Information Leakage Prior to SEC Form Filings—Evidence from TAQ Millisecond Data *

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Abstract

We investigate the stock price movements prior to the publication of publicly-listed firms' SEC form filings. By analyzing the time-stamps of all SEC form filings as well as the stock prices in the 30-minute interval pre- and post-publication, utilizing the TAQ millisecond data, we find strong evidence of information leakage in the 30-minute intervals around Edgar acceptance timestamp of corporate SEC filings, in that if the stocks are ranked into 5 portfolios based on the price run-up prior to filing release, for all form types, the events with the highest run-up would also have the highest price increase post filing release. Regressing pre-publication return on buyer-initiated (classified according to Lee and Ready) minus seller-initiated trade volume fraction yields a positive and highly statistically-significant coefficient. Also, depending on the type of the SEC filing, for filings that could contain both positive and negative information, for example, form 8K 10K and 10Q (as opposed to 13D or 13G which generally can only be good new for stock price), the events with the most run-down prior to the release would also have the most price decrease post filing release. The results are not driven by momentum, and they remain even after the SEC's server fix in March, 2015, as Bolandnazar et al. (2018) have documented information leakage in the several-minutes range due to a technical issue related to SEC's dissemination through FTP and PDS services, which is also a different time-horizon than the 30-minute range we are focusing on. To the best of our knowledge, this is the first paper that documents this phenomenon.

Keywords: Information Leakage, Private Information, Big Data, Informed Trading,

Millisecond Trades

JEL Classification: G14, G28

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1. Introduction

Is there information leakage prior to corporate SEC filings? Existing studies[1] have investigated the issue of informed trading and information leakage prior to specific events, such as mergers and share repurchases, and these studies generally indicate presence of abnormal or informed trading activities *prior* to announcements. However, these studies are all utilize daily data and focus on a horizon on the order of days or months prior to the announcement, we on the other hand, utilize high frequency data and investigate information leakage on the minutes range. Also, we aim to take advantage of big data and conduct our analysis on a comprehensive sample of all filings from EDGAR, including Form 10-Q, 10-K, 8-K, 4, Schedule 13D, and Schedule 13G among others, without restricting our attention on one particular event.

We investigate information leakage as proxied by equity price movements by looking at the all-inclusive sample of SEC form filings in the years 1994-2017. The SEC event list in our sample contains 11,560,676 event observations and 30,5226 unique company identifiers (CIK numbers). However, a caveat is that many corporate announcements are made in after-hours whereas we are mainly focused on normal trading hours. Within the event sample that are made during normal trading hours, we find strong evidence that in the 30-minute intervals around the Edgar acceptance timestamp, the form filings in which stock prices increased the most before the timestamp are also those in which stock prices increase the most after the timestamp. Although technically there is an distinction between the acceptance timestamp and actual release, the time difference is very small and on the order of less than 2 minutes, as we only focus on filings made during normal trading hours.[2] Under EDGAR, once the forms are accepted, the information will be rapidly made available to investors and the general public unless they are filed in afterhours, although we exclude afterhour releases in

[1] See Brennan et al. (2018), Augustin et al. (2015), Qing (2016) and Mitchell et al. (2004) among others.

[2] Per the EDGAR public dissemination service technical specification: the acceptance and dissemination process usually takes no longer than two (2) minutes from the receipt of submission by EDGAR.

our sample.

Note that we only confirm evidences of statistical anomalies that violates the null hypothesis that return prior to SEC's acceptance of filings (and their publication on EDGAR) should not predict returns afterwards, rather than the legality of the transactions, as we do not have direct evidence of insider trading, although we cannot rule out the possibility that the information leakage is due to illegal insider trading.[3] In the legal field, Crimmins (2013) reviews the fine line, which is far from a clear cut, regarding the difference between legal insider trading and illegal insider trading.

The same result is also confirmed using panel regression. This phenomenon is true on all SEC form filings as a whole and also hold true when we restrict our attention to one form-type at a time such as form 8K, 4, 10K, 10Q, SC 13D, and SC 13G. The fact that information leakage is found in the various form types is important. One distinction between the various form types is that some forms' release date can be anticipated whereas other forms' release dates cannot be completely unanticipated by the market. To the best of our knowledge, this is the first paper that documents information leakage around SEC form filing time stamps using TAQ data. Our finds are not explained by momentum. Firstly, there is no documentation of momentum in the minutes range, although Gao et al. (2018) find that, by studying high frequency data of the S&P 500 ETF from 1993–2013, the first half-hour return on the market (from the previous day's close) predicts the last half-hour return, consistent with a model of trading on late-informed news near the market close (and thus not surprisingly only relevant to the last half-hour return prior to market close). Still, to test whether our results are simply due to momentum rather than due to the events of SEC form filings, we have also conducted a ''placebo'' test in which the SEC form release timestamp is replaced by a random time such as noon, in which case no pattern is found like those found in Figure 3. Nevertheless, in our panel regression we control for possible momentum effects.

[3] In making this disclaimer, we follow the example in the literature, as did Augustin et al. (2015).

Bolandnazar et al. (2018) has documented a major glitch in SEC's two systems—file transfer protocol (FTP) server and public dissemination service (PDS), which can result in certain agents obtaining SEC filings faster than the general public in the time range from a few seconds to several minutes, and this possible avenue of leakage is largely fixed by March, 2015. Our exercise, however, is looking at a much longer time window, and the results we find persist even post March, 2015.

We conduct our analysis through plots of cumulative returns and instantaneous returns (over 15-second intervals), single-sort analysis, OLS regressions and panel regressions in presence of the controls. All point to the same indication that there is strong evidence of information leakage. The economic significance as well as the statistical significance are strong. For example, as indicated in the first table of Section I, if one longs the stock with large run-up prior to event time and short the stock with large run-down, one can earn a profit of around 5.6 basis points in merely 30 minutes, with a t-statistic of 16.965, focusing on only form-type 4.

In addition, by regressing the cumulative return of 30-minute interval prior to the event to an "aggressive-buy-indicator", X_{LR}, which is calculated from the difference between the number of shares in trades that are classified as buyer initiated according to Lee and Ready (1991), V_B, and the number of shares in trades that are classified as seller initiated according to Lee and Ready (1991), V_S, and divided by the total volume traded in the pre-event horizon, V, and formally, $X_{LR} = \frac{V_B - V_S}{V} = \frac{V_B - V_S}{V_B + V_S}$, we find the regression coefficient on X_{LR} to be highly statistically significant regardless of the form type, consistent with our central proposition that the there is information leakage prior to SEC form announcements, not just random market microstructure noise, such that high buyer-initiated trade activity in the pre-event period is positively related to the return in the same period.

The rest of the paper organizes as follows, section 2 conducts a brief literature review, section 3 details our methodology, section 4 presents the results, section 5 concludes.

2. Background and Related Literature

Although it is hard to imagine that insiders would engage in trades related to private information right up to the announcement, our paper, which finds strong evidence of information leakage, is related to the prior information leakage literature, many of which study insider trading. John and Mishra (1990) showed that there is gathering evidence of insider trading around corporate announcements of dividends, capital expenditures, equity issues and repurchases, and other capital structure changes and although signaling models have been used to explain the price reaction of these announcements, a usual assumption made in these models is that insiders cannot trade to gain from such announcements. While Niessner (2014) provided evidence that managers strategically manipulate their company's information environment to extract private benefits. She also pointed out that by exploiting an SEC requirement that managers disclose certain material corporate events within five business days, managers systematically disclose negative events when investors are more distracted, causing returns to under-react for approximately three weeks. Ahern (2017) exploited a novel hand-collected data set to provide a comprehensive analysis of the social relationships that underlie illegal insider trading networks.

For event studies, Easley, O'Hara and Saar (2001) examined different hypotheses about stock splits and found that stock splits attract uninformed traders and informed trading increases, resulting in no appreciable change in the information content of trades. Lee, Mucklow and Ready (1993) concluded that spreads widen and depths fall in anticipation of earnings announcements; these effects are more pronounced for announcements with larger subsequent price changes and spreads are also wider following earnings announcements, but this effect dissipates quickly after controlling for volume.

3. Data and Measures

3.1. Data

3.1.1. Source

We obtain the SEC event list which contains company CIK numbers, SEC filing numbers, dates of event occurrence, and time of event occurrence from the WRDS UNIX server. The SEC event list contains 11,560,676 event observations and 30,5226 unique CIK numbers. The other WRDS databases used are CRSP, TAQ and WRDS SEC Analytics Suite. The TAQ database consists of two parts of data with different data accuracy: "Monthly Product" Trade and Quote from 1993 to 2014 featuring daily trading data accurate to the seconds, and "Daily Product" from September 10th 2003 to present which features daily trading data accurate to the milliseconds. The timestamp we gather for all the filings are the ‘‘acceptance timestamp’’, which we also denote as event time. Note once a form is accepted during normal business hours, which are the ones we are focusing on, they are then processed through the dissemination service and made available to the general public under EDGAR in less than 2 minutes from acceptance (SEC, 2009).

3.1.2. Data Preparation and Manipulation

First, we extract CIK numbers, event date, event time, and the corresponding form code from the SEC event list on WRDS. Second, we match the CIK number with the corresponding CUSIP number using the WRDS SEC Analytics Suite Linking Tables. Third, we check if the event date is within the range that the matched CUSIP number is first-used and last-used, and we then restrict the event time to 9:30 AM to 16:00 PM to ensure we have valid average volume and price statistics around the event time from TAQ database (in fact, as will be made more clear in subsequent description, those filings with event time in the first 30/90/180

minutes of market open or the within the 30/90/180 minutes of market close will also be removed in respective cases to ensure the such events have the desired interval length). After above procedure, the prepared SEC event list contains 1,536,632 matched filing acceptance observations with 11,331 unique CUSIP numbers ranging from 1994 to 2017. We need the filings' CIK number to be able to be matched to a CUSIP number in order to conduct panel regression analysis with control variables on firm characteristics. Fourth, we restrict the share type (SHRCD) of the event list to contain only common shares and keep only the first event from the same firm for a given interval, i.e., in the case of 30-minute intervals, if AAPL released an earning form at 11:00 AM and then a form 4 at 11:05AM we would only keep the first earning event and drop the form 4 announcement. However, if AAPL released an 8K form at 11:00 AM then a form 4 at 11:05AM and a form 10Q at 11:45 AM, we would keep both the 8K and 10Q announcement and drop the form 4 announcement. After the above treatments we have 617519 unique events for the 30-minute interval case. Furthermore, according to the treatment to Daily TAQ data in Holden and Jacobsen (2014), we applied similar filters to the daily quote and trade file. For daily quote files, we deleted the quotes if it is in abnormal quote conditions; if it is abnormal crossed markets, i.e., bid larger than ask; if the spread is larger than 5 dollars; and if the ask, ask size, bid, bid size is less than 0 or missing. For daily trade files, we deleted the abnormal trades based on the trade condition index. Next, we merged the quote and trades and form returns, midpoints and classify trades as buy or sell using Lee and Ready (1991). Figure 1 shows that, in 30-minute case, we define the trades and quotes that occurred from 30 minutes before the event to 1 millisecond before the event/release time as the ‘‘pre’’ period and from event /release time to 30 minutes after as ‘‘post’’ period.

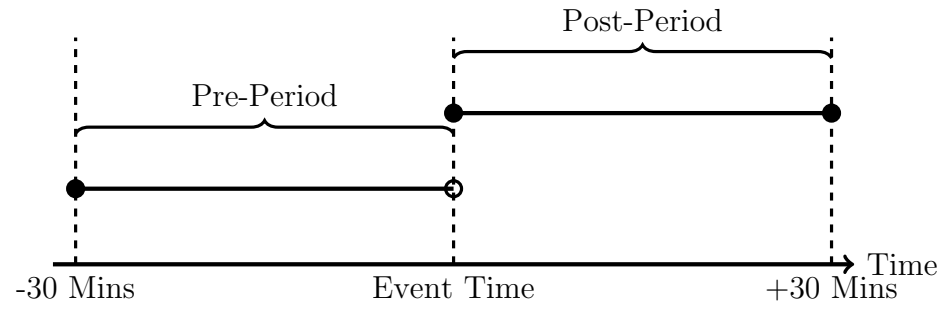

Figure 1: Definition of Pre- and Post- event period in 30 minutes case

4. Results

4.1. Pre/Post Filing Release Drift

In summary, to confirm the existence of information leakage, we construct 5 portfolios based on pre-release price run-up, and compare the post- (trades occurred 30 minutes after the announcement) and the pre-release (trades occurred 30 minutes before the announcement) drift for all matched SEC form submissions and the results show that the mean returns started to move way earlier than the announcement as shown in Figure 2 which plots the return (not cumulative return) for every 15-second interval from 30 minutes prior (t=0) to event time to 30 minutes after event time (t=240). Incidentally, the event time (i.e., the acceptance time stamp, t=120) has the most extreme returns for that 15-second interval, as expected. Note again that once a form is accepted during normal business hours, which are the ones we are focusing on, they are then processed through the dissemination service and made available to the general public under EDGAR in less than 2 minutes from the acceptance timestamp (SEC, 2009). Also, immediately after the announcement the slope of the mean excess return becomes steeper as shown in Figure 3, which plots the cumulative return, and the fact that the returns of the portfolio's cumulative return run-up prior to event time agree in the same direction (and magnitude) with their cumulative return after event time is evidence in support of information leakage.

Furthermore, Table 67 shows the frequency of each form-type in our matched sample accompanied by the description for each of the 372 form-types. We will also focus on some of the major form submissions and investigate the subsamples of each form-type separately in the appendix including Form 8-K on page 24, Form 4 on page 28, Form 10-K on page 32, Form 10-Q on page 36, Schedule 13G on page 40, and Schedule 13D on page 44.

Since the TAQ-millisecond data is only available after September 2003, we divide our calculations into two parts where we use the TAQ-second monthly link-tables between CUSIP and SYMBOL from January 1994 to February 2003 and the TAQ-millisecond daily link-tables between CUSIP and SYMBOL from March 2003 to December 2017. The is constructed is as follows, we find the average event price (averaged over 1 minute before the acceptance timestamp to 1 minute after acceptance timestamp), as well as the average starting price 30 minutes prior to the SEC form acceptance timestamp (averaged over 30 minutes before the announcement to 88 minutes after the announcement), using the 2-minute mean price at these time points and utilizing the TAQ millisecond data. Then, we proceed to use the change in average price for every 15-second intervals from 30 minutes before the acceptance timestamp to 30 minutes after the acceptance timestamp, and the starting price to calculate the excess returns for every 15-second intervals. We also calculate the sorting excess return which would be used to sort our 10 portfolios, Q_{30}, using event price (P_0) and starting price (P_{-30}):

$$Q_{30} = \frac{P_0 - P_{-30}}{P_{-30}}$$

where Q represents the return from 30 minutes before the announcement to the time of the announcement, and we can similarly define Q_{90} and Q_{180}. We use two-minute mean prices to increase the possibility to get a non-missing Q. Then we apply 0.5 percent winsorization on both tails for each 15 seconds excess return and rank submissions by Q then split all SEC form filings in our sample evenly into 5 portfolios based on the ranking. For each portfolio, we calculate the mean excess return of each 15-second interval and generate Figure 2, that is,

the average excess return for each 15-second interval from 30 minutes before the acceptance to 30 minutes after the acceptance, for the years 1994-2017, where t=120 is the acceptance time as $30 \times \frac{60}{15} \times \frac{2}{2} = 120$. At event time, the spiked 15-second interval excessive return is indicative of (relatively) stronger market reaction to the dissemination of SEC form filings immediately around the acceptance timestamp, on average.

