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The Relative Impact of Different News on Stock Returns: Evidence From New Zealand

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ABSTRACT

We estimate the effects of different news events on New Zealand stock returns. Our results indicate that local news, such as announcements from the New Zealand Central Bank interest rate changes (official cash rate) and company earnings reports, generally has a greater impact than international news. However, U.S. Federal Open Market Committee interest rate announcements also exert an important impact. There are no consistent differences in the impact of news on stocks with different cross-sectional characteristics, such as small and large, value and growth, and low- and high-leverage stocks.

JEL Classification: G11, G12

1 | Introduction

International stock markets are far more connected today than they were decades ago. Economies are integrated through trade, and many investors diversify internationally. This raises important questions about the relative importance of local and international news for stock returns. We contribute to the literature by estimating the relative impact of various news events on New Zealand stock returns.

We consider the following specific local events: First, we consider semi-annual earnings announcement dates. Ball and Shivakumar (2008) show that a meaningful proportion of annual stock returns occur on earnings announcement days in the United States. Second, we include days when popular technical indicators give buy and sell signals. We focus on moving average trading rules, since these are popular in the industry (e.g., Zhu and Zhou 2009). Third, we include macroeconomic announcement events such as inflation, the gross domestic product (*GDP*), and unemployment. Flannery and Protpapadakis (2002) document the importance of macroeconomic announcements for U.S. stock returns. We also include Reserve Bank of New Zealand (RBNZ) official cash rate (*OCR*) announcements.

The international events we include are as follows: First, since U.S. equity returns influence equity returns in other countries (e.g., Rapach et al. 2013), we examine New Zealand equity returns on days following large changes in U.S. equity returns. Second, given Australia's proximity to New Zealand and their strong economic ties, we include days with large changes in Australian equity returns. Third, given the importance of the Japanese equity market to the Asia-Pacific region, we include days with large changes in Japanese equity returns. Fourth, given the influence of U.S. policy decisions on the global economy, we include days with large changes in U.S. economic policy uncertainty index. Finally, recent work by Brusa et al. (2020) indicates that announcements by local central banks have much less impact on stock returns than U.S. Federal Open Market Committee (*FOMC*) announcements. We therefore examine the impact of *FOMC* announcements.

Research has shown that company fundamentals, technical factors, macroeconomic announcements, and central bank interest rate decisions all impact stock returns. However, international studies have generally focused on the impact of each of these variables in isolation. Using different samples of stocks and periods has made it challenging to gauge their relative impact. We contribute to the literature by estimating the relative impact of various news events. Our results are particularly useful for those interested in the New Zealand equity market. Further, while no two international markets are identical, we expect our results will also be of interest to those focused on other international equity markets of open economies.

To measure the influence of the different news sources, we regress annual returns for each stock on the returns over a three-day window surrounding each event. The adjusted R^2 measures the proportion of annual returns driven by the event. We then subtract the expected adjusted R^2 for a random equivalent period with no news to obtain the event-driven abnormal adjusted R^2. Each news source may already be reflected in stock prices before the event window, allowing us to test whether investors correctly anticipate its impact in advance. Alternatively, the news may be reflected with a delay if investors react slowly. However, this is difficult to determine due to confounding events. A defined window allows us to attribute stock return variation to various events with more certainty. We test a five-day window for robustness.

Our results indicate that six of the seven local events have abnormal adjusted R^2 that are statistically significantly different to the benchmark based on mean or median returns when logarithmic returns are used. The equivalent number is five of seven events when arithmetic returns are used. In contrast, four of five international events have abnormal adjusted R^2 that are statistically significantly different to the benchmark based on mean or median returns when logarithmic returns are used. The equivalent number is three of five events when arithmetic returns are used.

Of the local events, New Zealand Central Bank interest rate (*OCR*) announcements, and company earnings announcements have the largest impact. In the 3 days surrounding these announcements, the average abnormal adjusted R^2 for these announcements based on logarithmic returns is 12%–16%, and 11%–12% based on arithmetic returns. Macroeconomic announcements, including the Consumer Price Index (*CPI*), the *GDP*, and unemployment, play a lesser but still statistically significant role, with average abnormal adjusted R^2 values of 5%–10%. We consider two popular technical trading rules. The first is when prices cross a 50-day moving average; the second is when prices cross a 200-day moving average. In each instance, we focus on the first buy signal (when the price moves above the moving average) and the first sell signal (when the price moves below the moving average) for the calendar year. The average abnormal adjusted R^2 following a 50-day moving average buy or sell signal is also in the 5%–10% range. The average abnormal adjusted R^2 values following a 200-day moving average buy or sell signal or following large positive or negative returns in the S&P 500 are not statistically significant.

In terms of the international events, U.S. Central Bank (FOMC) interest rate announcements have average abnormal adjusted R^2 of 12%–13% based on logarithmic returns and 8%–9% based on arithmetic returns. Other events tend to be statistically significant in terms of mean returns, but not median returns. The average abnormal adjusted R^2 is 6%–7% for Australian news events and 3%–4% for Japanese equity market events.

We conduct numerous robustness tests. While there is variation, the results outlined above generally hold true in both periods before and after the global financial crisis (GFC). They also hold stocks in different cohorts, including small- and large-cap stocks, those with high and low analyst following, value and growth stocks, and those with low and high leverage. We test whether there are differences between these cohorts, but most are not statistically significant. Our findings indicate that the events we consider have a greater impact on stocks in the energy, financial, and healthcare industries than others. However, sample size limitations prevent us from determining whether these differences are statistically significant.

The magnitude of the impact of earnings announcements on stock returns is similar in New Zealand to that in international markets. As Basu et al. (2013) note, U.S. earnings announcements have an average abnormal adjusted R^2 of 11%. Furthermore, Taylor and Tong (2023) report an average abnormal adjusted *R*-squared value of 10% for Australia. Both are within the range we document for New Zealand. Our results are consistent with Brusa et al. (2020) in indicating the important influence of the FOMC on New Zealand stock returns. However, our results contrast with theirs by indicating that, unlike in the international markets they consider, the domestic central bank in New Zealand also has a considerable impact on stock returns. The research that considers the other events we examine typically documents announcement day returns, rather than the framework we adopt. This limits the ability to make direct comparisons of the impact of these events.

We contribute to several strands of the literature. First, we add to work that considers the impact of various factors on stock returns. The importance of earnings information for stock returns has been documented for decades (e.g., Ball and Brown 1968). Ball and Kothari (1991) note that risk increases around earnings announcements, but abnormal returns persist after controlling for this. More recently, Dellavigna and Pollet (2009) document a slower immediate response to earnings announcements made on Fridays, which they attribute to investor distraction due to the pending weekend. In terms of New Zealand research, Truong (2012) finds that both end-of-year and mid-year earnings announcements are an important source of information. Furthermore, Taylor and Tong (2023) find that semi-annual earnings announcements continue to be a critical information source for stocks. There is year-to-year variation but no discernible time trend in the impact of earnings announcements on equity markets. The extent to which technical analysis adds value is highly contested. Although it is often dismissed for conflicting with weak-form market efficiency, theoretical support exists (e.g., Brown and Jennings 1989). Furthermore, technical analysis is widely used in the industry (e.g., Menkoff 2010) and has been shown to explain stock returns (e.g., Han et al. 2013). The impact of macroeconomic variables and monetary policy announcements on stock returns is less controversial and is well documented in the literature (e.g., Savor and Wilson 2013; Ai et al. 2022). Finally, our inclusion of U.S. equity returns is related to the literature on the co-movement of stock returns (e.g., Brooks and Del Negro 2006).

