83)	1.12 (3.85)	0.12 (0.70)	-0.09 (-0.93)	0.21 (0.93)	0.72 (3.09)	-0.20 (-1.15)	0.91 (2.55)
High IO	0.54 (2.70)	-0.48 (-3.24)	1.03 (3.61)	-0.15 (-0.84)	-0.30 (-3.18)	0.15 (0.72)	0.69 (2.90)	-0.19 (-1.04)	0.88 (2.62)
High – low	0.23 (1.33)	0.04 (0.19)	0.20 (1.07)	0.02 (0.17)	-0.18 (-1.00)	0.21 (1.12)	0.21 (1.03)	0.22 (0.89)	-0.01 (-0.04)
<i>Panel C: FF6 alphas</i>									
Low IO	0.28 (1.81)	-0.30 (-1.97)	0.58 (2.49)	-0.19 (-1.26)	0.04 (0.22)	-0.24 (-0.82)	0.47 (2.04)	-0.34 (-1.52)	0.81 (2.11)
Mid IO	0.78 (4.87)	-0.14 (-1.03)	0.92 (3.45)	0.08 (0.44)	0.01 (0.12)	0.06 (0.26)	0.70 (3.02)	-0.16 (-0.94)	0.86 (2.44)
High IO	0.46 (2.55)	-0.40 (-2.92)	0.86 (3.38)	-0.21 (-1.21)	-0.24 (-2.47)	0.03 (0.15)	0.67 (2.84)	-0.16 (-0.92)	0.83 (2.53)
High – low	0.19 (1.08)	-0.10 (-0.52)	0.28 (1.62)	-0.01 (-0.09)	-0.28 (-1.47)	0.27 (1.47)	0.20 (0.96)	0.18 (0.73)	0.02 (0.06)

Note: This table reports the equal-weighted returns in excess of 1-month Treasury bill and risk-adjusted returns to the portfolios independently double-sorted on stocks' institutional ownership (IO) and past 1-month returns following economic policy uncertainty (EPU). FF5 is the Fama–French (2015) five factors (FF5) and FF6 is the Fama–French (2015) five factors plus Pastor and Stambaugh's (2003) liquidity factor. We interpedently and equally assign stocks into three groups based on stocks' IO and five quintile portfolios based on past 1-month returns. Month t is defined as a high- (low-) EPU month if the Baker et al. (2016) news-based EPU index in month t is above (below) the sample median. Sample stocks include common stocks listed on the NYSE/AMEX/Nasdaq. Stocks with prices less than \$5 at the end of formation periods are excluded. The returns are equal weighted. The sample period is 1985–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 9 Economic policy uncertainty and short-term reversals in Japan.

	Excess returns			FF5 alphas		
	High EPU	Low EPU	High – low	High EPU	Low EPU	High – low
<i>Panel A: Equal-weighted returns</i>						
Short leg	-0.17 (-0.26)	-0.42 (-0.59)	0.25 (0.28)	-0.37 (-1.00)	-0.57 (-1.61)	0.20 (0.40)
Long leg	0.92 (1.54)	-0.33 (-0.48)	1.24 (1.35)	0.65 (1.72)	-0.36 (-1.08)	1.01 (2.22)
Long – short	1.15 (2.60)	0.28 (0.80)	0.87 (1.59)	1.02 (2.30)	0.21 (0.47)	0.81 (1.40)
<i>Panel B: Value-weighted returns</i>						
Short leg	-0.75 (-1.24)	-0.34 (-0.47)	-0.41 (-0.46)	-0.72 (-1.84)	-0.43 (-1.15)	-0.29 (-0.56)
Long leg	1.18 (1.99)	-0.05 (-0.08)	1.24 (1.39)	1.05 (2.55)	-0.04 (-0.11)	1.08 (2.15)
Long – short	1.93 (3.97)	0.18 (0.40)	1.76 (2.68)	1.76 (3.48)	0.39 (0.80)	1.37 (2.05)