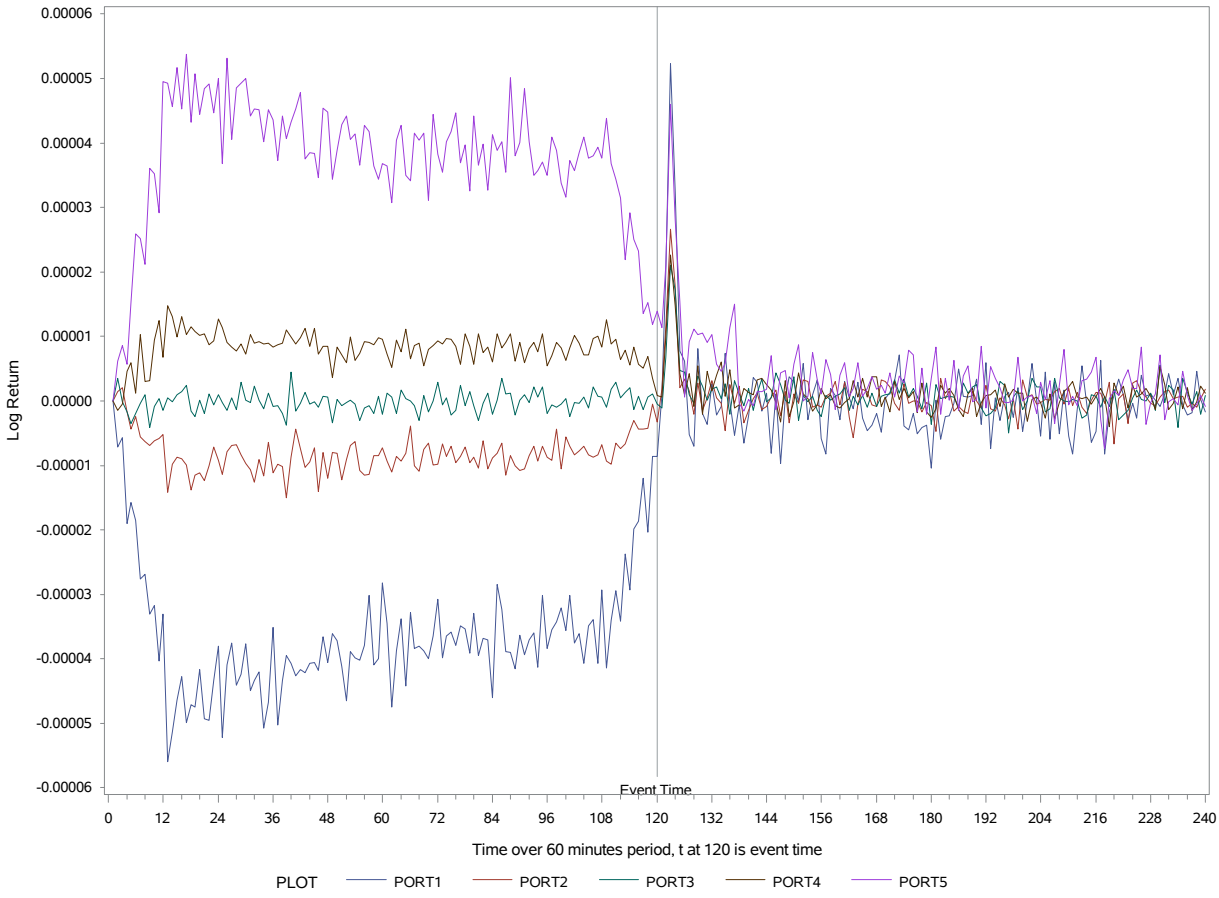

Figure 2: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance SEC form filings, in the years 1994 to 2017.

Aggregating the 15 seconds excess return in Figure 2 and we obtain Figure 3, the cumulative average excess return for 15-second intervals from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form submissions in the years 1994-2017 and likewise t=120 is the acceptance time. The plot clearly shows a change in slope at event time

and the lines for each category does not cross each other, which confirms the existence of information leakage otherwise the return should not have moved in the same direction as the public reaction long before the event is released.

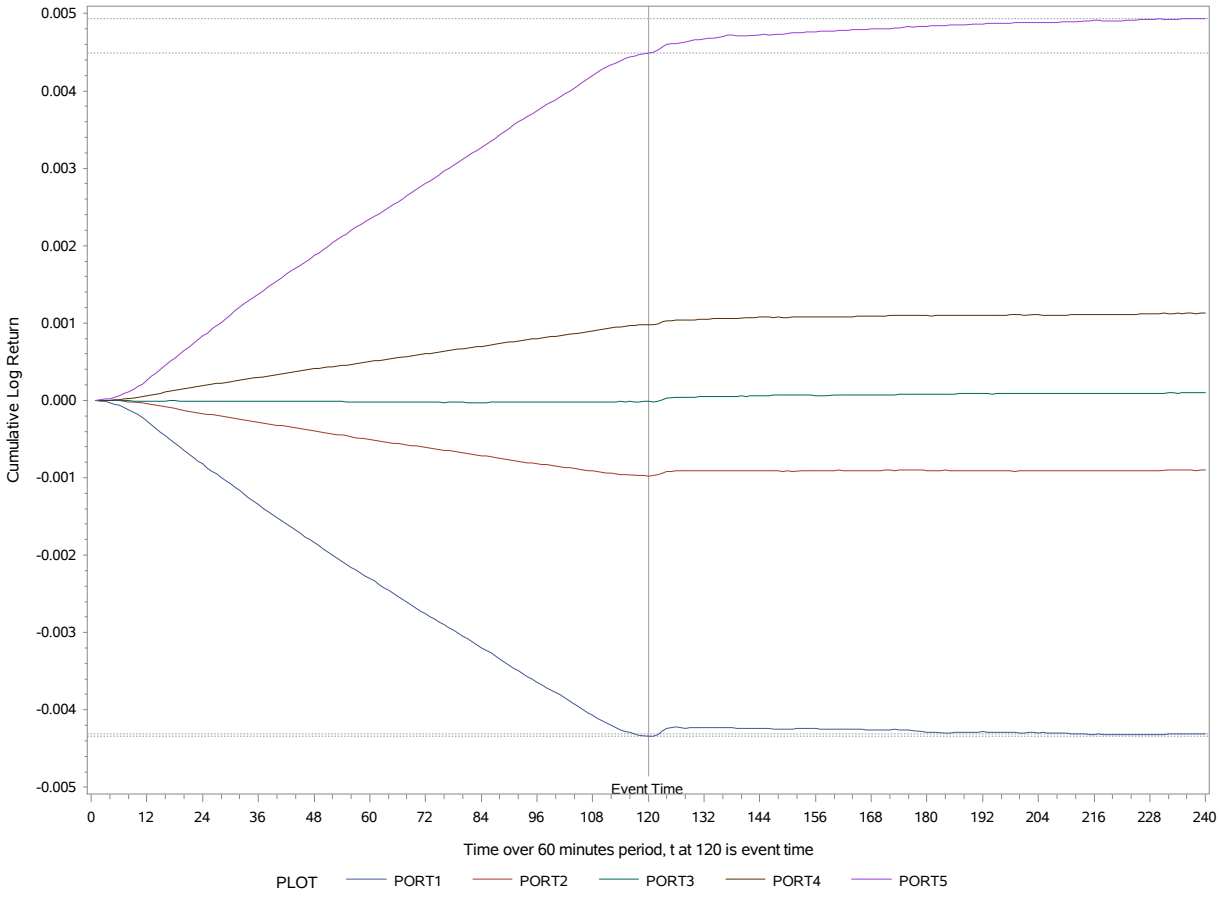

Figure 3: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, in the years 1994 to 2017.

We have also created results of Post/Pre Announcement Drift by form-types (8K, 4, 10K, 10Q, SC 13D, SC 13G) and by periods (post-March, 2015, pre-March, 2015, all time span) that are omitted here (a comparison for the combined form-type sample focusing on the post-March, 2015 period are provided in Figure 4 and Figure 5 which generally confirm the results in all time span case). Overall, all of these single form-type cases have the same trend

as the combined form-type case shown above, albeit sometimes with more noisier 15-second interval return pattern due to smaller sample size compared to the combined form-type case in Figure 2. Furthermore, restricting sample-period to post-Feburary 2015, when a major glitch in SEC servers is discovered and fixed, does not generally change the resulting pattern. In the appendix, as shown in Figures 6 to 29 on pages 24 to 47, the results are generally robust and shows the same pattern.

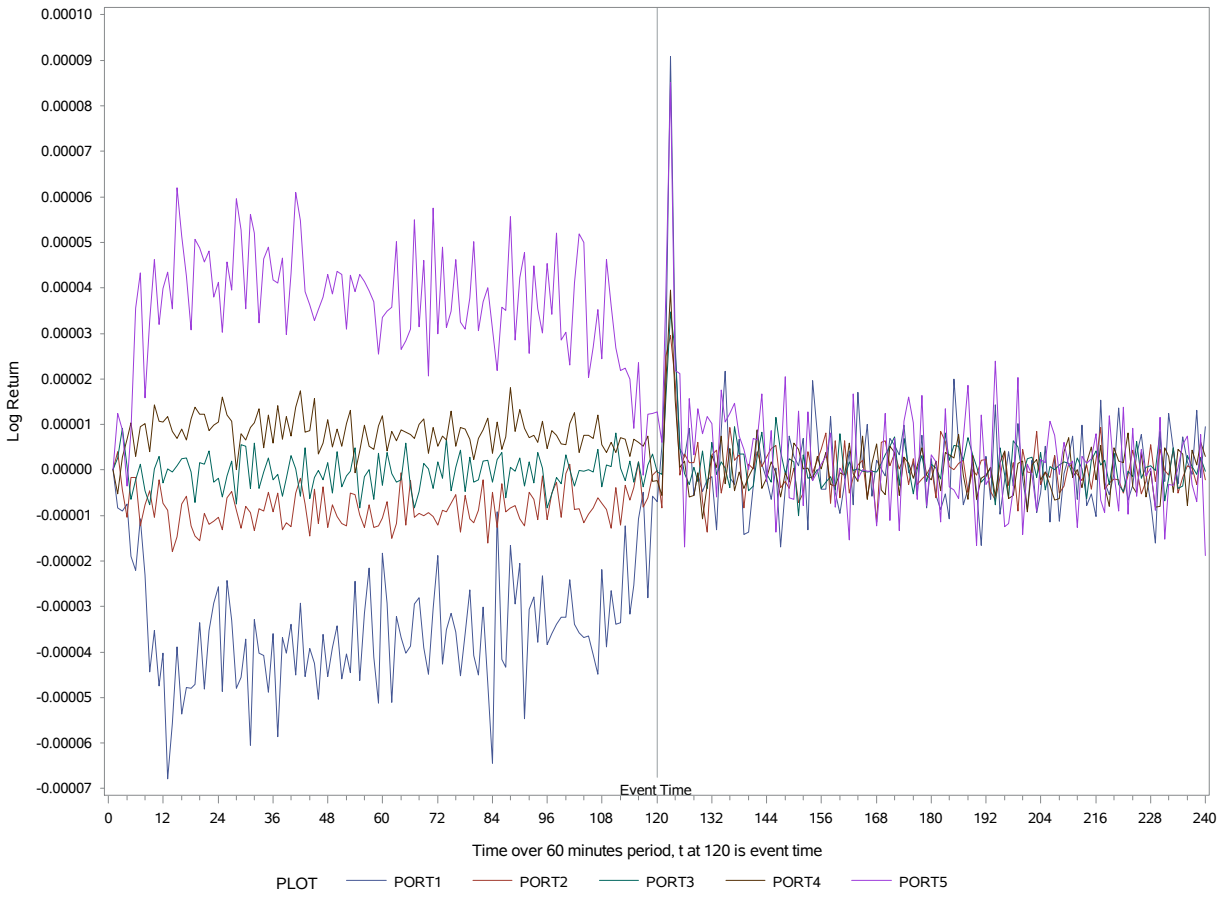

Figure 4: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017.

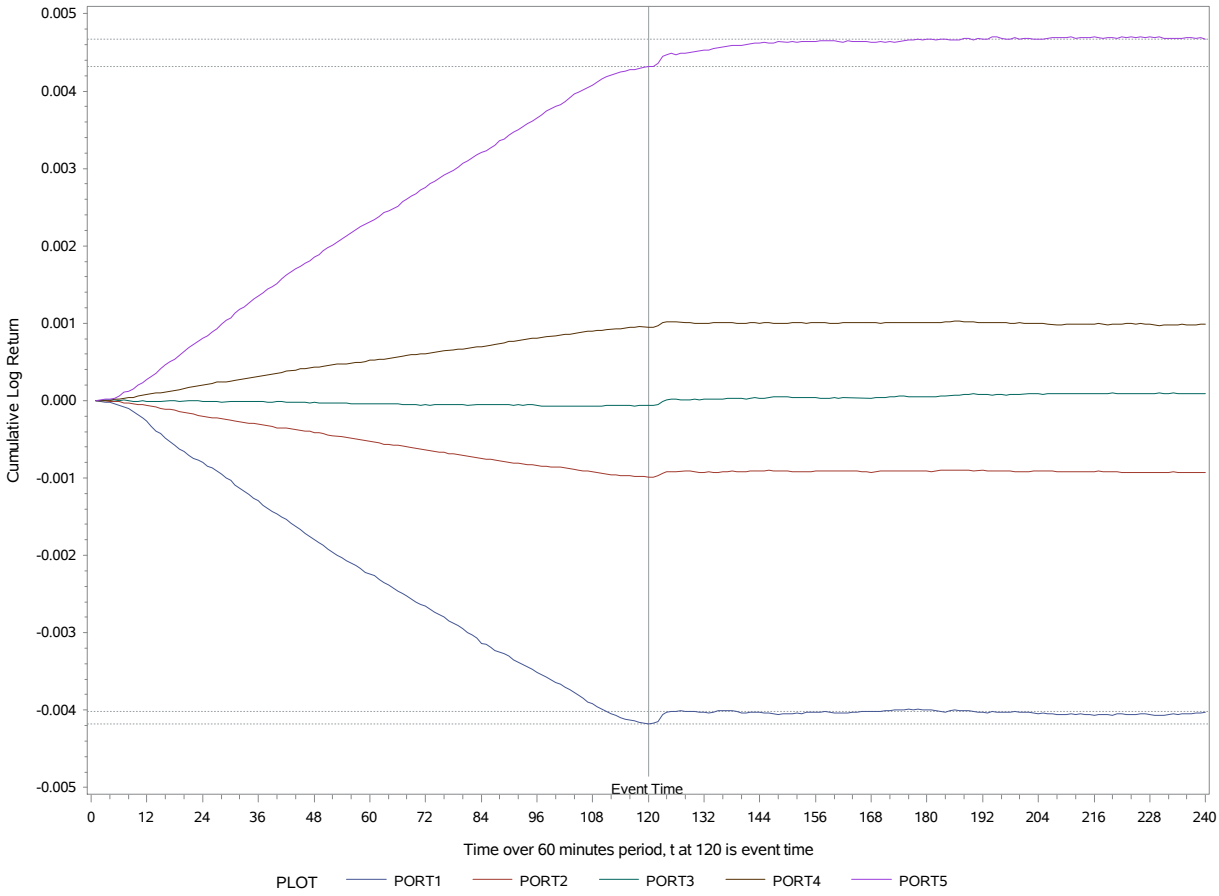

Figure 5: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017.

4.2. Single Sort Results

In the appendix, Setion J presents the single sort results. Again, we present the results for all form-types combined first and then for each individual form-type. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described before. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described

on page 8), with portfolio 1 representing the lowest quintile and portoflio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (“5-1”) are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors, and we find that generally speaking, as we go from portfolio 1 to portfolio 5, the higher the price runup prior to the event, the more the cumulative return post the event, consistent with the information leakage conjecture.