Second, we add work focusing on the New Zealand equity market. Frijns and Indriawan (2018) note that most active fund managers in New Zealand hold portfolios that closely resemble the market index. Balli et al. (2020) show that New Zealand and U.S. economic policy uncertainty impacts New Zealand stock returns. Ali et al. (2022) also show that New Zealand's economic policy uncertainty impacts the returns earned by institutional investors.[1] More recently, Ma et al. (2024) have documented several aspects of New Zealand's long-term equity returns over 156 years, including the impact of inflation on equity returns.

We hope our paper will interest a range of stakeholders. New Zealand stock returns impact various groups. They influence the savings accumulated by investors who invest in stocks directly or via their workplace savings, namely, the KiwiSaver scheme. They impact the government's accounts. The NZ Super Fund invests in stocks. Although the fund operates as a standalone entity, it will be used to support future generations in retirement, thereby reducing the taxation revenue that would otherwise need to be raised. Finally, stock returns impact companies via their influence on the companies' cost of capital.

The remainder of our paper is organised as follows, Section 2 presents the data and methodology. Section 3 discusses the results. Section 4 concludes the paper.

2 | Data and Method

We obtain data on all stocks listed on the NZX Main Board between 1990 and 2024 from LSEG (Refinitiv), resulting in a sample of 184 companies. We calculate returns using the total return series, which includes dividends and accounts for capital changes, such as stock splits. We follow Hollstein (2020) and require that a firm be included in a given year if it trades on at least 50% of the trading days in that calendar year. We conclude that the firm has traded on a particular day if its trading volume is not zero. Earnings announcement date data are also obtained from LSEG. Macroeconomic announcement dates are from Bloomberg. U.S. market returns are from the Centre for Research in Security Prices. Market returns for Australia's ASX 200 and Japan's Nikkei 225 are retrieved from LSEG. *OCR* announcement dates are from the RBNZ website, *FOMC* announcement dates are from the U.S. Federal Reserve website, and the U.S. Economic Uncertainty Policy daily index (*EPU*) is obtained from the https://www.policyuncertainty.com/ website.

We follow Ball and Shivakumar (2008) and use the R^2 values from the annual cross-section regression of stock calendar-year returns on the returns surrounding earnings announcements, as specified in Equation (1) below. Using the same approach, we substitute earnings announcement returns with returns around moving average buy and sell signals, macroeconomic announcements, central bank interest rate decisions, international equity returns, and the U.S. Economic Policy Uncertainty Index. There is evidence of skewness in the return data. Median returns are consistently negative across all announcement types. The proportion of returns greater than zero is always less than 50%; however, many mean returns are positive. Ball and Shivakumar (2008) note that logarithmic and arithmetic returns have strengths and weaknesses. Logarithmic returns are superior for time-series aggregation, whereas arithmetic returns are superior for cross-sectional aggregation. We therefore include the results for both logarithmic and arithmetic returns and apply the following equation:

$$R_i(annual) = a_0 + a_1 R_i(window\ 1) + a_2 R_i(window\ 2) + \dots + a_n R_i(window\ n) + \varepsilon_i \tag{1}$$

where $R_i(annual)$ represents calendar-year buy-and-hold returns and $R_i(window\ n)$ denotes the buy-and-hold return over day −1, day 0, and day +1 within the nth event window for a specific event category. Equation (1) is estimated separately for each event type and each calendar year, using the cross-section of stocks in that year. The value of n reflects the number of events of that type observed for a stock in that year (e.g., $n=2$ for earnings announcements and $n=4$ for CPI announcements). We define day 0 for each type of event as follows. There are two earnings announcements (*EAs*) per year, with day 0 being the day of the earnings announcement. The technical indicators we examine are based on the 50-day moving average (*MA050*) and 200-day moving average (*MA200*) rules. Day 0 is recorded as the first time in a calendar year when the stock price departs from the relevant moving average by at least 1%. As a result, some stocks may have no technical signals in a given year, whereas others may generate one or more signals. To ensure meaningful signal variation and to avoid isolated one-off crossings, we only include stock–years with two signals: one occurring in the first half of the year and one in the second half. For the GDP, CPI, and unemployment (*UEMP*), there are generally four announcements per year, with day 0 corresponding to each announcement date. The number of *OCR* and *FOMC* announcements varies slightly each year. *OCR* announcements are recorded in New Zealand time. For *FOMC* announcements, we follow Brusa et al. (2020) and convert U.S. times into New Zealand times. Day 0 for U.S. stock returns relates to the days in New Zealand when the S&P 500 increased or decreased by more than two standard deviations from the most recent 12-month daily returns (*SPsd2*). We only include stock–years with two such signals. We identify economic uncertainty shocks by selecting the two largest absolute monthly changes in the EPU index within each calendar year. For Australia and Japan, no time-zone adjustment is required. We similarly identify the 2 days per year where the ASX 200 and Nikkei 225 returns exceed ±2 standard deviations, and denote these indicators as *ASXsd2* and *NIKsd2*, respectively.

The results in Table 1 contain the total number of events across firm–years in each category. This ranges from 3795 for earnings announcements to 19,375 for *FOMC* announcements. Earnings announcements date back to the start of the sample period but occur only twice a year. *FOMC* announcements begin in 1991, but there are up to 14 of these per year. *OCR* announcements commenced in 1999, with a maximum of nine per year. Macroeconomic announcement data commenced in 2000 for the *CPI* and 2001 for the *GDP* and unemployment, with four

TABLE 1 | Summary statistics of returns.