Note: This table presents the equal- and value-weighted excess returns and Fama–French (2015) five-factor alphas for the simple short-term reversal following high and low economic policy uncertainty (EPU) in Japan. Each month, we assign sample stocks into 10 decile portfolios based on their past 1-month returns. The long leg refers to the returns to past 1-month losers, the short leg refers to the returns to past 1-month winners, and the long–short portfolio refers to the return differences between past 1-month losers and winners. The EPU index in Japan is from Baker, Bloom, and Davis’s website (<https://www.policyuncertainty.com/>). Month t is defined as a high-(low-) EPU month if the EPU index in month t is above (below) the sample median. The Fama–French five factors for the Japanese stock markets are from Kenneth French’s website (<https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/>). Sample stocks includes the top 60% stocks based on stock market capitalization in the prior month listed on three main exchanges (Tokyo, Osaka, and Jasdq) in Japan. The sample period is 1987–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 10 Other measures of policy uncertainty and short-term reversals.

	No control	FF5	FF6
Tax code	-0.15 (-1.51)	-0.16 (-1.54)	-0.16 (-1.56)
Disagreement on CPI	-0.37 (-0.63)	-0.18 (-0.32)	-0.30 (-0.54)
Disagreement on purchase	0.23 (0.59)	0.16 (0.41)	0.27 (0.73)

Note: This table presents average coefficients for the predictive regressions:

$$R_{i,t} = a + \beta_1 EPU_{t-1} + \beta_x \text{Control}_t + \varepsilon_t.$$

The dependent variable $R_{i,t}$ is the returns of the short-term reversal. The independent variable EPU_{t-1} is the 1-month lagged component economic policy uncertainty (EPU) index (tax code index, forecast disagreement on the Consumer Price Index [CPI], and forecast disagreement on federal/state/local purchases). Control variables include Fama–French (2015) five factors (FF5) and Pastor and Stambaugh (2003) liquidity factor (FF6). The sample period is 1985–2017. Newey–West (1987) adjusted t -statistics are in parentheses.

TABLE 11 Historical economic policy uncertainty and short-term reversals.

	1926–1984			1985–2014		
	High	Low	High – low	High	Low	High – low
<i>Panel A: Excess returns</i>						
Short leg	-0.19 (-0.37)	-0.45 (-1.27)	0.26 (0.43)	0.53 (1.14)	-0.15 (-0.32)	0.68 (1.13)
Long leg	2.85 (4.92)	1.23 (3.05)	1.62 (2.25)	2.08 (3.80)	-0.01 (-0.02)	2.09 (2.85)
Long – short	3.04 (9.33)	1.68 (8.58)	1.36 (3.68)	1.55 (4.64)	0.14 (0.61)	1.42 (3.24)
<i>Panel B: FF3 alphas</i>						
Short leg	-1.45 (-8.82)	-0.96 (-9.66)	-0.49 (-2.68)	-0.81 (-4.43)	-0.21 (-1.27)	-0.59 (-2.20)
Long leg	1.34 (7.33)	0.64 (4.93)	0.70 (3.16)	0.52 (2.59)	-0.30 (-1.87)	0.82 (2.97)
Long – short	2.79 (8.79)	1.60 (8.66)	1.19 (3.40)	1.33 (3.87)	-0.08 (-0.28)	1.41 (2.83)

Note: This table presents the equal-weighted excess returns and Fama–French (1993) three-factor (FF3) alphas for the intra-industry short-term reversal following high and low economic policy uncertainty (EPU) in two subperiods (July 1926–December 1984 and January 1985–October 2014). Each month, we assign sample stocks into 10 decile portfolios based on their past 1-month returns. The long leg refers to the returns to the past 1-month losers, the short leg refers to the returns to the past 1-month winners, and the long–short portfolio refers to the return differences between the past 1-month losers and winners. The historical EPU index in the United States is from Baker, Bloom, and Davis’s website (<https://www.policyuncertainty.com/>). Month t is defined as a high- (low-) EPU month if the EPU index in month t is above (below) the sample median. Common stocks with prices less than \$5 at the end of formation periods are excluded. The sample period is July 1926–October 2014. Newey–West (1987) adjusted t -statistics are in parentheses.