4.3. Portfolio Difference Results

In the appendix, Section K presents results on the return differences (J-minutes post release) across portfolios sorted based on J-minute price runup (Q_J as defined on page 8). Again, all observations here in the sample are sorted into five portfolios based on the sorting variable Q_J where J could be 30-, 90-, or 180-minutes, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown.

The results for the 30-minute post release return across portfolios based on price runup 30-minutes prior to the release, for a sample combining all form-types, for the whole sample period, is shown on page 94. Likewise, the results for a sample combining all form-types, for the 90-minute version is shown on page 95, and for the 180-minute version on page 96. We also present results with samples using a particular form-type, starting on page 97.

In the results, we clearly see that there is universally highly statistically significant positive return differences between portfolio 5 and portfolio 1 (and between higher numbered portfolio and lower numbered portfolio), indicating that the higher the price runup prior to the form release, the higher the post release cumulative return, consistent with the conjecture that

there is significant information leakage prior to releases. Generally, the 30-minutes results are stronger than the 90- and 180-minutes results. In addition, we also present results in which we restrict the sample period to dates after March, 2015, when SEC updated its PDS release system, starting on page 115, and we note that there is no substantial qualitative difference for the results due to the sample period.

4.4. OLS Regression Results

In the appendix, Section M present the results related to the OLS regression of post-event 3o-minute returns on Q_{30} as defined on page 8, that is to say, the regression specification is, $R_{0,30} = Intercept + \beta \times Q_{30}$. The coefficients β are generally positive and significant for the ''All Portfolio Combined'' panels, that combine the 5 portfolios which were sorted based on Q_{30}, indicating that the price run up can indeed predict the post form-release drift in stock price when looking at the whole sample, whether we are considering all form-types combined (page 136), or subsequently by individual form-types (until page 144).

4.5. Panel Regression Results

In the panel regression we cluster errors by event-day and also by firm GVKEY. The *cary* variable stands for stock return in the 90-minutes interval post event time, *carx* variable stands for stock return in the 90-minutes interval prior to event time, *ior* is the institutional ownership ratio, *retlag_1m* is the lagged 1-month stock return, *retlag_2_12* is the return from 12 month ago to 2 month ago for the same stock in order to capture momentum effect, *lntlag_1* is the natural logarithm of firm market-cap in the previous month, and *xior* is the interaction term between *carx* and *ior*. The coefficient on *carx* is highly statistically significant, confirming the graphic results in Figure 3 in that there significant information leakage. Also, the marginally statistically significant coefficient on *xior* may indicate that information leakage is stronger for those firms which have higher institutional ownership of

equity.

Table 1: Panel Regression results on first 90 minutes CARs

cary	Coef.	Std Err.	t	$P > \|t\|$	[95% Conf.	Interval]
carx	.663	.134	4.95	0.000	.401	.926
ior	.049	.011	4.52	0.000	.028	.071
retlag_1m	-.066	.037	-1.79	0.073	-.139	.006
retlag_2_12	-.012	.004	-3.02	0.003	-.020	-.004
lntlag_1	-5.05e-10	5.24e-10	-0.96	0.335	-1.53e-09	5.23e-10
xior	.352	.148	2.38	0.017	.062	.642
_cons	-.005	.006	-0.84	0.399	-.016	.006

4.6. Panel Regression of Pre-event Return on Buyer-initiated minus Seller-initiated Trade Volume Fraction

Similar to the panel regression conducted in the last section, we now aim to investigate whether the events for which there is price run-up (run-down) prior to SEC form announcements are associated with higher (lower) percentage of shares traded from buyer-initiated trade out of all shares traded in the 30-minute time horizon prior to event time. We conduct this exercise by regressing the cumulative return of 30-minute interval prior to the event to an ''aggressive-buy-indicator'', X_{LR}, which is calculated from the difference between the number of shares in trades that are classified as buyer initiated according to Lee and Ready (1991), V_B, and the number of shares in trades that are classified as seller initiated according to Lee and Ready (1991), V_S, and divided by the total volume traded in the pre-event horizon, V, and formally, $X_{LR} = \frac{V_B - V_S}{V} = \frac{V_B - V_S}{V_B + V_S}$. The result of the panel regression is shown shown in Table 2. While the intercept is statistically significant only for all forms combined and for

Table 2: Panel Regression results of 30-minutes pre-event returns on X_{LR}, September, 2009 to January, 2019

Notes: Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time (i.e., EDGAR "acceptance timestamp") still falls within the normal trading hours, (i.e., 9:30am to 4pm). The 30-minutes pre-event returns is calculated as $Q_{30} = \log P_0/P_{-30}$ where P_0 is the price at the event time and P_{-30} is the price 30 minutes prior to the event time. We perform panel regression in the form of: $Q_{30} = Intercept + \beta \times X_{LR}$, where X_{LR} is the difference between buyer-initiated trade volume and seller-initiated trade volume, classified according to Lee and Ready (1991), divided by the total volume between the event time and 30 minutes prior the event time. We run the regression on the sample with all forms combined, as well as on each of the form 4, 8K, 10K, 10Q, SC 13D, SC 13G, and SC 13F. The table reports intercept, coefficient β and standard errors, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

All Forms		Coef.	Std Err.	t-Stat	$P > \|t\|$
	Intercept	0.0***	0.0	2.651	0.008
	β	0.008***	0.0	20.032	0.0
8K		Coef.	Std Err.	t-Stat	$P > \|t\|$
	Intercept	0.0	0.0	0.619	0.536
	β	0.011***	0.001	12.381	0.0
10Q		Coef.	Std Err.	t-Stat	$P > \|t\|$
	Intercept	0.0	0.0	0.564	0.573
	β	0.01***	0.001	10.296	0.0
10K		Coef.	Std Err.	t-Stat	$P > \|t\|$
	Intercept	0.001*	0.0	1.838	0.066
	β	0.008***	0.002	4.5	0.0
4		Coef.	Std Err.	t-Stat	$P > \|t\|$
	Intercept	0.0	0.0	0.988	0.323
	β	0.006***	0.001	7.528	0.0
SC 13D		Coef.	Std Err.	t-Stat	$P > \|t\|$
	Intercept	0.001	0.001	0.744	0.457
	β	0.01***	0.004	2.7	0.007
SC 13G		Coef.	Std Err.	t-Stat	$P > \|t\|$
	Intercept	0.0	0.0	1.588	0.112
	β	0.008***	0.001	10.706	0.0
SC 13F		Coef.	Std Err.	t-Stat	$P > \|t\|$
	Intercept	0.0	0.0	0.451	0.652
	β	0.008***	0.001	8.968	0.0

form 10-K, the coefficient on X_{LR} is highly statistically significant regardless of the form type, consistent with our central proposition that the there is information leakage prior to SEC

form announcements, not random market microstructure noise, such that high buyer-initiated trade activity in the pre-event period is positively related to the return in the same period. Recall the graphic results in Figure 3 earlier which we documented that if the stocks are ranked into 5 portfolios based on the price run-up prior to the stock's SEC filing release, the events with the highest run-up would also have the highest price increase post filing release (event time). Taken together with the panel regression results conducted in this section, we thus observe that the somehow the stocks for which there is the most pre-event price run-up, which also happen to have the most post-event price increase are found to be associated with higher buyer-initiated minus seller-initiated trade volume fraction in the pre-event horizon (classified using the Tick Test of Lee and Ready (1991)), which is evidence in support of the presence of informed trading. Additionally, just like in the single-sort exercise we presented earlier in which the average return of the 5 portfolios established a clear monotonic pattern, we now also calculate and present in Table 3 the average buyer-initiated trade volume share and seller-initiated trade volume share in the 30-minute interval prior to event-time, clearly, a monotonic pattern is established again, indicating that the price run-up in the pre-event period is conscientiously driven by traders and not driven by random market-microstructure fluctuations.

5. Conclusion

Using the TAQ millisecond data and a comprehensive sample of the acceptance timestamp of SEC form filings, we find strong evidence of information leakage in the 30-minute intervals around Edgar acceptance timestamp of corporate SEC filings, in that if the stocks are ranked into 5 portfolios bins based on the price run-up prior to filing release, for all form types, the events with the highest run-up would also have the highest price increase post filing release, and incidentally these events are also associated with the highest buyer-initiated trade volume fraction, indicating that the price run-up in the pre-event period is conscientiously driven by

Table 3: Mean Buyer/Seller-initiated Volume Proportion of the 30-minutes pre-event period for all form-types combined.

Notes: The sample includes all form-types, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm). The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_{30} as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. This table reports the mean buyer-initiated trade volume share (classified according to Lee and Ready (1991)) and seller-initiated trade volume share in the 30-minute interval prior to event-time.

All Forms	Buyer-initiated Volume Proportion	Seller-initiated Volume Proportion
Combined	0.497	0.503
Portfolio 1	0.424	0.576
Portfolio 2	0.460	0.540
Portfolio 3	0.497	0.503
Portfolio 4	0.534	0.466
Portfolio 5	0.569	0.431

traders' aggressive buy orders and not driven by random market-microstructure fluctuations. Also, depending on the type of the SEC filing, for filings that could contain both positive and negative information, for example, form 8K 10K and 10Q (as opposed to SC 13D or 13G which generally can only be good new for stock price), the events with the most run-down prior to the release would also have the most price decrease post filing release. We investigate our results through plots, single-sorts, OLS regressions, panel regression which yield the same findings. The phenomenon persisted even from March, 2015 onwards, when a major glitch is fixed in the SEC's server (FTP and PDS services) that allowed premature information releases to certain parties at time range from a few seconds to several minutes, which is a different time-range and angle than the ones we a focusing on. Our finding is not explained by momentum. Incidentally, panel regression results that regresses the 30-minute return prior to event time on an ''aggressive-buy-indicator'' based off Lee and Ready (1991) find positive and highly statistically significant regression coefficient, which suggests that, the stocks for which there is the most pre-release price run-up, which also happen to have the

most post-release price increase are found to be associated with higher buyer-initiated minus seller-initiated trade volume fraction in the pre-release time horizon, which is evidence in support of the presence of informed trading. To the best of our knowledge, this is the first paper that documents this phenomenon.

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6. Appendices

A. Results for Form 8-K

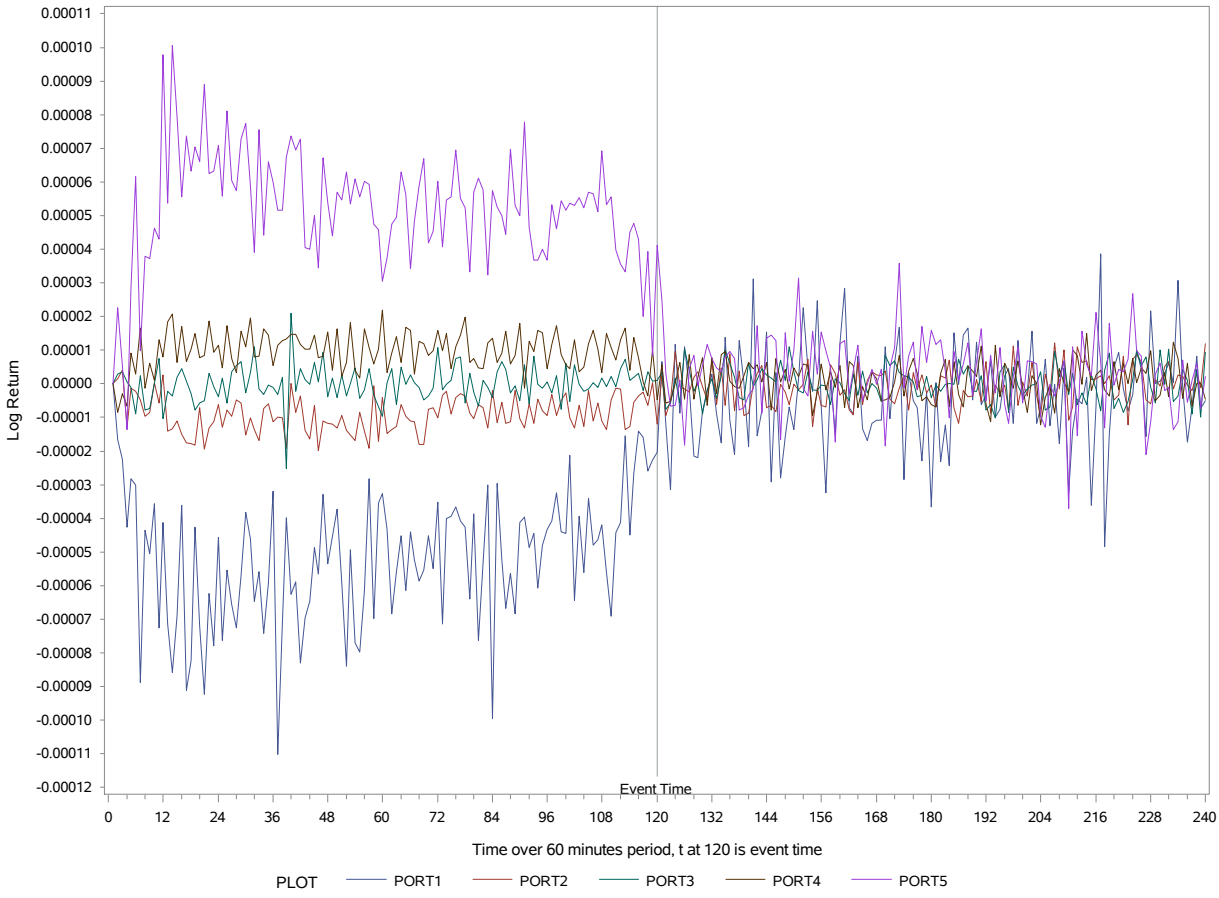

Figure 6: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form 8-K only.

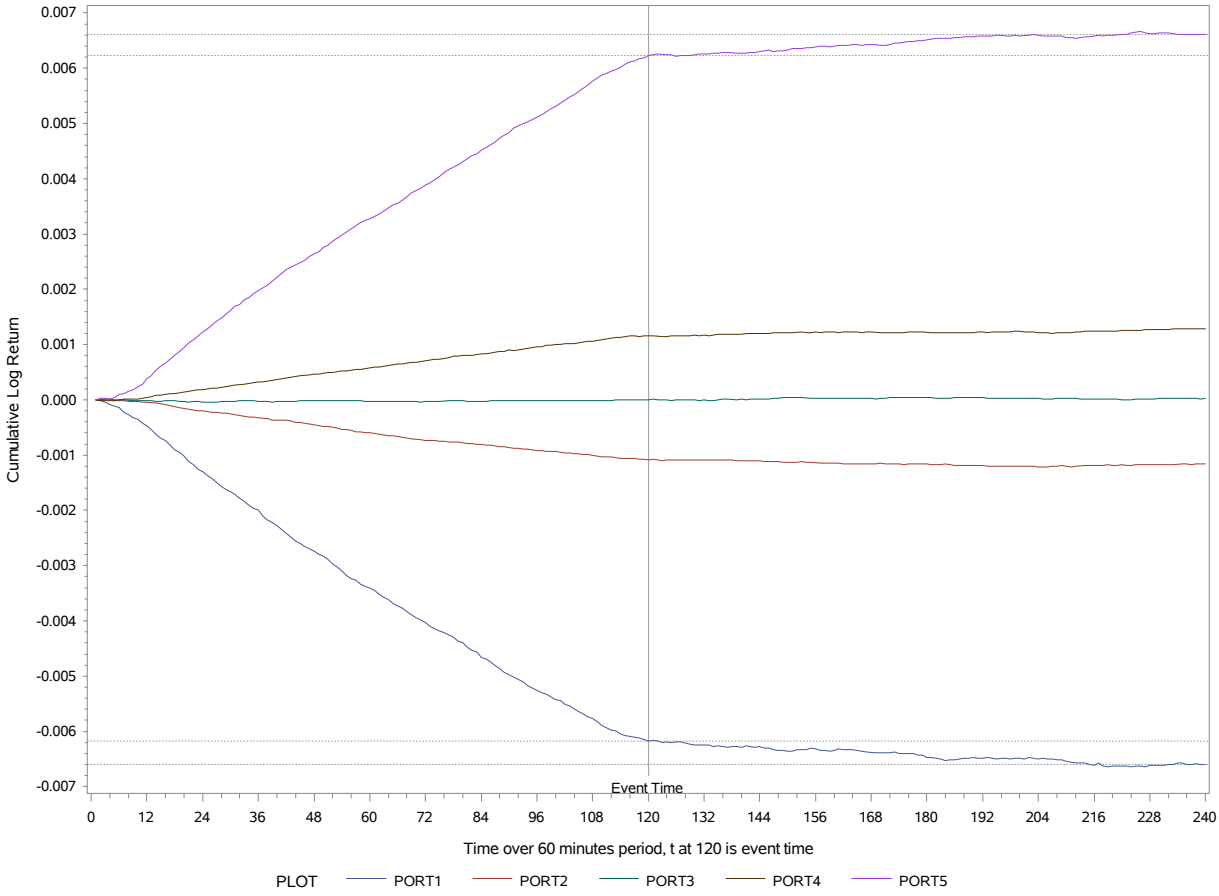

Figure 7: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form 8-K only.