	N	Mean	Median	Skewness	Obs = 0	Obs > 0
Panel A: Logarithmic returns						
EA	3795	0.0048	0.0000	−0.1338	0.0935	0.4938
CPI	7904	0.0022	0.0000	1.0766	0.1374	0.4500
GDP	8115	−0.0020	0.0000	−2.5499	0.1272	0.4421
OCR	16,002	−0.0007	0.0000	−1.1557	0.1272	0.4382
UEMP	7904	−0.0006	0.0000	0.4070	0.1308	0.4269
MA050	4644	0.0059	0.0000	0.6127	0.0991	0.4662
MA200	3934	0.0046	0.0000	0.4978	0.0785	0.4680
SP500	4531	−0.0048	0.0000	−0.5782	0.1426	0.3624
FOMC	19,375	−0.0032	0.0000	−2.2756	0.1324	0.4228
EPU	4256	0.0020	0.0000	1.5946	0.1915	0.4215
ASX200	4470	−0.0029	0.0000	4.7520	0.1823	0.3275
Nikkei225	4572	−0.0005	0.0000	0.0513	0.1772	0.4016
Panel B: Arithmetic returns						
EA	3795	0.0079	0.0000	1.9009	0.0935	0.4938
CPI	7904	0.0035	0.0000	3.7202	0.1374	0.4500
GDP	8115	0.0000	0.0000	0.4957	0.1272	0.4421
OCR	16,002	0.0010	0.0000	1.0751	0.1272	0.4382
UEMP	7904	0.0008	0.0000	2.4525	0.1308	0.4269
MA050	4644	0.0085	0.0000	2.8335	0.0991	0.4662
MA200	3934	0.0087	0.0000	3.0710	0.0785	0.4680
SP500	4531	−0.0033	0.0000	2.6997	0.1426	0.3624
FOMC	19,375	−0.0011	0.0000	0.2162	0.1324	0.4228
EPU	4256	0.0030	0.0000	6.6382	0.1915	0.4215
ASX200	4470	−0.0016	0.0000	13.3820	0.1823	0.3275
Nikkei225	4572	0.0004	0.0000	1.6014	0.1772	0.4016

Note: This table presents summary statistics (mean, median, and skewness) for event window buy-and-hold returns, where N represents the total number of events across firm–years for each event category. The final two columns report the proportions of event window return observations that are equal to and greater than zero, respectively. Ball and Shivakumar (2008) note that logarithmic and arithmetic returns both have strengths and weaknesses. Logarithmic returns are superior for time-series aggregation, whereas arithmetic returns are superior for cross-sectional aggregation. We therefore include results for both logarithmic and arithmetic returns in Panels A and B, respectively.

announcements of each type per year. As described earlier, each technical indicator generates two signals per calendar year. For the U.S., Australia, and Japan, we identify extreme market movements as days on which their respective equity indexes exhibit returns exceeding ±2 standard deviations relative to the trailing 12-month daily return distribution.

3 | Results

The first row of results in Table 2, denoted BM, relates to the expected adjusted R^2 (i.e., the benchmark-adjusted R^2) for each type of event under the null hypothesis that daily returns, including event window returns, are independent and identically distributed over time. The benchmark-adjusted R^2 is determined by the proportion of trading days covered by each event window and the number of such windows in a given year. With 252 trading days per year, a three-day event window represents approximately 1.19% of the year (3/252). Thus, for earnings announcements (two events per year), the benchmark-adjusted R^2 is $1.19\% \times 2 = 2.38\%$. Some market-level event types have a slightly varying number of events per year; for example, there are seven to nine OCR announcements per year. Their benchmark values vary accordingly and are computed using the actual number of events in each year. The benchmark-adjusted R^2 reported in the tables is the average of these annual benchmarks over the full sample period. This construction explains why *FOMC* events have an average benchmark-adjusted R^2 of 9.82%,

TABLE 2 | Benchmark and adjusted R^2.

	EA	CPI	GDP	OCR	UEMP	MA050	MA200	SPsd2	FOMC	EPU	ASXsd2	NIKsd2
BM	**0.0238**	**0.0476**	**0.0476**	**0.0924**	**0.0476**	**0.0238**	**0.0238**	**0.0238**	**0.0982**	**0.0238**	**0.0238**	**0.0238**
Panel A: Using logarithmic returns												
ME	0.1457	0.1182	0.1182	0.2557	0.1180	0.0770	0.0448	0.0444	0.2331	0.0488	0.0810	0.0633
MD	0.1078	0.0867	0.0829	0.2167	0.1050	0.0683	0.0230	0.0306	0.2206	0.0265	0.0611	0.0468
ME—BM	**0.1219**	**0.0706**	**0.0706**	**0.1633**	**0.0704**	**0.0532**	0.0210	0.0206	**0.1349**	**0.0250**	**0.0572**	**0.0395**
	(0.000)	(0.001)	(0.009)	(0.000)	(0.004)	(0.005)	(0.155)	(0.117)	(0.000)	(0.064)	(0.015)	(0.015)
MD—BM	**0.0840**	**0.0391**	**0.0352**	**0.1243**	**0.0574**	**0.0445**	−0.0008	0.0068	**0.1224**	0.0027	0.0372	0.0230
	(0.000)	(0.000)	(0.034)	(0.000)	(0.003)	(0.066)	(0.635)	(0.243)	(0.000)	(1.000)	(0.155)	(0.243)
Panel B: Using arithmetic returns												
ME	0.1411	0.1185	0.1039	0.2014	0.0963	0.0826	0.0448	0.0486	0.1917	0.0517	0.0952	0.0560
MD	0.1064	0.0740	0.0534	0.2061	0.0771	0.0543	0.0216	0.0238	0.1751	0.0210	0.0535	0.0334
ME—BM	**0.1173**	**0.0709**	0.0563	**0.1090**	**0.0487**	**0.0588**	0.0209	0.0248	**0.0935**	0.0279	**0.0714**	**0.0322**
	(0.000)	(0.015)	(0.106)	(0.000)	(0.023)	(0.003)	(0.132)	(0.149)	(0.007)	(0.157)	(0.014)	(0.092)
MD—BM	**0.0826**	**0.0263**	0.0057	**0.1137**	**0.0295**	**0.0305**	−0.0022	0.0000	**0.0769**	−0.0029	**0.0297**	0.0096
	(0.000)	(0.059)	(1.000)	(0.000)	(0.015)	(0.066)	(1.000)	(0.816)	(0.009)	(1.000)	(0.004)	(0.484)
Panel C: Paired tests of mean abnormal adjusted R^2 values based on logarithmic returns												
EA	—	**0.001**	**0.002**	**0.001**	**0.001**	**0.015**	**0.000**	**0.000**	**0.000**	**0.001**	**0.044**	**0.002**
CPI	**0.069**	—	0.999	0.607	0.994	0.380	0.410	0.358	0.865	0.522	0.370	0.817
GDP	0.120	0.999	—	0.674	0.996	0.416	0.467	0.421	0.895	0.568	0.395	0.832
OCR	0.263	**0.014**	**0.021**	—	0.637	0.549	0.219	0.171	0.428	0.282	0.508	0.910
UEMP	**0.094**	0.994	0.996	**0.017**	—	0.397	0.440	0.410	0.890	0.555	0.382	0.822
MA050	**0.015**	0.509	0.560	**0.004**	0.542	—	0.168	0.147	0.307	0.210	0.887	0.564
MA200	**0.000**	**0.036**	**0.095**	**0.000**	**0.056**	0.168	—	0.982	0.440	0.839	0.182	0.384
SPsd2	**0.000**	**0.025**	**0.084**	**0.000**	**0.062**	0.147	0.982	—	0.379	0.810	0.163	0.348
FOMC	0.701	**0.058**	**0.092**	0.481	**0.073**	**0.016**	**0.001**	**0.001**	—	0.566	0.313	0.719
EPU	**0.001**	**0.045**	0.115	**0.000**	**0.088**	0.210	0.839	0.810	**0.001**	—	0.220	0.483
ASXsd2	**0.044**	0.658	0.689	**0.005**	0.680	0.887	0.182	0.163	**0.030**	0.220	—	0.517
NIKsd2	**0.002**	0.199	0.295	**0.001**	0.240	0.564	0.384	0.348	**0.004**	0.483	0.517	—