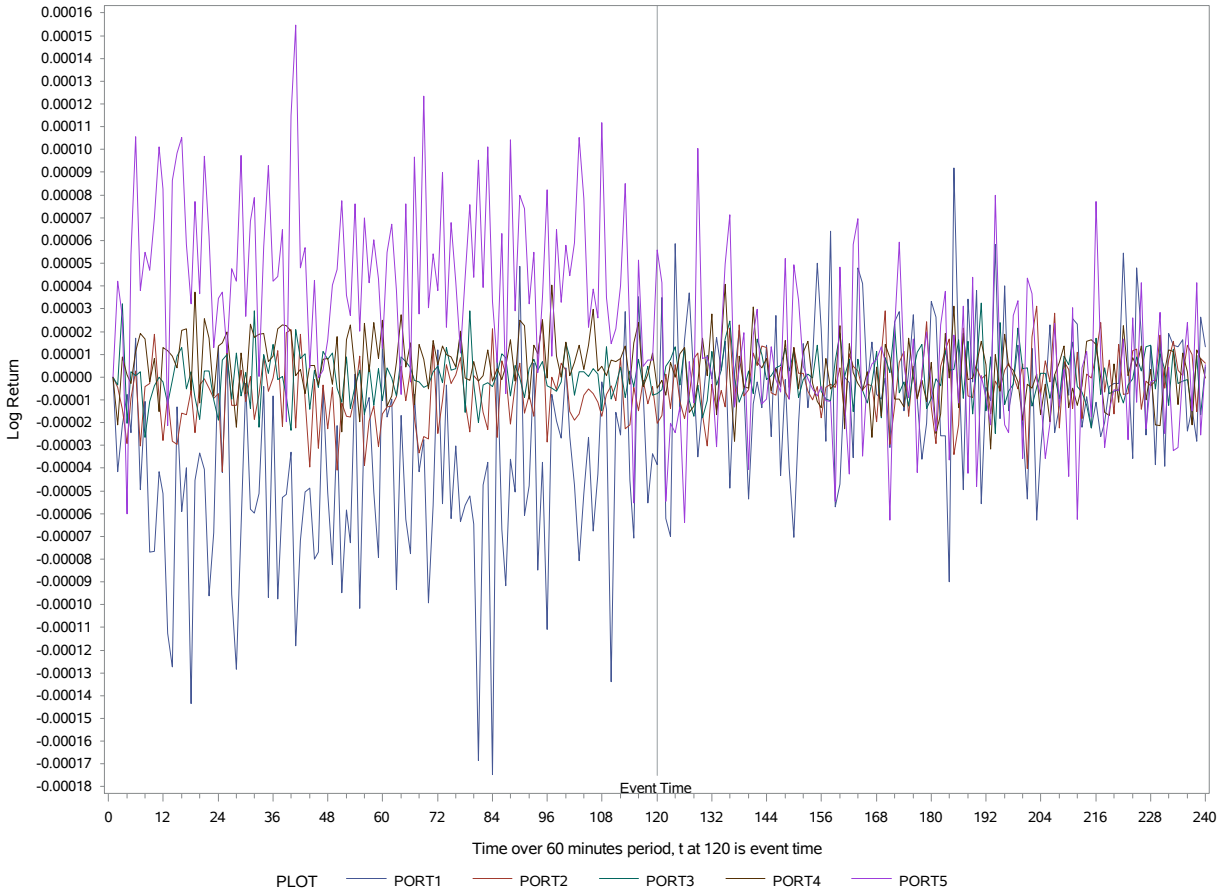

Figure 8: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 8-K only.

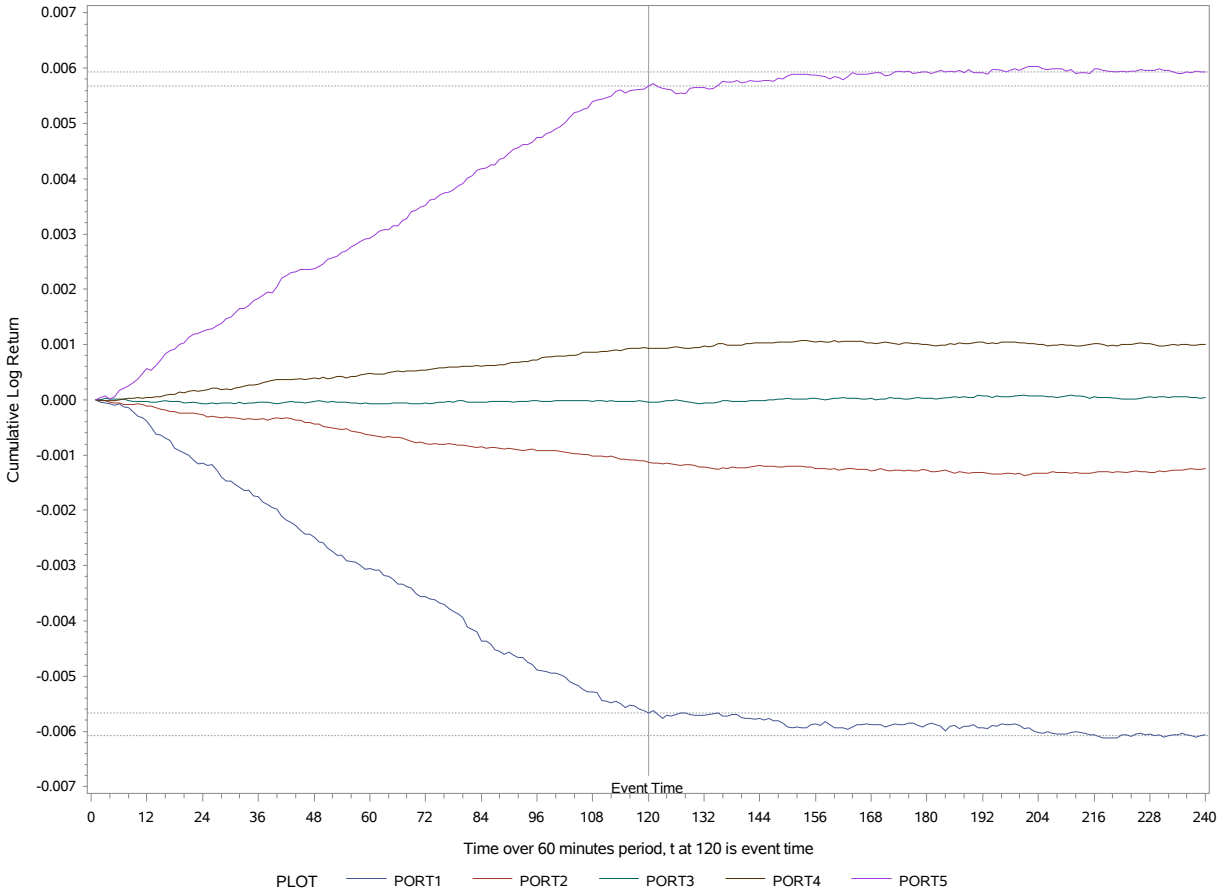

Figure 9: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 8-K only.

B. Results for Form 4

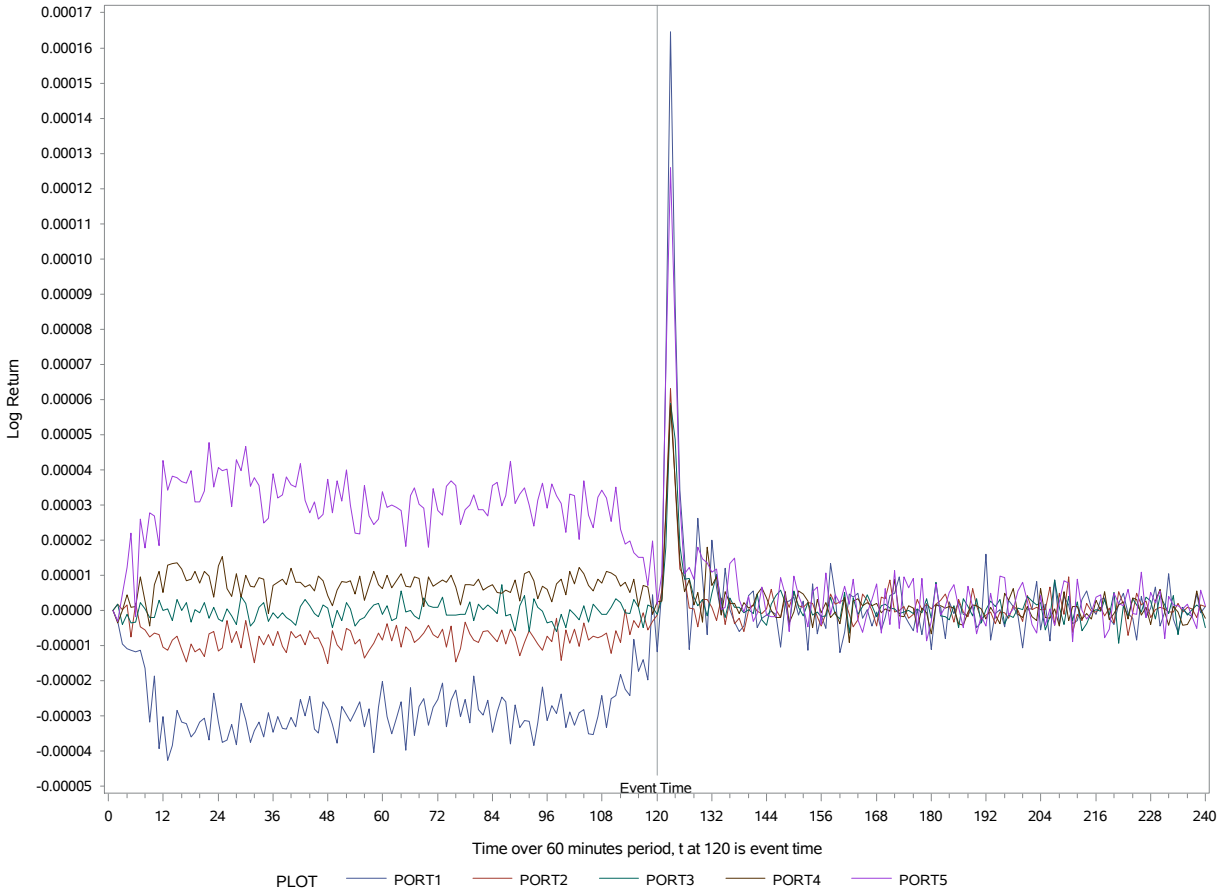

Figure 10: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form 4 only.

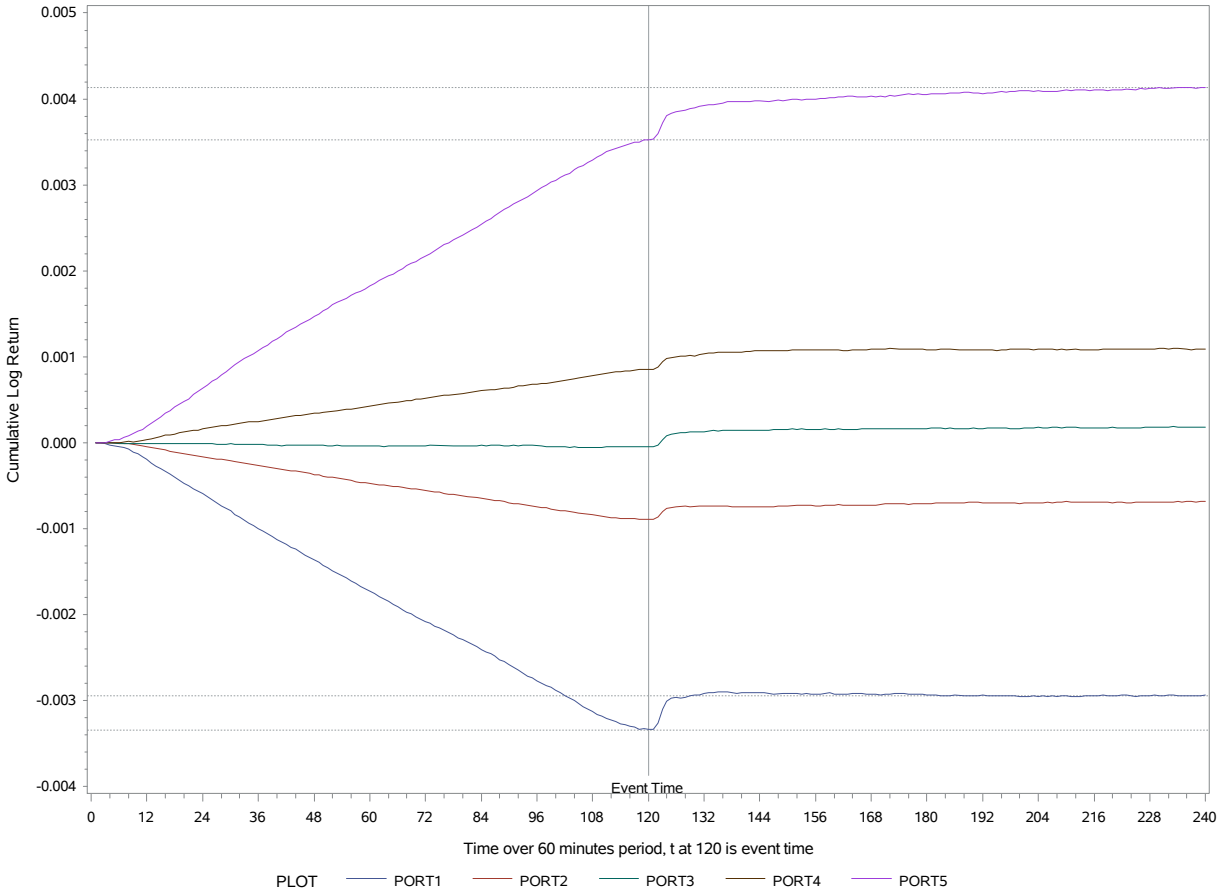

Figure 11: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form 4 only.

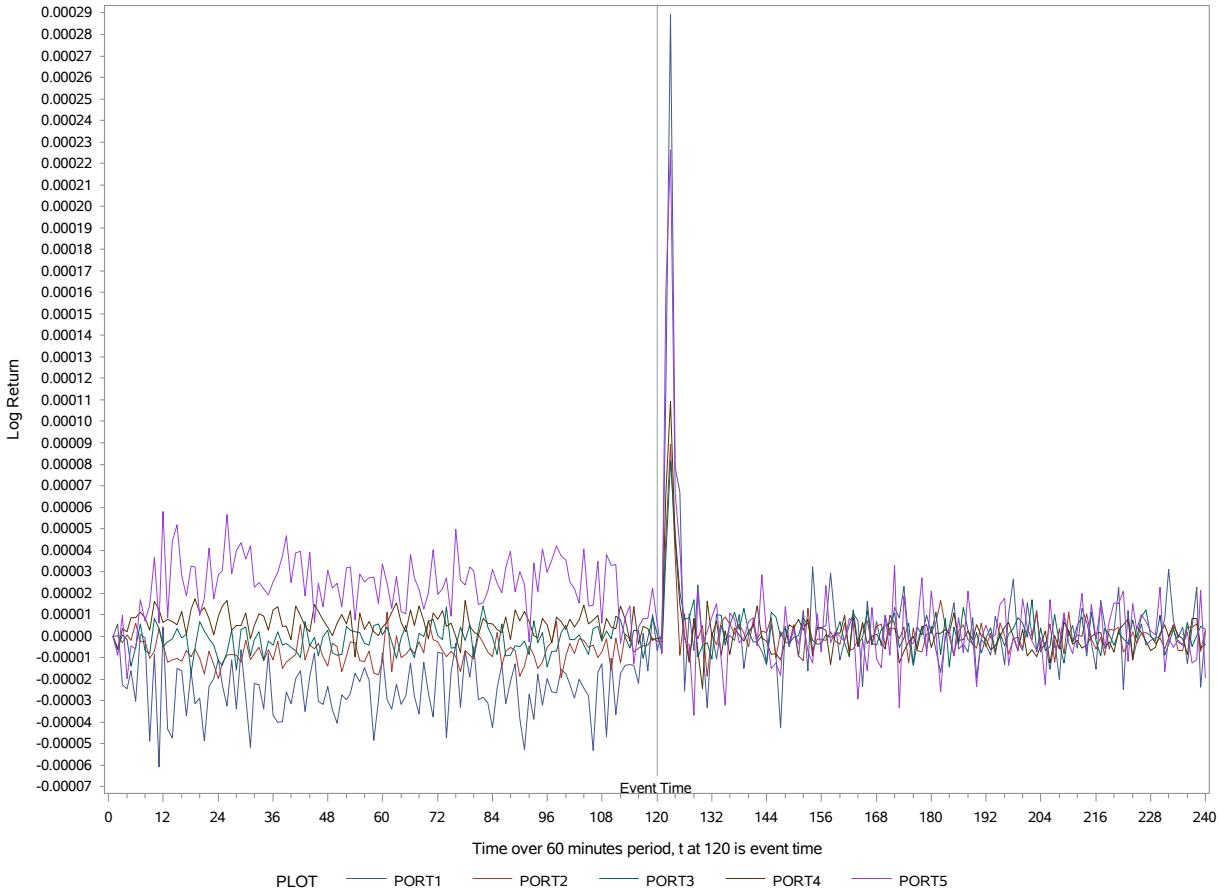

Figure 12: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 4 only.

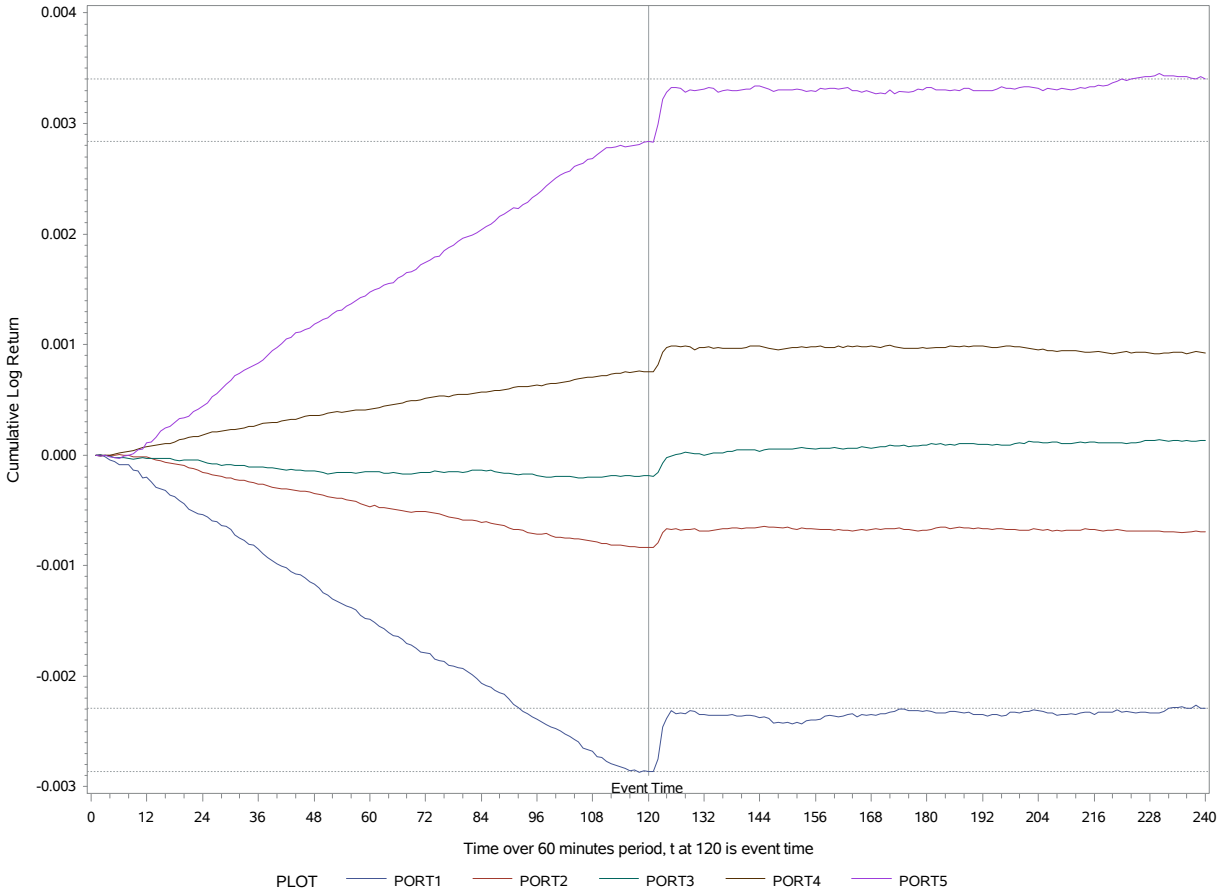

Figure 13: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 4 only.

C. Results for Form 10-K

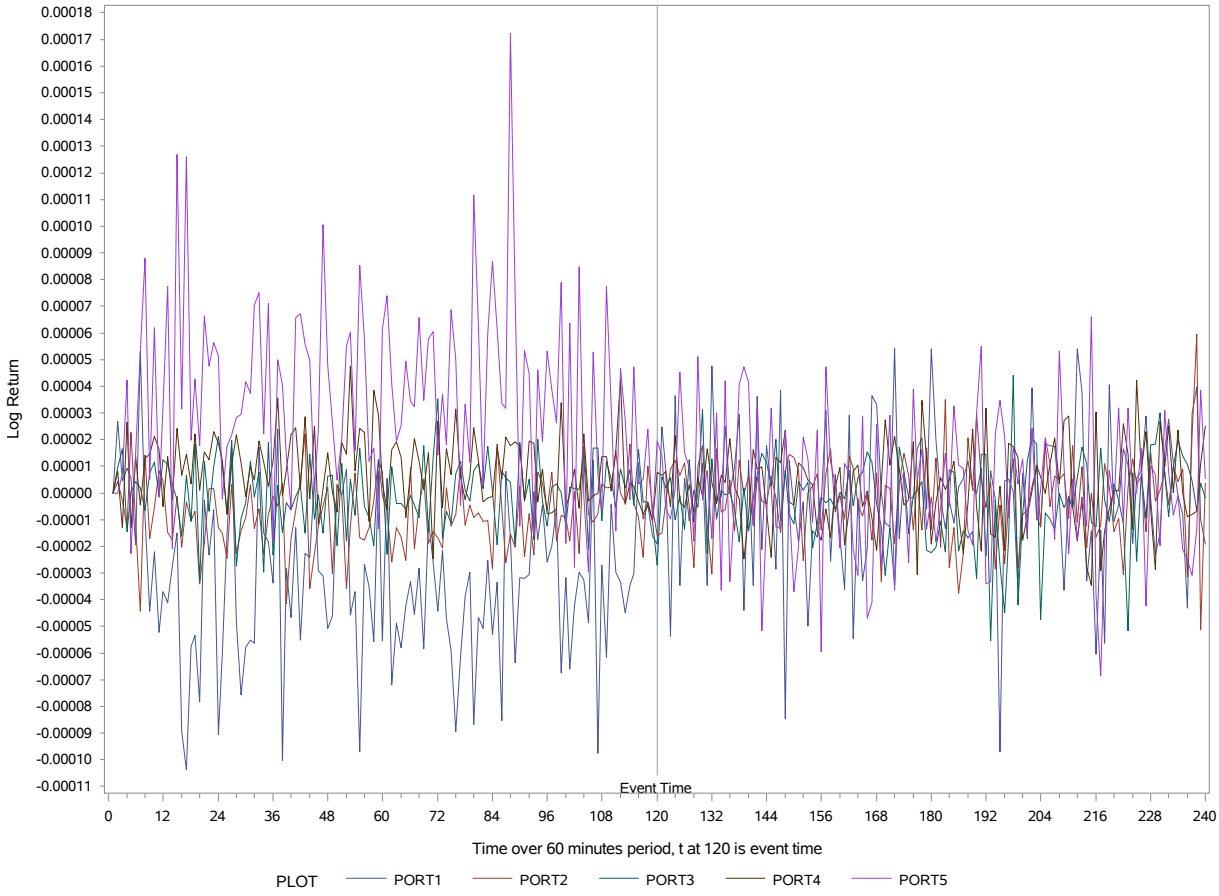

Figure 14: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form 10-K only.

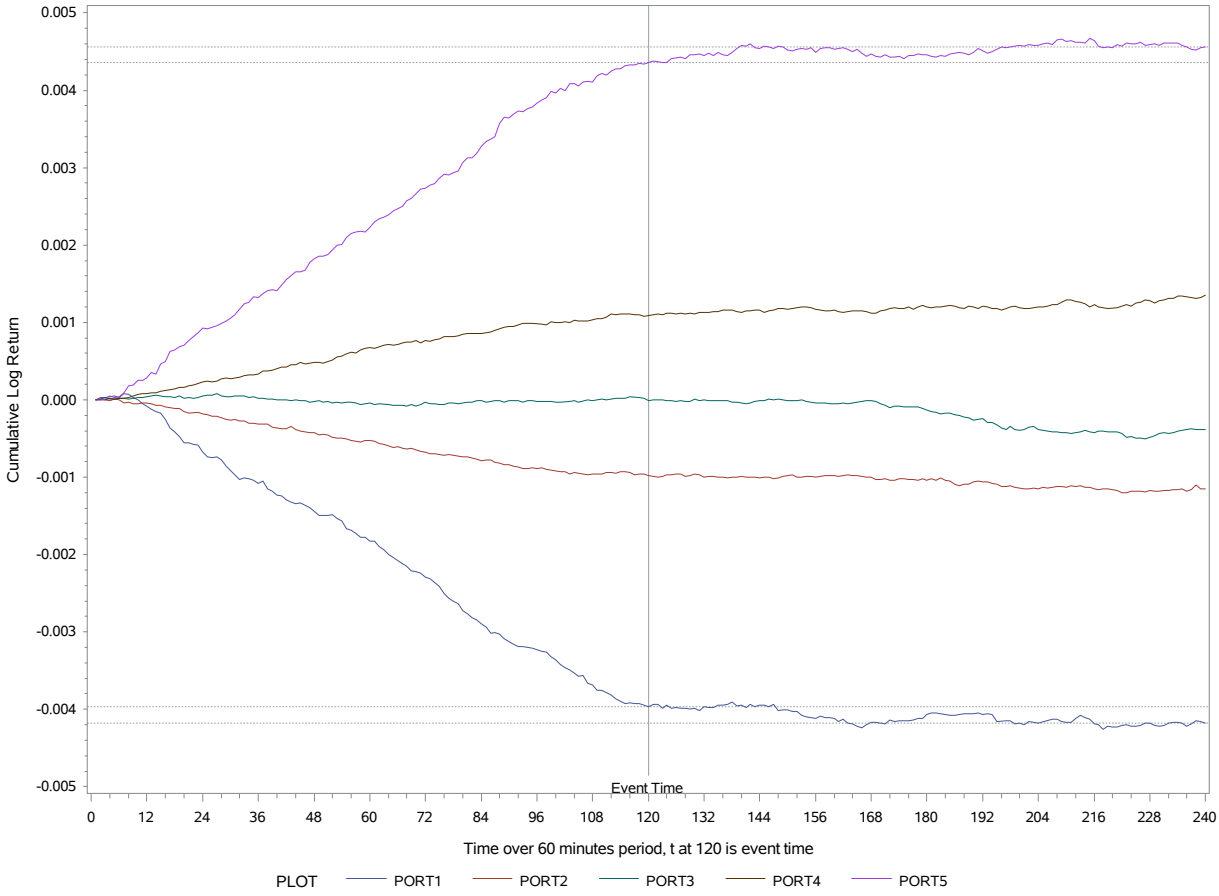

Figure 15: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form 10-K only.

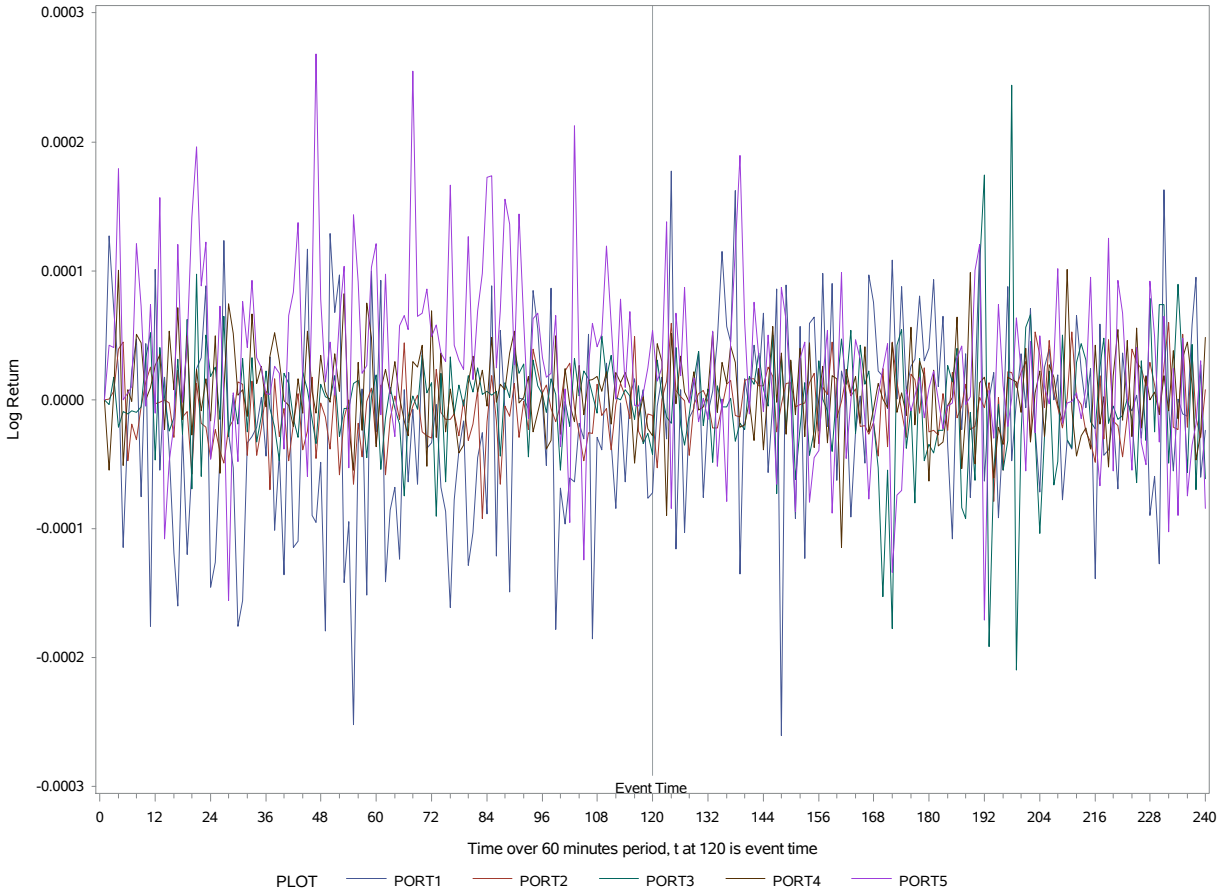

Figure 16: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 10-K only.