Note: This table presents benchmark- and abnormal adjusted R^2 values for each type of return determinant. The benchmark-adjusted (BM) R^2 is the expected adjusted R^2 for each return determinant, following Ball and Shivakumar (2008). In Panels A and B, ME and MD denote mean and median adjusted R^2 values, respectively. The final rows report the mean and median abnormal adjusted R^2 values. In both panels, we also report the p-values in parentheses for the t-test for the null hypothesis that the mean abnormal return is zero and for the Kruskal–Wallis test that the median abnormal return is zero. Panel C reports pairwise tests of differences in mean abnormal adjusted R^2. In the lower-diagonal panel, based on logarithmic returns, we report p-values for the null hypothesis that the difference in mean abnormal adjusted R^2 between two event types is zero. In the upper-diagonal panel of Panel C, we scale the abnormal adjusted R^2 by the number of events per year before performing pairwise comparisons. Boldface indicates statistical significance at the 10% level or better ($p < 0.10$).

whereas earnings announcements have an average benchmark-adjusted R^2 of 2.38%.

In Panel A of Table 2, we present the mean and median adjusted R^2 values and the mean and median abnormal adjusted R^2 values for each event based on logarithmic returns. Equivalent results are presented for arithmetic returns in Panel B. In both panels, we report the *p*-values in parentheses for the *t*-test for the null hypothesis that the mean abnormal return is zero and the Kruskal–Wallis test that the median abnormal return is zero.

The results in Panel A indicate that six of the seven local events have abnormal adjusted R^2 values that are statistically significantly different from the benchmark based on mean or median returns when logarithmic returns are used. The largest mean abnormal adjusted R^2 is 16.33% of *OCR* announcements. The next largest 12.19% for earnings announcements. The three macroeconomic announcements have a mean abnormal adjusted R^2 value of 7.04%–7.06%, while the 50-day moving average rules have a mean abnormal adjusted R^2 value of 5.32%. The mean abnormal adjusted R^2 is not statistically significantly different from zero for the 200-day moving average rule. Four of five international events have abnormal adjusted R^2 that are statistically significantly different to the benchmark based on mean or median returns when logarithmic returns are used. The largest mean abnormal adjusted R^2 is 13.49% for *FOMC* announcements. The mean abnormal adjusted R^2 values for *EPU*, *ASXsd2*, and *NIKsd2* events are 2.50%, 5.72%, and 3.95%, respectively, and all are statistically significant. The mean abnormal adjusted R^2 is not statistically significantly different from zero for large S&P 500 stock returns.[2] The magnitude of the median abnormal returns is smaller, but the relative size across events is similar to the means.

The arithmetic returns in Panel B of Table 2 convey a similar message to those in Panel A. Five of seven local events exhibit abnormal adjusted R^2 values that are statistically significantly different from the benchmark based on mean or median returns. The equivalent number for international events is three of five. Panel C reports pairwise test of differences in mean abnormal adjusted R^2. In the lower-diagonal panel, based on logarithmic returns, we report *p*-values for the null hypothesis that the difference in mean abnormal adjusted R^2 between two event types is zero. The results show that the mean abnormal adjusted R^2 for *OCR* announcements is statistically significantly different from nine of the other events. *CPI* and *GDP* announcements are also frequently statistically significantly different to other announcements. In the upper diagonal panel of Panel C, we scale the abnormal adjusted R^2 by the number of events per year before performing pairwise comparisons. When expressed on a per-event basis, earnings announcements generate significantly higher abnormal adjusted R^2 than every other event category. In contrast, no statistically significant differences arise across any other pairwise comparisons.

In the Table A1, we report results equivalent to those in Table 2, but with five-day windows around each event. Given the longer windows, the benchmark-adjusted R^2 values are higher in each instance, and the mean and median abnormal adjusted R^2 values for each event are broadly consistent but generally lower than those reported in Table 2. For the logarithmic returns, the largest mean abnormal adjusted R^2 values are for *OCR* announcements, earnings announcements, and *FOMC* announcements. However, for arithmetic returns, earnings announcements and *OCR* announcements are the two events with the largest abnormal adjusted R^2 values.[3]

There is always the potential that the results are not driven solely by historical data and are not present in more recent data. We examine this possibility by segmenting our sample around the GFC. We label the years up to and including 2009 as before the GFC and the remaining years as after the GFC. The results in Table 3 indicate that the core results are consistent in both subsamples. Local events are more important than international events in both subsamples. Further, there is little difference between the two samples. *MA050* is the one event that generates lower abnormal adjusted R^2 values in the post-GFC period, in both logarithmic and arithmetic returns.

Announcement returns to different events may vary across large and small stocks. Large stocks generally have more analyst coverage (e.g., Hong et al. 2000) and higher institutional ownership (e.g., O'Brien and Bhushan 1990). As a result, large stocks may exhibit smaller reactions to announcement events, since this information is often already incorporated into their prices beforehand. On the other hand, large stocks may be expected to react more quickly to news released during the event windows we consider. This suggests that announcement returns over a three-day window may be larger for large stocks than for small stocks, which may exhibit a more delayed reaction. However, we find no consistent evidence to support this hypothesis. The reaction to *GDP* announcements is greater for large stocks using both logarithmic and arithmetic returns. However, the reaction to earnings announcements is slightly smaller for large stocks. The results in Table 4 indicate that *OCR* announcements, *FOMC* announcements, earnings announcements, and mean abnormal adjusted R^2 values are statistically significant in both large and small stocks when logarithmic returns are used. These results are also consistent for arithmetic returns. However, *GDP* announcements have particularly large mean abnormal adjusted R^2 values for large stocks when using arithmetic returns. As an alternative to size, we employ the number of analyst earnings forecasts and split our sample into high and low analyst following groups based on the median number of analyst earnings forecasts in a year. We report the results the Table A3, which shows that the difference in mean abnormal adjusted R^2 is statistically insignificant across the ten events that we examine, except for *CPI* and *MA050*. Specifically, the stocks with low analyst following tend to be more responsive to the announcement of CPI or when the 50-day moving average is triggered, and the cumulative returns around these events contribute significantly more to the variation of the stocks' annual returns.

Value and growth stocks exhibit distinct characteristics and may react differently to various events. For instance, Black (2002) documents differences in the impacts of monetary policy on value and growth stocks. We classify stocks annually based on their book-to-market ratio, with stocks above the median designated as value stocks and those below the median as growth stocks. The results in Table 5 indicate that value stocks have

TABLE 3 | Abnormal adjusted R^2 values over the pre- and post-GFC periods.