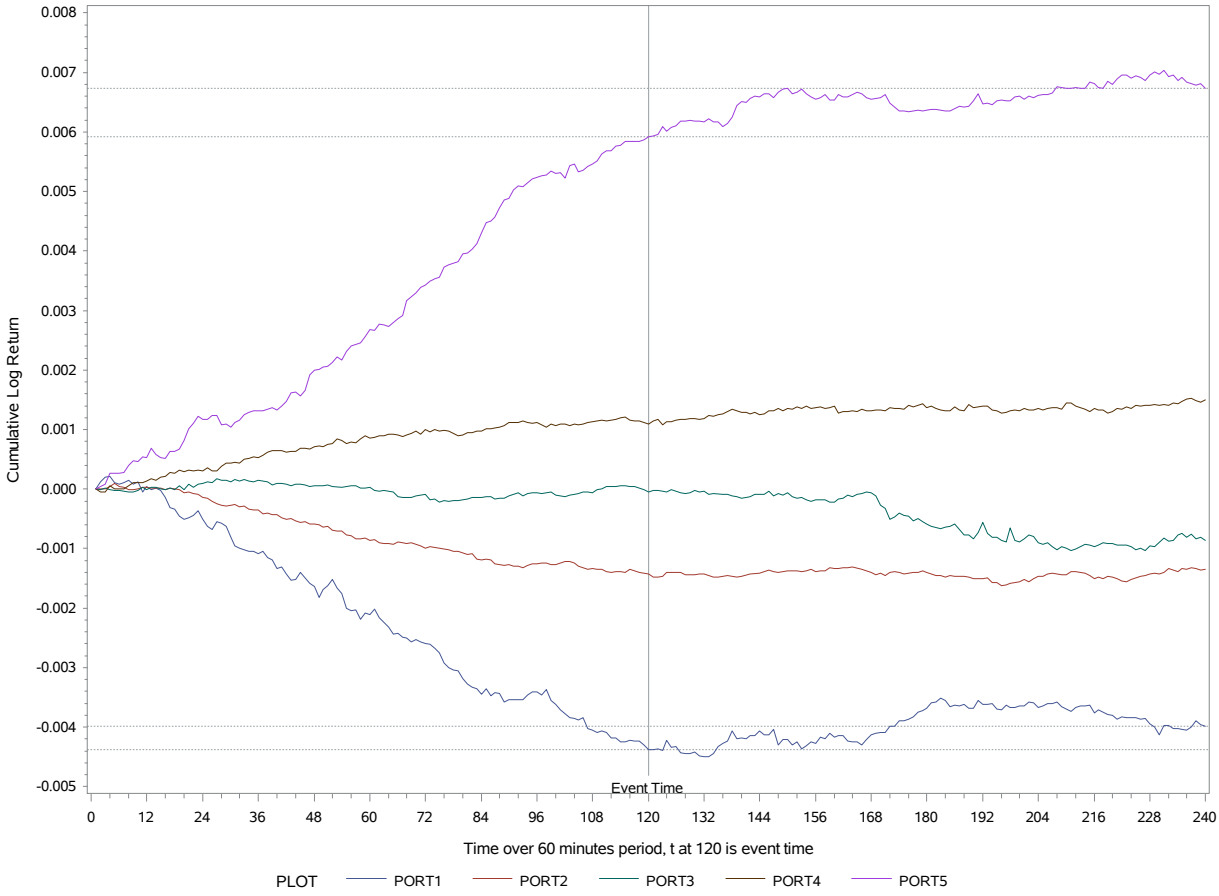

Figure 17: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 10-K only.

D. Results for Form 10-Q

Figure 18: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form 10-Q only.

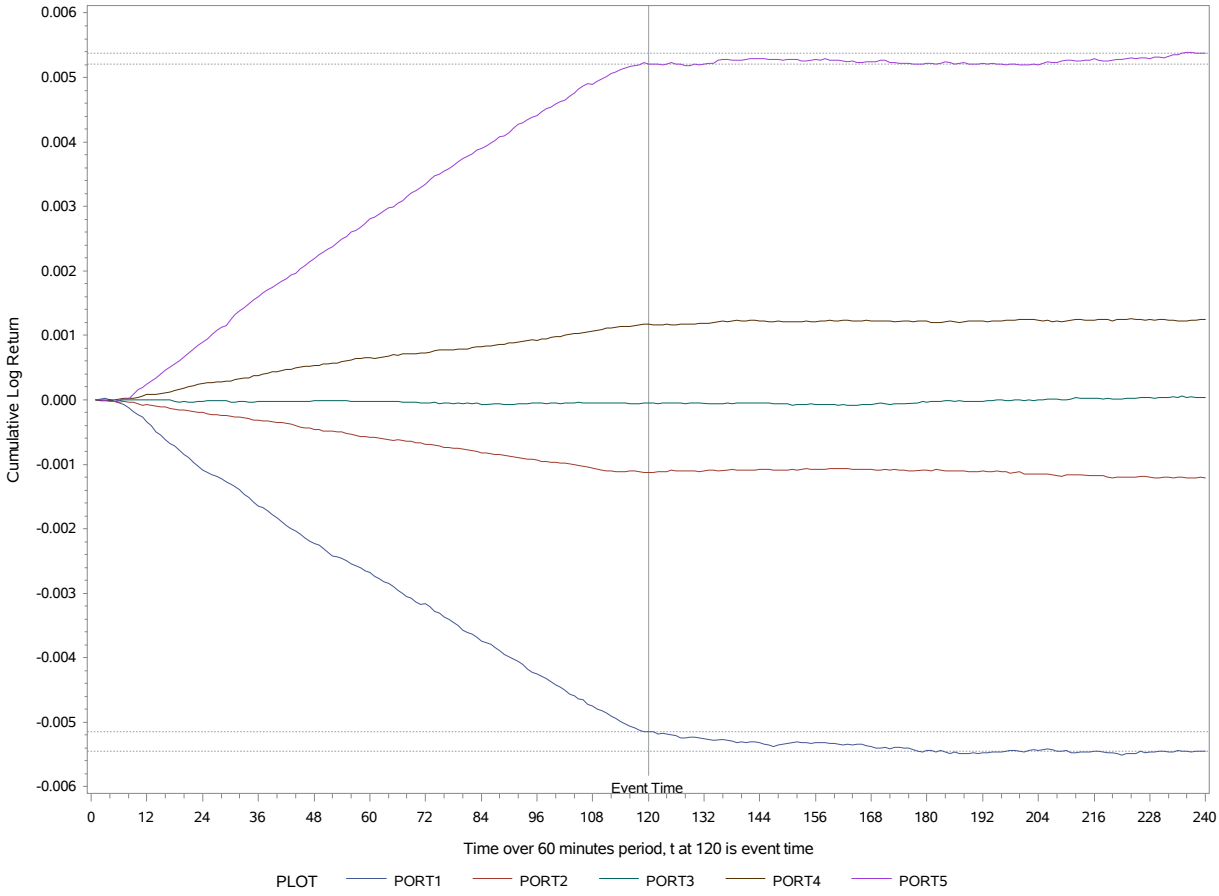

Figure 19: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form 10-Q only.

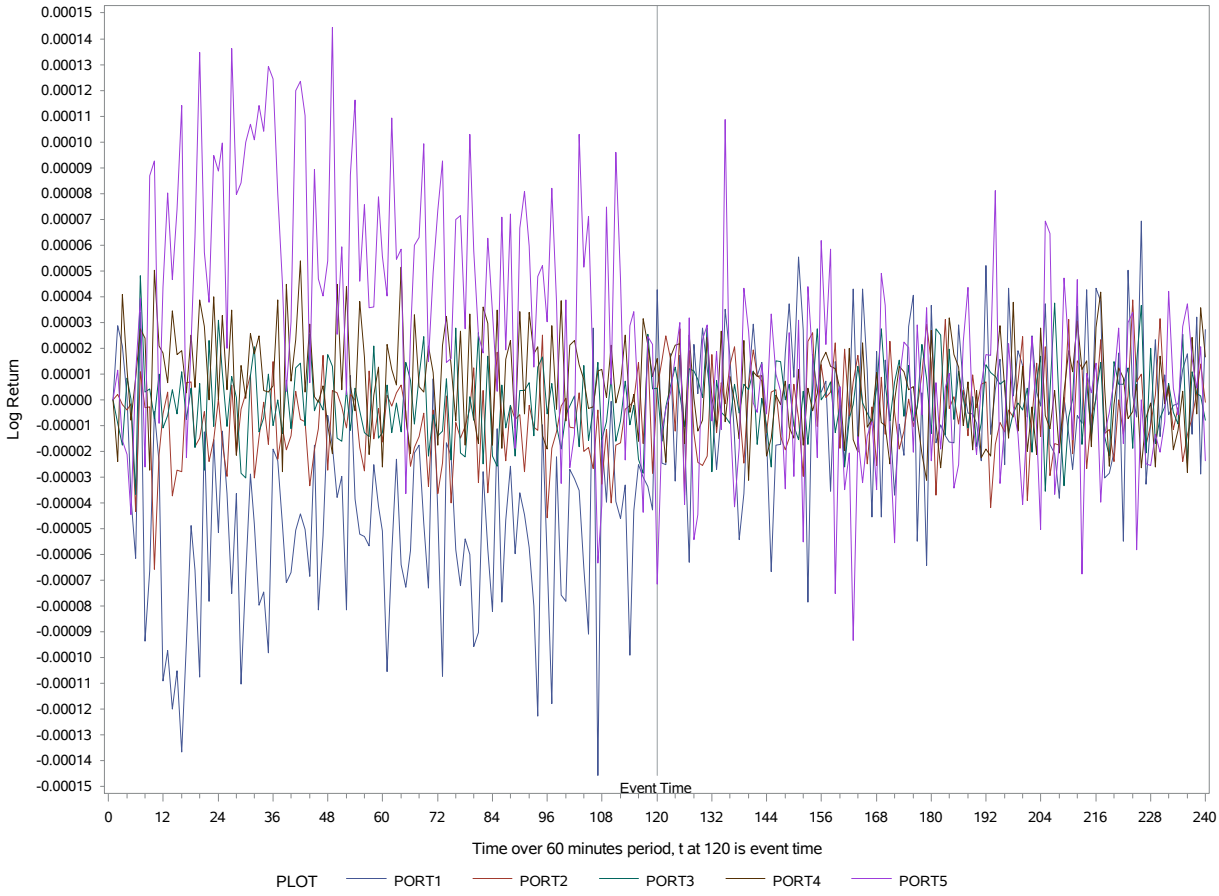

Figure 20: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 10-Q only.

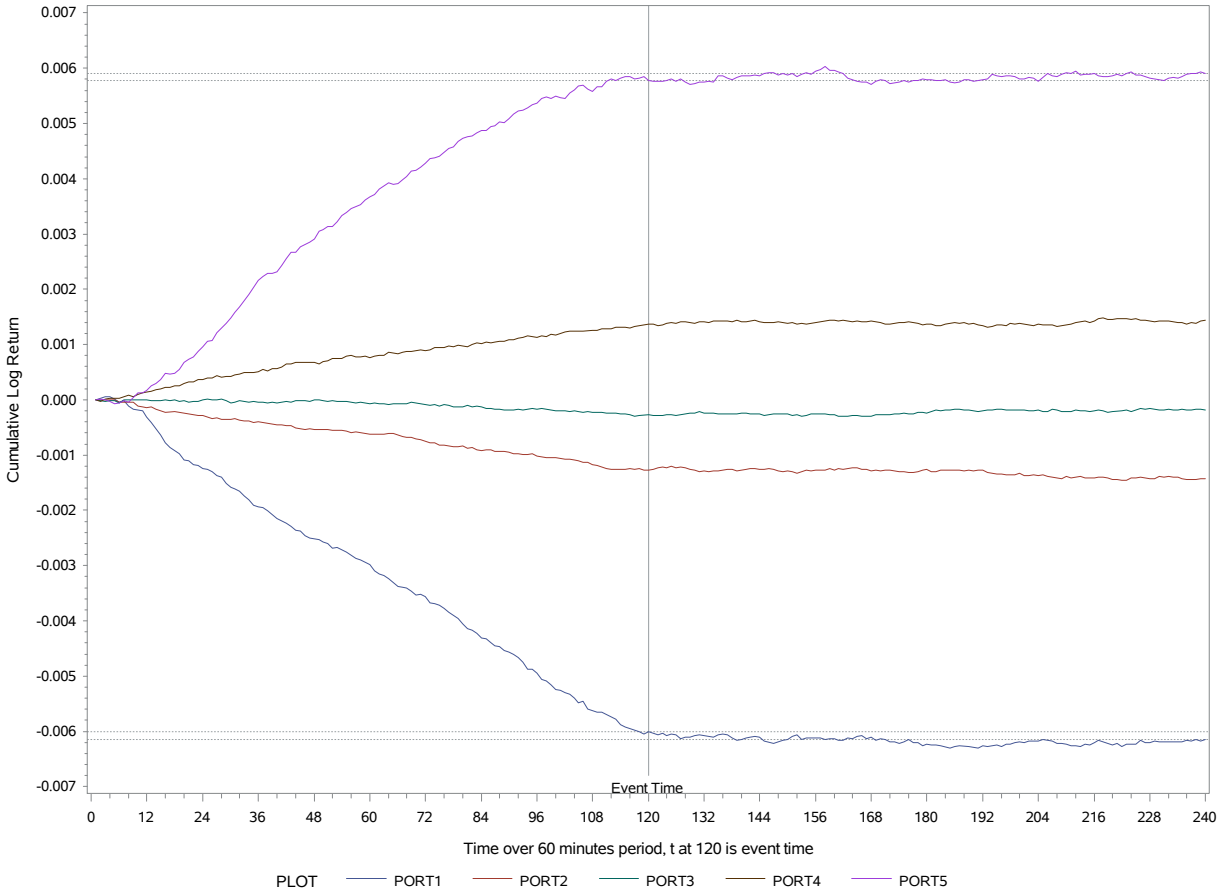

Figure 21: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 10-Q only.

E. Results for Schedule 13-G

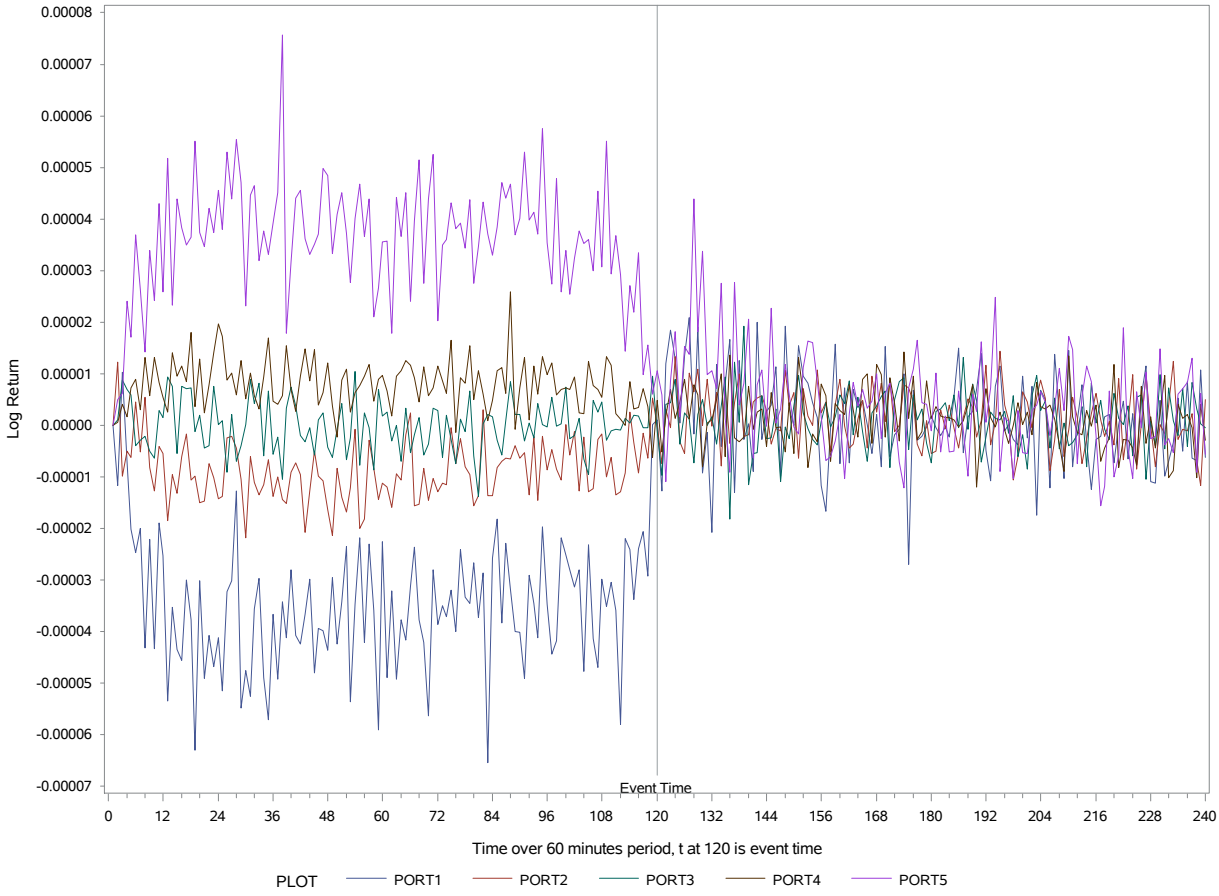

Figure 22: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form SC 13G only.

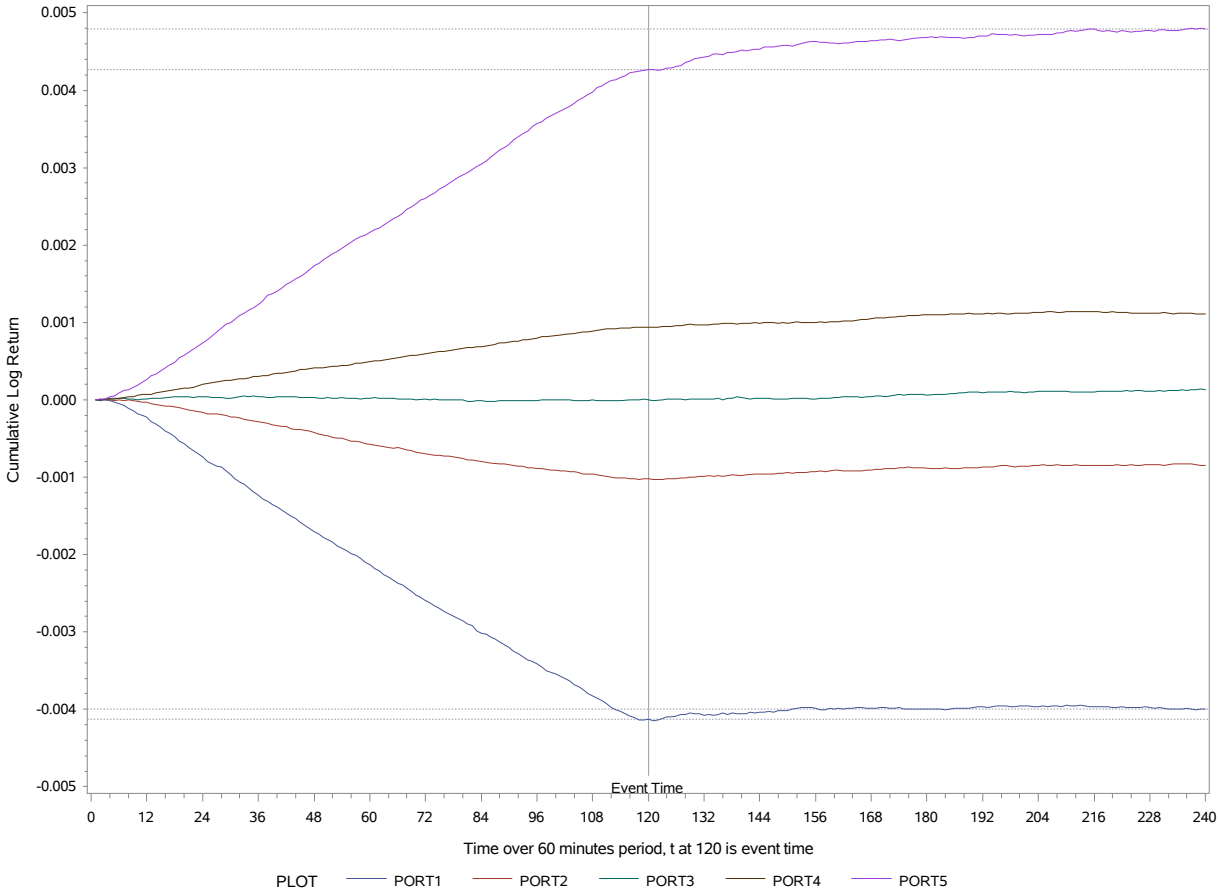

Figure 23: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form SC 13G only.

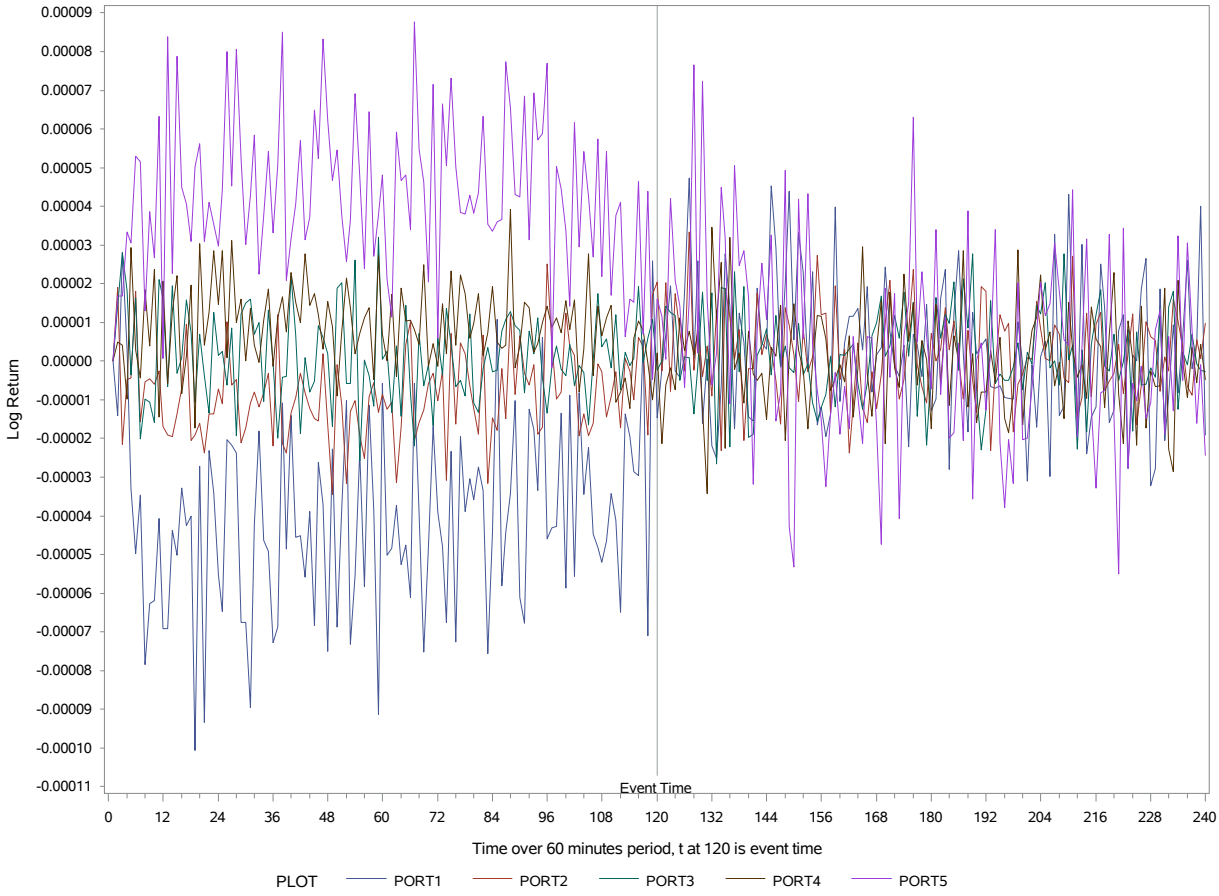

Figure 24: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form SC 13G only.

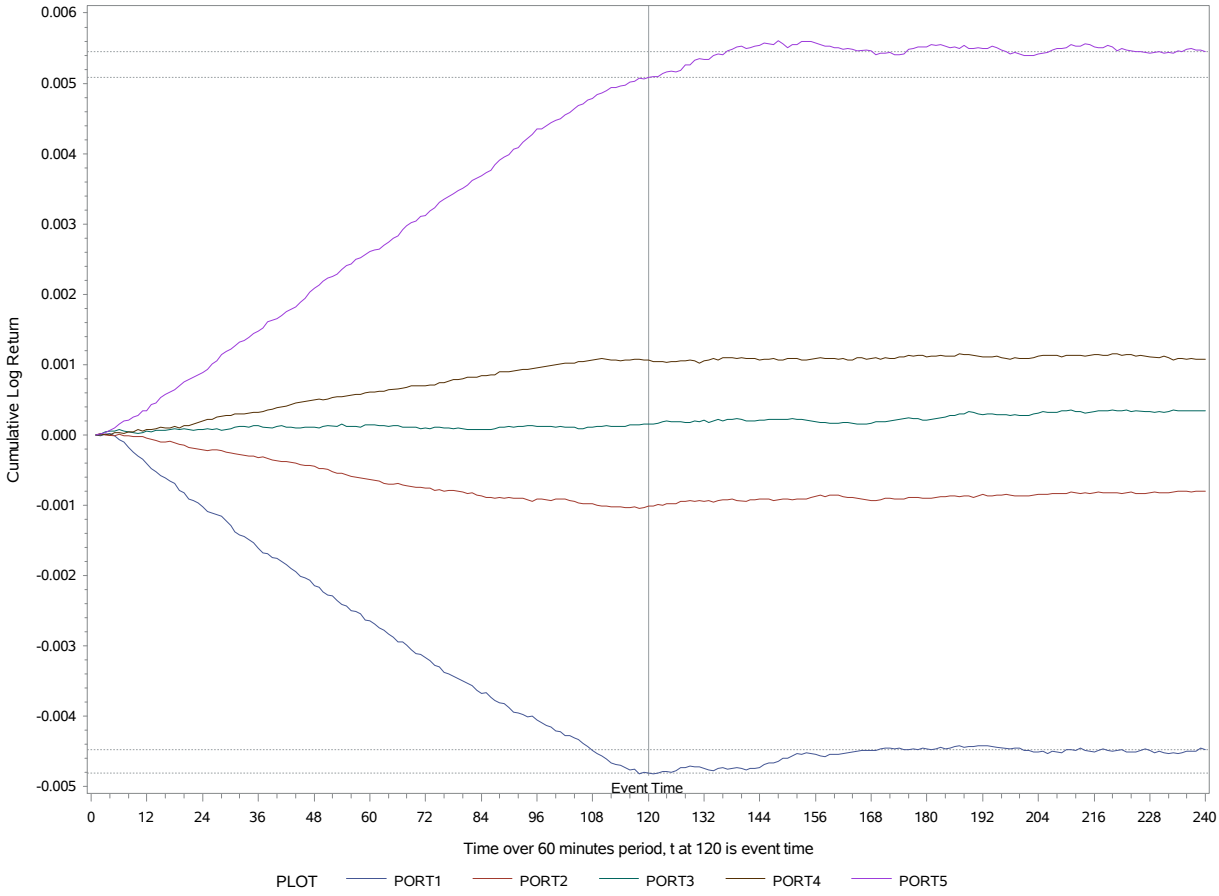

Figure 25: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form SC 13G only.

F. Results for Schedule 13-D

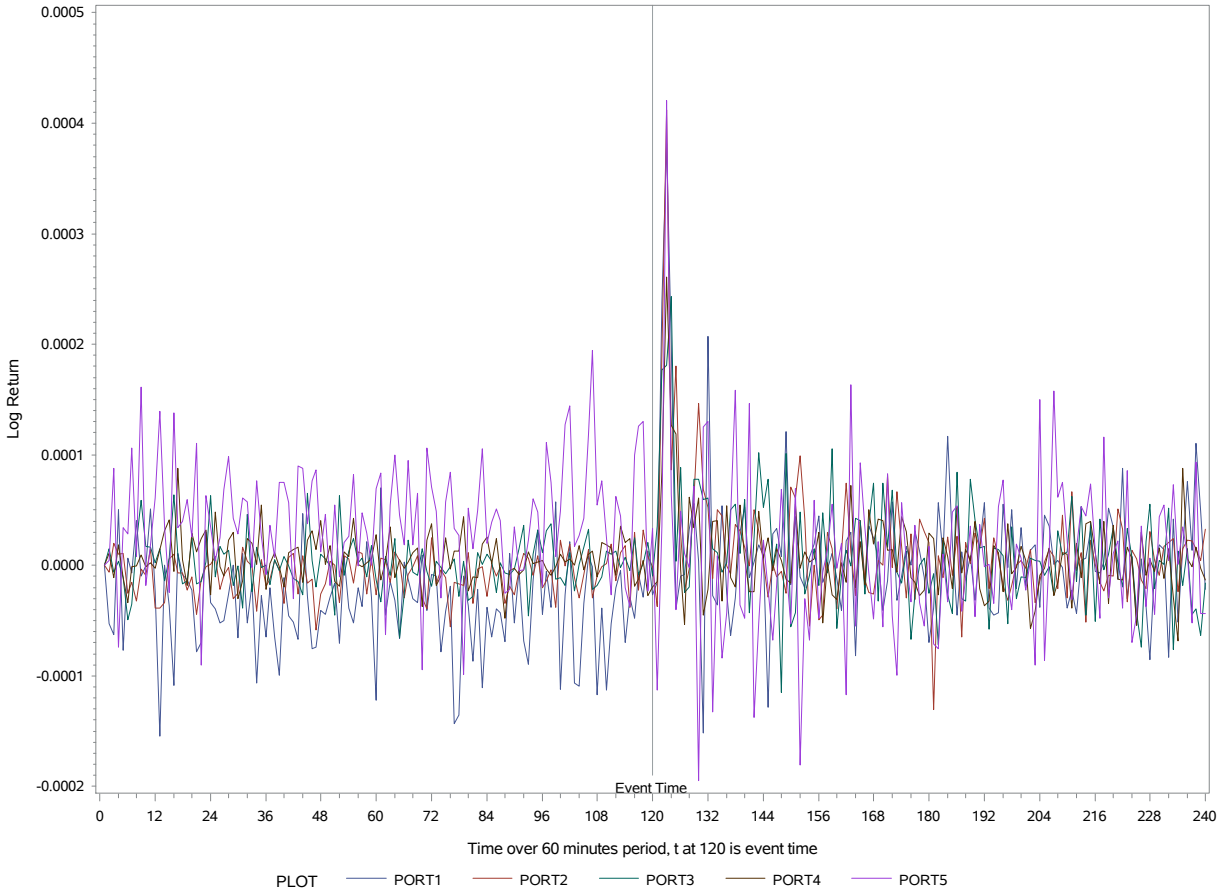

Figure 26: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form SC 13D only.