	EA	CPI	GDP	OCR	UEMP	MA050	MA200	SPsd2	FOMC	EPU	ASXsd2	NIKsd2
Panel A: Using logarithmic returns												
Pre-GFC	**0.1123**	**0.0456**	**0.0737**	**0.1759**	**0.0396**	**0.0791**	0.0365	0.0212	**0.1294**	0.0248	**0.0861**	**0.0358**
	(0.002)	(0.087)	(0.096)	(0.000)	(0.082)	(0.012)	(0.161)	(0.310)	(0.003)	(0.209)	(0.028)	(0.095)
Post-GFC	**0.1274**	**0.0867**	**0.0684**	**0.1535**	**0.0902**	0.0199	0.0033	0.0197	**0.1420**	0.0253	0.0195	**0.0441**
	(0.001)	(0.006)	(0.056)	(0.006)	(0.018)	(0.226)	(0.782)	(0.149)	(0.003)	(0.180)	(0.291)	(0.096)
Post—Pre	0.0151	0.0411	−0.0053	−0.0224	0.0506	**−0.0592**	−0.0333	−0.0015	0.0126	0.0005	−0.0666	0.0083
	(0.731)	(0.288)	(0.919)	(0.718)	(0.218)	(0.085)	(0.243)	(0.952)	(0.819)	(0.984)	(0.115)	(0.793)
Panel B: Using arithmetic returns												
Pre-GFC	**0.1030**	0.0312	0.0416	**0.1274**	0.0143	**0.0905**	**0.0402**	0.0208	**0.1015**	0.0361	**0.1111**	0.0521
	(0.001)	(0.365)	(0.220)	(0.000)	(0.490)	(0.002)	(0.098)	(0.363)	(0.065)	(0.275)	(0.023)	(0.127)
Post-GFC	**0.1255**	**0.0965**	0.0668	**0.0945**	**0.0708**	0.0180	−0.0011	0.0304	**0.0832**	0.0167	0.0195	0.0081
	(0.007)	(0.025)	(0.236)	(0.005)	(0.030)	(0.433)	(0.921)	(0.272)	(0.049)	(0.267)	(0.323)	(0.443)
Post—Pre	0.0225	0.0653	0.0252	−0.0328	0.0566	**−0.0725**	−0.0413	0.0096	−0.0182	−0.0194	**−0.0915**	−0.0440
	(0.610)	(0.243)	(0.693)	(0.397)	(0.136)	(0.045)	(0.123)	(0.782)	(0.789)	(0.587)	(0.075)	(0.213)

Note: This table reports the abnormal adjusted R^2 results equivalent to those in Table 2, but for pre- and post-GFC subperiods. Boldface indicates statistical significance at the 10% level or better ($p < 0.10$).

TABLE 4 | Abnormal adjusted R^2 values for large and small stocks.

	EA	CPI	GDP	OCR	UEMP	MA050	MA200	SPsd2	FOMC	EPU	ASXsd2	NIKsd2
Panel A: Using logarithmic returns												
Large	**0.0975**	0.0488	**0.1985**	**0.1460**	**0.0722**	**0.0349**	0.0387	**0.0470**	**0.1923**	0.0331	0.0267	0.0091
	(0.003)	(0.102)	(0.000)	(0.001)	(0.024)	(0.054)	(0.217)	(0.084)	(0.000)	(0.257)	(0.210)	(0.498)
Small	**0.1856**	**0.0729**	**0.0711**	**0.1870**	**0.1226**	**0.0527**	0.0169	0.0165	**0.1955**	**0.0575**	**0.0629**	**0.0572**
	(0.000)	(0.004)	(0.036)	(0.000)	(0.002)	(0.058)	(0.341)	(0.384)	(0.000)	(0.029)	(0.006)	(0.035)
Large—Small	**−0.0882**	−0.0242	**0.1274**	−0.0410	−0.0504	−0.0178	0.0218	0.0305	−0.0032	−0.0245	−0.0361	−0.0481
	(0.050)	(0.509)	(0.019)	(0.448)	(0.283)	(0.579)	(0.541)	(0.350)	(0.953)	(0.519)	(0.225)	(0.109)
Panel B: Using arithmetic returns												
Large	**0.1000**	0.0377	**0.1629**	**0.0962**	**0.0606**	0.0256	0.0224	**0.0433**	**0.1522**	0.0202	0.0225	−0.0034
	(0.001)	(0.311)	(0.000)	(0.011)	(0.040)	(0.111)	(0.327)	(0.052)	(0.000)	(0.409)	(0.213)	(0.778)
Small	**0.1424**	**0.0584**	0.0462	**0.1278**	**0.0922**	0.0330	0.0093	0.0195	**0.1322**	0.0351	**0.0749**	0.0290
	(0.001)	(0.029)	(0.312)	(0.000)	(0.005)	(0.219)	(0.529)	(0.428)	(0.002)	(0.165)	(0.009)	(0.184)
Large—Small	−0.0424	−0.0207	**0.1168**	−0.0316	−0.0316	−0.0074	0.0131	0.0238	0.0200	−0.0148	−0.0523	−0.0325
	(0.342)	(0.644)	(0.051)	(0.498)	(0.442)	(0.810)	(0.629)	(0.462)	(0.697)	(0.666)	(0.110)	(0.196)

Note: This table reports the abnormal adjusted R^2 results similar to those in Table 2 but comparing abnormal adjusted R^2 values between large and small stocks. Boldface indicates statistical significance at the 10% level or better ($p < 0.10$).

TABLE 5 | Abnormal adjusted R^2 values for growth and value stocks.

	EA	CPI	GDP	OCR	UEMP	MA050	MA200	SPsd2	FOMC	EPU	ASXsd2	NIKsd2
Panel A: Using logarithmic returns												
Growth	**0.1034**	**0.0892**	**0.1065**	**0.2410**	**0.1216**	0.0503	0.0029	**0.0787**	**0.2030**	**0.0572**	**0.0663**	**0.0760**
	(0.000)	(0.004)	(0.002)	(0.000)	(0.000)	(0.103)	(0.894)	(0.004)	(0.000)	(0.016)	(0.030)	(0.013)
Value	**0.2151**	**0.0963**	**0.1519**	**0.1744**	**0.1148**	**0.1027**	**0.0655**	**0.0660**	**0.2688**	0.0297	**0.0533**	0.0595
	(0.000)	(0.005)	(0.000)	(0.006)	(0.008)	(0.000)	(0.048)	(0.051)	(0.000)	(0.140)	(0.091)	(0.103)
Growth—value	**−0.1117**	−0.0071	−0.0454	0.0666	0.0068	−0.0523	−0.0626	0.0127	−0.0658	0.0274	0.0129	0.0165
	(0.036)	(0.865)	(0.333)	(0.386)	(0.887)	(0.177)	(0.104)	(0.752)	(0.279)	(0.350)	(0.757)	(0.713)
Panel B: Using arithmetic returns												
Growth	**0.1202**	**0.0950**	**0.0869**	**0.2154**	**0.1198**	0.0448	0.0027	**0.0451**	**0.1503**	0.0328	**0.0481**	0.0430
	(0.001)	(0.013)	(0.032)	(0.000)	(0.000)	(0.105)	(0.908)	(0.036)	(0.001)	(0.147)	(0.083)	(0.109)
Value	**0.1676**	**0.0822**	**0.0823**	**0.1294**	**0.1036**	**0.0803**	**0.0842**	**0.0725**	**0.2239**	0.0241	**0.0541**	0.0356
	(0.003)	(0.037)	(0.004)	(0.016)	(0.007)	(0.000)	(0.068)	(0.065)	(0.000)	(0.286)	(0.097)	(0.240)
Growth—value	−0.0474	0.0128	0.0046	0.0860	0.0162	−0.0355	−0.0814	−0.0274	−0.0735	0.0087	−0.0060	0.0074
	(0.430)	(0.803)	(0.922)	(0.196)	(0.721)	(0.278)	(0.115)	(0.525)	(0.194)	(0.780)	(0.883)	(0.850)

Note: This table reports the abnormal adjusted R^2 results similar to those in Table 2 but comparing abnormal adjusted R^2 values between growth and value stocks. Boldface indicates statistical significance at the 10% level or better ($p < 0.10$).

TABLE 6 | Abnormal adjusted R^2 values for high- and low-leverage stocks.

	EA	CPI	GDP	OCR	UEMP	MA050	MA200	SPsd2	FOMC	EPU	ASXsd2	NIKsd2
Panel A: Using logarithmic returns												
High Leverage	**0.1802**	**0.1146**	**0.1333**	**0.3023**	**0.1056**	**0.0986**	**0.0589**	**0.0963**	**0.2774**	**0.0614**	**0.0836**	**0.0824**
	(0.001)	(0.005)	(0.003)	(0.000)	(0.035)	(0.000)	(0.026)	(0.025)	(0.000)	(0.010)	(0.015)	(0.072)
Low leverage	**0.1313**	**0.0922**	**0.1376**	**0.1634**	**0.0819**	0.0308	**0.0427**	**0.0422**	**0.1854**	**0.0743**	**0.0629**	**0.0369**
	(0.000)	(0.002)	(0.000)	(0.001)	(0.003)	(0.251)	(0.096)	(0.025)	(0.000)	(0.004)	(0.026)	(0.048)
High—low	0.0488	0.0224	−0.0042	**0.1389**	0.0237	**0.0678**	0.0162	0.0541	0.0920	−0.0129	0.0207	0.0455
	(0.400)	(0.624)	(0.934)	(0.044)	(0.659)	(0.061)	(0.642)	(0.228)	(0.160)	(0.677)	(0.615)	(0.344)
Panel B: Using arithmetic returns												
High leverage	**0.1786**	**0.0814**	**0.0938**	**0.2296**	**0.0771**	**0.0700**	**0.0395**	**0.0995**	**0.2114**	**0.0586**	**0.0913**	0.0482
	(0.000)	(0.005)	(0.014)	(0.000)	(0.043)	(0.013)	(0.053)	(0.016)	(0.000)	(0.018)	(0.006)	(0.124)
Low leverage	**0.1245**	**0.0929**	**0.1094**	**0.1323**	**0.0615**	0.0284	**0.0418**	0.0314	**0.1417**	**0.0426**	**0.0517**	0.0120
	(0.007)	(0.021)	(0.016)	(0.005)	(0.036)	(0.220)	(0.074)	(0.104)	(0.002)	(0.030)	(0.080)	(0.448)
High—low	0.0540	−0.0115	−0.0156	0.0973	0.0156	0.0415	−0.0023	0.0681	0.0696	0.0159	0.0396	0.0362
	(0.338)	(0.803)	(0.776)	(0.103)	(0.733)	(0.231)	(0.938)	(0.123)	(0.271)	(0.583)	(0.337)	(0.296)

Note: This table reports the abnormal adjusted R^2 results similar to those in Table 2 but comparing abnormal adjusted R^2 values between high- and low-leverage stocks. Boldface indicates statistical significance at the 10% level or better ($p < 0.10$).

TABLE 7 | Abnormal adjusted R^2 values by industry.

	EA	CPI	GDP	OCR	UEMP	MA0501	MA2001	SPsd2	FOMC	EPU	ASXsd2	NIKsd2
Panel A: Using logarithmic returns												
Basic materials	0.1099	−0.0722	0.1671	0.2484	−0.0787	−0.0277	−0.0186	−0.0176	0.1368	−0.0230	−0.0173	−0.0315
Consumer Discretion	0.0411	0.0423	0.1243	0.1352	0.0079	−0.0257	−0.0299	0.0532	0.1570	0.0093	0.0023	0.0574
Consumer staples	0.1425	0.0166	0.0234	0.0553	−0.0089	0.0018	−0.0150	−0.0238	0.1315	0.0121	−0.0120	−0.0288
Energy	−0.0147	0.2458	0.2921	0.1604	0.0404	0.1356	−0.0139	−0.0385	0.1611	0.0095	−0.0225	−0.0328
Financials	0.2749	−0.0286	0.0838	0.0796	0.2269	0.0116	−0.0361	−0.0121	0.0453	0.0407	0.0028	0.1209
Health care	0.0652	0.0295	0.1451	0.1246	0.0495	−0.0265	−0.0044	−0.0039	0.1223	0.0005	−0.0103	−0.0102
Industrials	0.0717	−0.0471	0.0339	0.1165	−0.0336	−0.0128	0.0313	−0.0125	0.1808	−0.0017	−0.0042	−0.0035
Real Estate	−0.0216	0.0085	−0.0270	0.1982	−0.0560	0.0126	−0.0257	−0.0277	0.0993	−0.0257	0.0181	−0.0290
Technology	0.1332	−0.0543	0.1192	0.0615	−0.0535	0.0130	−0.0403	0.0153	−0.0275	−0.0117	0.0364	−0.0063
Telecommunications	0.0283	−0.0928	0.0663	−0.0205	0.0822	0.0355	−0.0114	0.0045	0.0276	0.0505	−0.0398	0.0141
Utilities	0.1016	0.1076	0.0782	0.0907	0.0603	0.0180	−0.0206	0.0202	0.0930	−0.0308	0.0618	−0.0152
Panel B: Using arithmetic returns												
Basic Materials	0.0542	−0.0460	0.0395	0.0915	−0.0883	−0.0311	0.0875	−0.0077	0.0926	−0.0015	−0.0417	−0.0208
Consumer Discretion	0.0277	0.0374	0.0293	0.0732	−0.0058	−0.0272	−0.0276	0.0585	0.1627	0.0202	−0.0084	0.0387
Consumer staples	0.1770	0.0101	0.0334	0.0627	0.0138	−0.0032	−0.0020	−0.0142	0.1373	−0.0194	−0.0145	−0.0171
Energy	0.0226	0.1072	0.0700	0.0711	−0.0714	0.0301	−0.0281	−0.0190	0.1574	−0.0212	−0.0201	−0.0210
Financials	0.1139	−0.0545	0.0825	0.0287	0.0580	0.0121	−0.0355	−0.0060	0.0170	0.0107	0.0648	0.0141
Health care	0.0062	−0.0320	0.4819	0.0477	−0.0100	−0.0174	−0.0061	−0.0274	0.0165	−0.0034	−0.0275	−0.0089
Industrials	0.0730	−0.0535	0.0341	0.1201	−0.0368	−0.0280	0.1459	−0.0163	0.2204	−0.0139	−0.0078	−0.0007
Real estate	−0.0279	0.0111	−0.0368	0.1971	−0.0588	−0.0008	−0.0066	−0.0165	0.1288	−0.0105	0.0553	−0.0190
Technology	0.1439	−0.0497	0.1133	−0.0378	−0.0226	−0.0257	−0.0257	0.0024	−0.1004	0.0652	0.0537	−0.0240
Telecommunications	0.0192	−0.0765	−0.0061	−0.0247	0.0654	0.0189	−0.0442	0.0247	−0.0035	0.0345	−0.0284	0.0032
Utilities	0.1011	0.0924	0.0929	0.0888	0.0708	0.0337	−0.0247	0.0185	0.0576	−0.0321	0.0581	−0.0179

Note: This table presents mean abnormal adjusted R^2 values by industry.

a statistically significantly larger mean abnormal adjusted R^2 around earnings announcements when returns are calculated using logarithmic returns. However, no statistically significant difference exists between the returns associated with different events between value and growth stocks. *FOMC* and earnings announcements have the largest mean abnormal adjusted R^2 for value stocks based on both calculation methods, and the *OCR* has the largest mean abnormal adjusted R^2 for growth stocks based on both logarithmic and arithmetic returns.

In Table 6, we present results that split the sample firms by leverage, calculated as debt divided by total assets. There is evidence that high-leverage firms exhibit more return sensitivity to events (e.g., Cai and Zhang 2011). However, only two of the differences in mean abnormal adjusted R^2 values between high- and low-leverage firms are statistically significant: *OCR* announcements and periods when the 50-day moving average is crossed, both measured using logarithmic returns. The general pattern remains consistent across both high- and low-leverage firms: *OCR*, *FOMC*, and earnings announcements exhibit the largest mean abnormal adjusted R^2 values, indicating that they contain the most information, whether measured using logarithmic or arithmetic returns.

Our final set of results, presented in Table 7, considers the mean abnormal adjusted R^2 by industry. Due to sample size limitations, these results are generated using all firms across years, making it impossible to conduct tests of statistical significance. However, the energy, financial, and healthcare industries have the highest average abnormal adjusted R^2 values across all events.

4 | Conclusions

It is well-known that earnings announcements, macroeconomic announcements, central bank interest rate announcements, and U.S. returns impact international stock returns. However, much less is known about their relative importance. We investigate this question using New Zealand data. The events considered include earnings announcements; RBNZ *OCR* announcements; macroeconomic announcements, including *CPI*, *GDP*, and unemployment announcements; buy and sell signals based on 50- and 200-day moving average rules; U.S. Federal Reserve (*FOMC*) interest rate announcements; U.S. economic uncertainty policy; and large absolute stock returns in the U.S., Australia, and Japan.

Our results suggest that local news tends to have a greater impact than international news. Amongst local events, RBNZ interest rate and company earnings announcements have the most considerable impact. This is evident across the entire sample and in a more recent subperiod. Interestingly, the result is relatively consistent across stocks with different characteristics, such as small and large stocks, value and growth stocks, and high- and low-leverage stocks. Amongst international news events, *FOMC* announcements have the most pronounced impact.

We hope our findings will be of interest to various stakeholders in the New Zealand equity market, including researchers, regulators, and investors. In particular, our finding of the importance of local central bank announcements highlights the need for the central bank to employ careful communication strategies to minimise unintended volatility.

Future research may like to consider the impact of announcements using high-frequency intraday data. It would also be interesting to investigate whether our findings are generalizable to larger and/or more closed economies.

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Data Availability Statement

The authors have nothing to report.

Endnotes

[1] We do not include these data in our analysis because they relate to the average policy uncertainty over a month, which is difficult to relate to daily stock returns.

[2] We further split abnormal S&P 500 returns into positive and negative components. The unreported results show that only positive abnormal returns materially increase the adjusted R^2 for New Zealand stocks: positive shocks generate statistically significant abnormal adjusted R^2, whereas negative shocks do not. The abnormal adjusted R^2 for positive events ranges from approximately 3% to 4% across mean and median specifications under logarithmic return measures.

[3] Event overlaps may dilute or confound our estimates, particularly when market-wide and firm-specific announcements occur on the same day. We address this by first identifying and removing overlapping market-level events (i.e., those affecting all firms) within each three-day event window. We then remove firm-specific events that coincide with any market-level event for the affected firms. We re-estimate Panels A and B of Table 2 using this non-overlapping event sample and present the results in Table A2. While the abnormal adjusted R^2 values are somewhat lower than those in Table 2, earnings announcements, *OCR*, and *FOMC* continue to have the largest effects on stock returns.

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Appendix

TABLE A1 | Benchmark and abnormal adjusted R^2 values—5-day window.

	EA	**CPI**	**GDP**	**OCR**	**UEMP**	**MA050**	**MA200**	**SPsd2**	**FOMC**	**EPU**	**ASXsd2**	**NIKsd2**
BM	**0.0397**	**0.0794**	**0.0794**	**0.1540**	**0.0794**	**0.0397**	**0.0397**	**0.0397**	**0.1637**	**0.0397**	**0.0397**	**0.0397**
Panel A: Using logarithmic returns												
ME	0.1697	0.1211	0.1472	0.3135	0.1431	0.0692	0.0369	0.0874	0.2526	0.0688	0.0825	0.0603
MD	0.1278	0.1176	0.1339	0.2548	0.1258	0.0356	0.0169	0.0356	0.1987	0.0616	0.0788	0.0202
ME—BM	**0.1300**	**0.0417**	**0.0678**	**0.1595**	**0.0638**	**0.0295**	−0.0028	**0.0477**	**0.0889**	**0.0291**	**0.0429**	0.0207
	(0.000)	(0.091)	(0.006)	(0.000)	(0.011)	(0.081)	(0.812)	(0.058)	(0.003)	(0.032)	(0.018)	(0.228)
MD—BM	**0.0881**	0.0382	**0.0545**	**0.1008**	**0.0465**	−0.0041	**−0.0228**	−0.0041	**0.0350**	**0.0219**	**0.0392**	−0.0195
	(0.000)	(0.787)	(0.034)	(0.000)	(0.059)	(0.646)	(0.018)	(0.243)	(0.012)	(0.070)	(0.018)	(0.816)
Panel B: Using arithmetic returns												
ME	0.1661	0.1203	0.1267	0.2548	0.1198	0.0710	0.0426	0.0933	0.2039	0.0823	0.0952	0.0382
MD	0.1314	0.0868	0.0787	0.2454	0.0847	0.0539	0.0188	0.0229	0.2002	0.0745	0.0432	0.0194
ME—BM	**0.1264**	0.0409	**0.0473**	**0.1008**	**0.0405**	**0.0313**	0.0030	**0.0536**	0.0402	**0.0426**	**0.0555**	−0.0014
	(0.000)	(0.180)	(0.096)	(0.004)	(0.089)	(0.063)	(0.799)	(0.090)	(0.193)	(0.017)	(0.014)	(0.913)
MD—BM	**0.0917**	**0.0074**	−0.0007	**0.0914**	0.0053	0.0142	**−0.0209**	**−0.0168**	0.0365	**0.0349**	0.0035	−0.0203
	(0.000)	(0.015)	(0.597)	(0.005)	(0.787)	(1.000)	(0.058)	(0.036)	(0.703)	(0.004)	(0.343)	(0.243)

Note: This table reports results equivalent to those in Table 2 but for five-day windows around each event as robustness checks. Boldface indicates statistical significance at the 10% level or better ($p < 0.10$).

TABLE A2 | Benchmark and abnormal adjusted R^2 values—excluding overlapped events.

	EA	**CPI**	**GDP**	**OCR**	**UEMP**	**MA050**	**MA200**	**SPsd2**	**FOMC**	**ASXsd2**	**NIKsd2**	**EPU**
BM	**0.0238**	**0.0476**	**0.0476**	**0.0681**	**0.0476**	**0.0238**	**0.0238**	**0.0238**	**0.0530**	**0.0238**	**0.0238**	**0.0238**
Panel A: Using logarithmic returns												
ME	0.1599	0.1329	0.1169	0.1897	0.1518	0.1336	−0.0027	0.0505	0.1259	0.1249	0.0592	0.0375
MD	0.1507	0.1151	0.1169	0.1890	0.1492	0.0527	−0.0215	0.0127	0.1168	0.0348	0.0375	0.0149
ME—BM	**0.1360**	**0.0852**	0.0693	**0.1216**	0.1042	**0.1098**	−0.0265	0.0267	**0.0729**	0.1011	0.0354	0.0137
	(0.000)	(0.004)	(0.253)	(0.001)	(0.235)	(0.018)	(0.179)	(0.450)	(0.003)	(0.179)	(0.142)	(0.401)
MD—BM	**0.1269**	**0.0674**	0.0693	**0.1210**	0.1015	0.0289	**−0.0453**	−0.0111	**0.0639**	0.0110	0.0137	−0.0089
	(0.000)	(0.001)	(0.102)	(0.002)	(0.219)	(0.563)	(0.000)	(0.419)	(0.030)	(0.671)	(0.492)	(0.519)
Panel B: Using arithmetic returns												
ME	0.1838	0.1464	0.1163	0.1502	0.1522	0.1093	0.0224	0.0567	0.1127	0.1418	0.0709	0.0406
MD	0.1532	0.0872	0.1163	0.1567	0.1479	0.0402	−0.0080	0.0226	0.0693	0.0701	0.0141	0.0294
ME—BM	**0.1600**	**0.0988**	0.0686	**0.0821**	0.1046	**0.0855**	−0.0015	0.0329	**0.0597**	0.1180	0.0471	0.0168
	(0.000)	(0.014)	(0.532)	(0.001)	(0.224)	(0.037)	(0.952)	(0.395)	(0.046)	(0.178)	(0.242)	(0.279)
MD—BM	**0.1294**	**0.0396**	0.0686	**0.0886**	0.1003	0.0164	−0.0318	−0.0012	0.0163	0.0463	−0.0097	0.0056
	(0.000)	(0.010)	(1.000)	(0.005)	(0.219)	(0.247)	(0.223)	(0.419)	(0.434)	(0.203)	(0.492)	(0.519)

Note: This table reports results equivalent to those in Table 2 after excluding market-level and firm-specific event overlaps. Boldface indicates statistical significance at the 10% level or better ($p < 0.10$).

TABLE A3 | Abnormal adjusted R^2 values for high and low analyst following stocks.

	EA	CPI	GDP	OCR	UEMP	MA050	MA200	SPsd2	FOMC	EPU	ASXsd2	NIKsd2
Panel A: Using logarithmic returns												
High analyst following	**0.1245**	0.0244	**0.1128**	**0.1306**	0.0481	0.0059	−0.0042	0.0434	**0.1317**	**0.0765**	0.0347	0.0072
	(0.000)	(0.317)	(0.011)	(0.001)	(0.102)	(0.704)	(0.769)	(0.130)	(0.001)	(0.019)	(0.119)	(0.646)
Low analyst following	**0.1255**	**0.1271**	**0.0593**	**0.1644**	**0.0925**	**0.0688**	0.0284	0.0282	**0.1668**	0.0254	**0.0494**	**0.0316**
	(0.000)	(0.000)	(0.051)	(0.000)	(0.001)	(0.005)	(0.205)	(0.173)	(0.000)	(0.207)	(0.012)	(0.052)
High—low	−0.0010	**−0.1028**	0.0535	−0.0337	−0.0444	**−0.0629**	−0.0325	0.0152	−0.0351	0.0511	−0.0147	−0.0244
	(0.981)	(0.011)	(0.289)	(0.518)	(0.243)	(0.029)	(0.222)	(0.659)	(0.516)	(0.170)	(0.605)	(0.271)
Panel B: Using arithmetic returns												
High analyst following	**0.1294**	0.0110	**0.1020**	**0.1083**	0.0386	0.0004	0.0017	0.0293	**0.0982**	**0.0694**	0.0278	0.0055
	(0.001)	(0.665)	(0.043)	(0.004)	(0.138)	(0.976)	(0.900)	(0.179)	(0.008)	(0.038)	(0.184)	(0.760)
Low analyst following	**0.1091**	**0.1113**	0.0152	**0.1066**	**0.0679**	**0.0702**	0.0148	0.0364	**0.1235**	0.0143	**0.0706**	0.0130
	(0.003)	(0.003)	(0.493)	(0.002)	(0.032)	(0.014)	(0.292)	(0.163)	(0.006)	(0.382)	(0.006)	(0.327)
High—low	0.0202	**−0.1004**	0.0868	0.0017	−0.0293	**−0.0698**	−0.0131	−0.0071	−0.0253	0.0551	−0.0427	−0.0075
	(0.658)	(0.020)	(0.111)	(0.970)	(0.455)	(0.028)	(0.503)	(0.831)	(0.637)	(0.133)	(0.174)	(0.734)

Note: This table reports the abnormal adjusted R^2 results similar to those in Table 4 but comparing abnormal adjusted R^2 values between stocks with high and low analyst following. Boldface indicates statistical significance at the 10% level or better ($p < 0.10$).