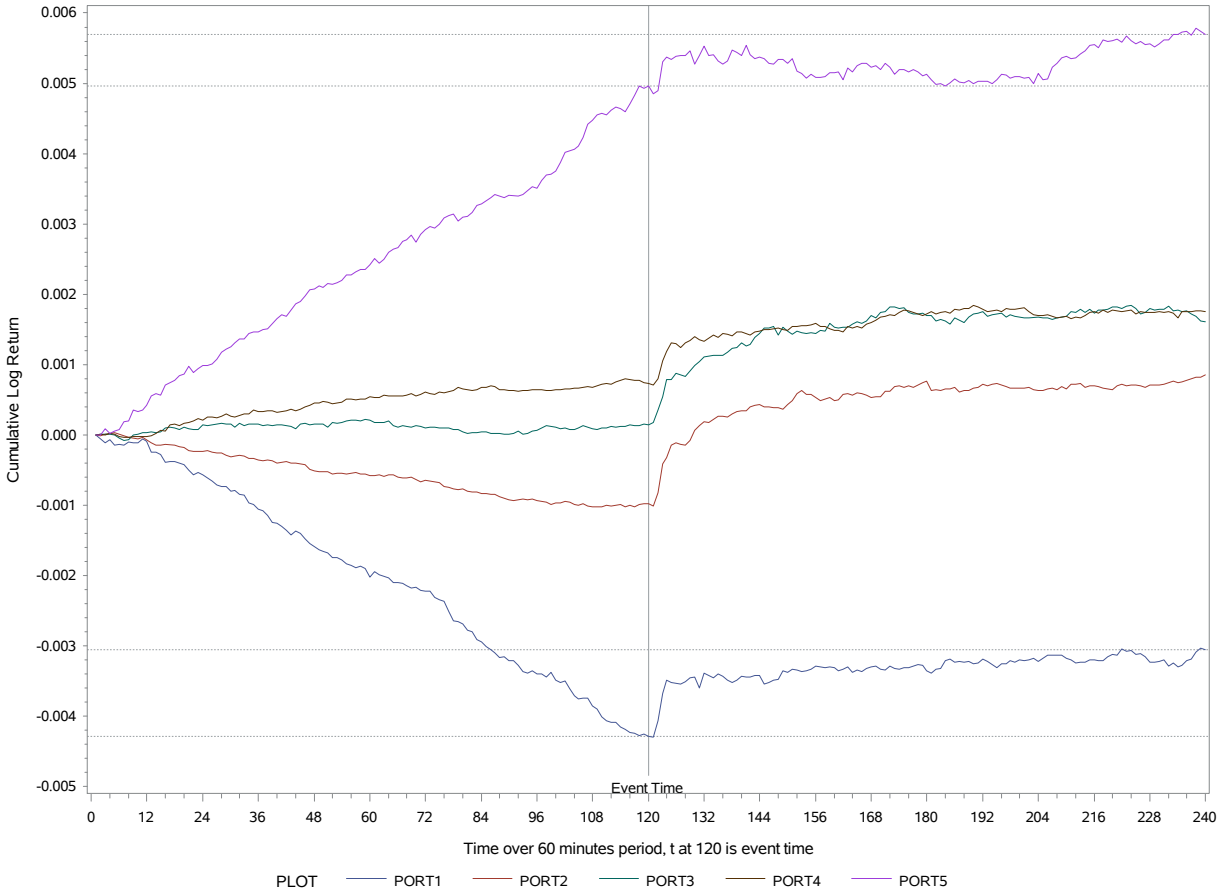

Figure 27: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form SC 13D only.

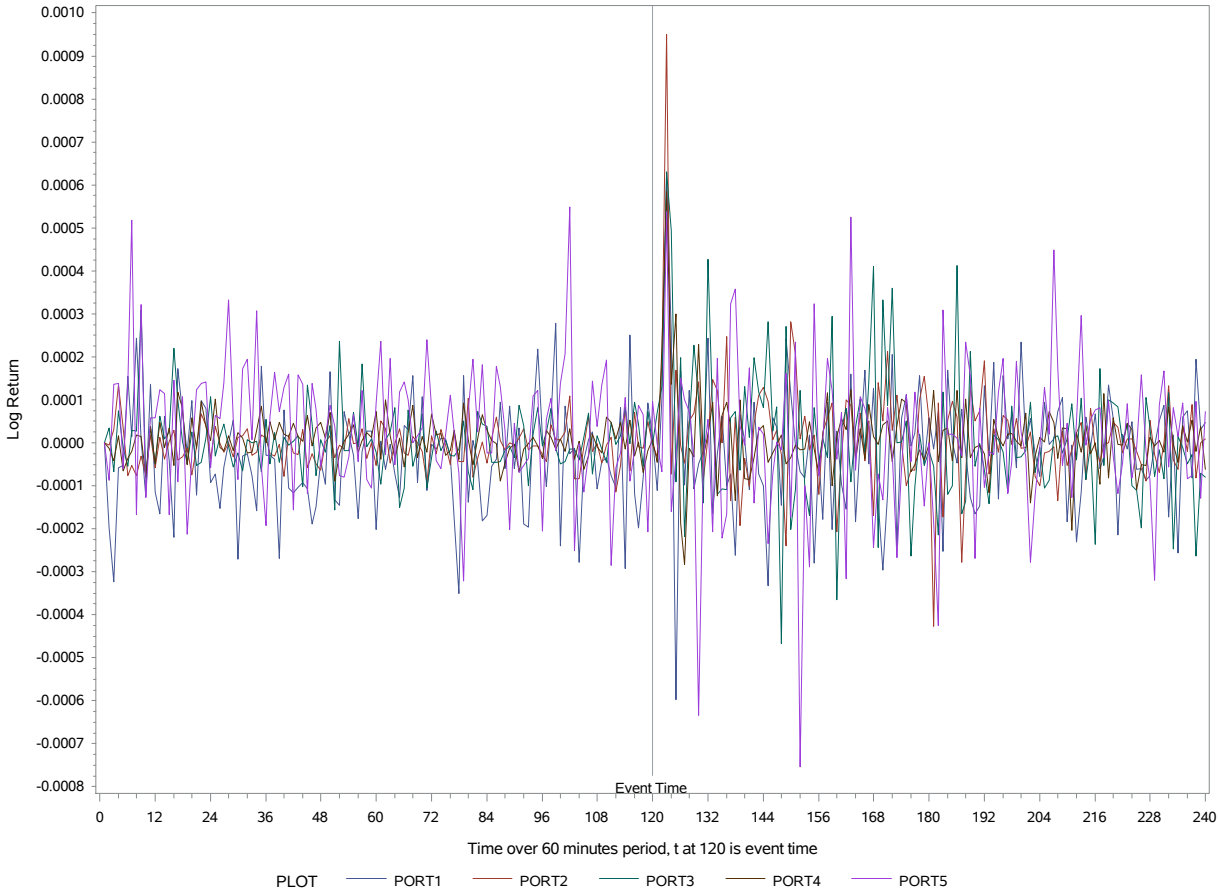

Figure 28: Average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form SC 13D only.

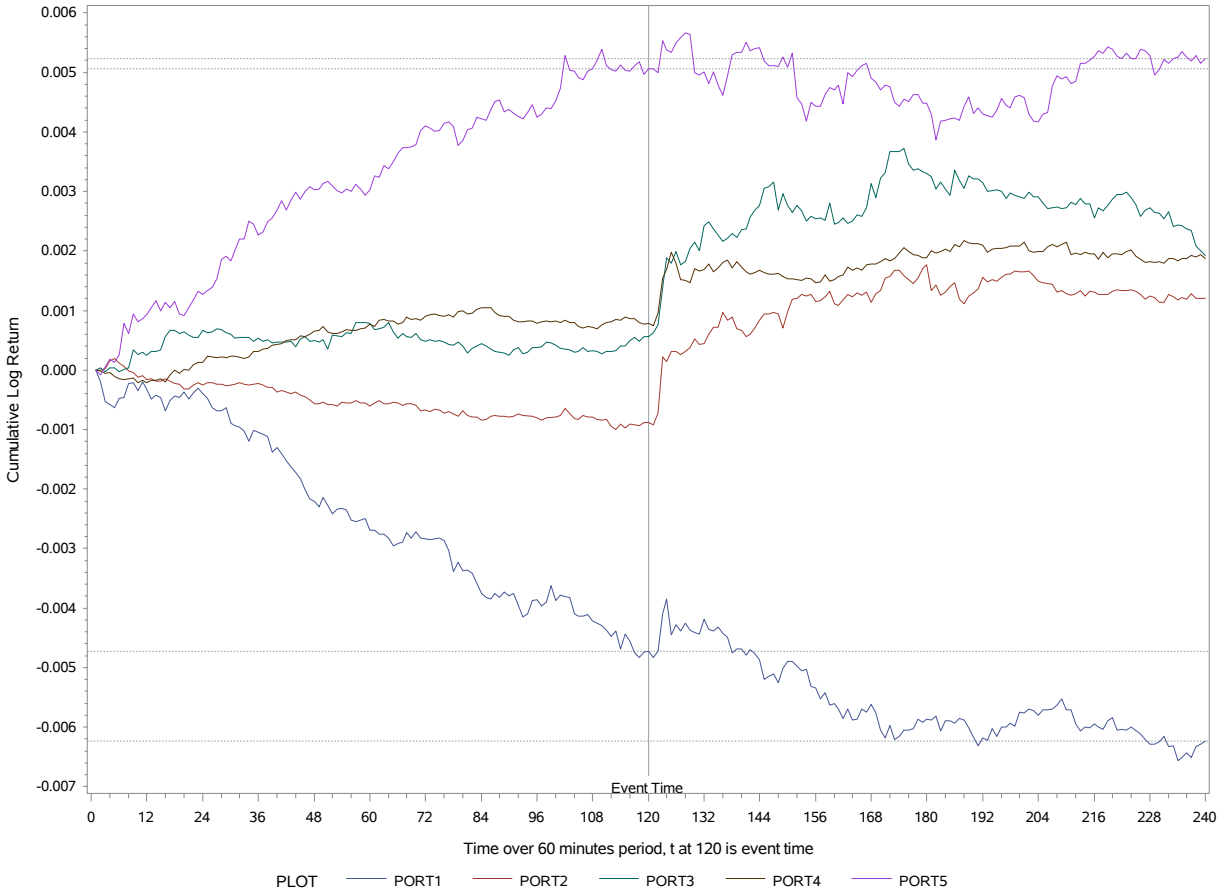

Figure 29: Cumulative average excess return for 15 seconds interval from 30 minutes before the acceptance to 30 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form SC 13D only.

G. 90-mins Results

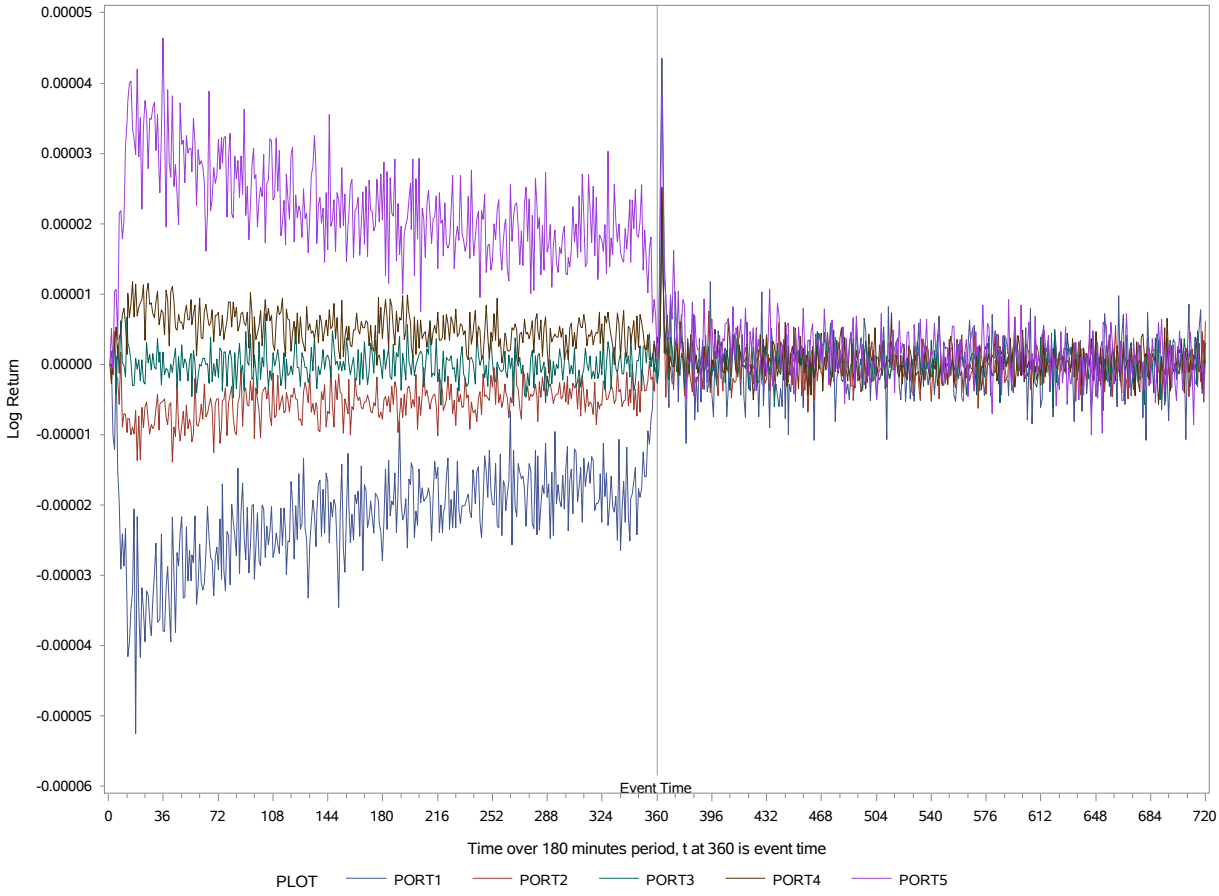

Figure 30: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance SEC form filings, in the years 1994 to 2017.

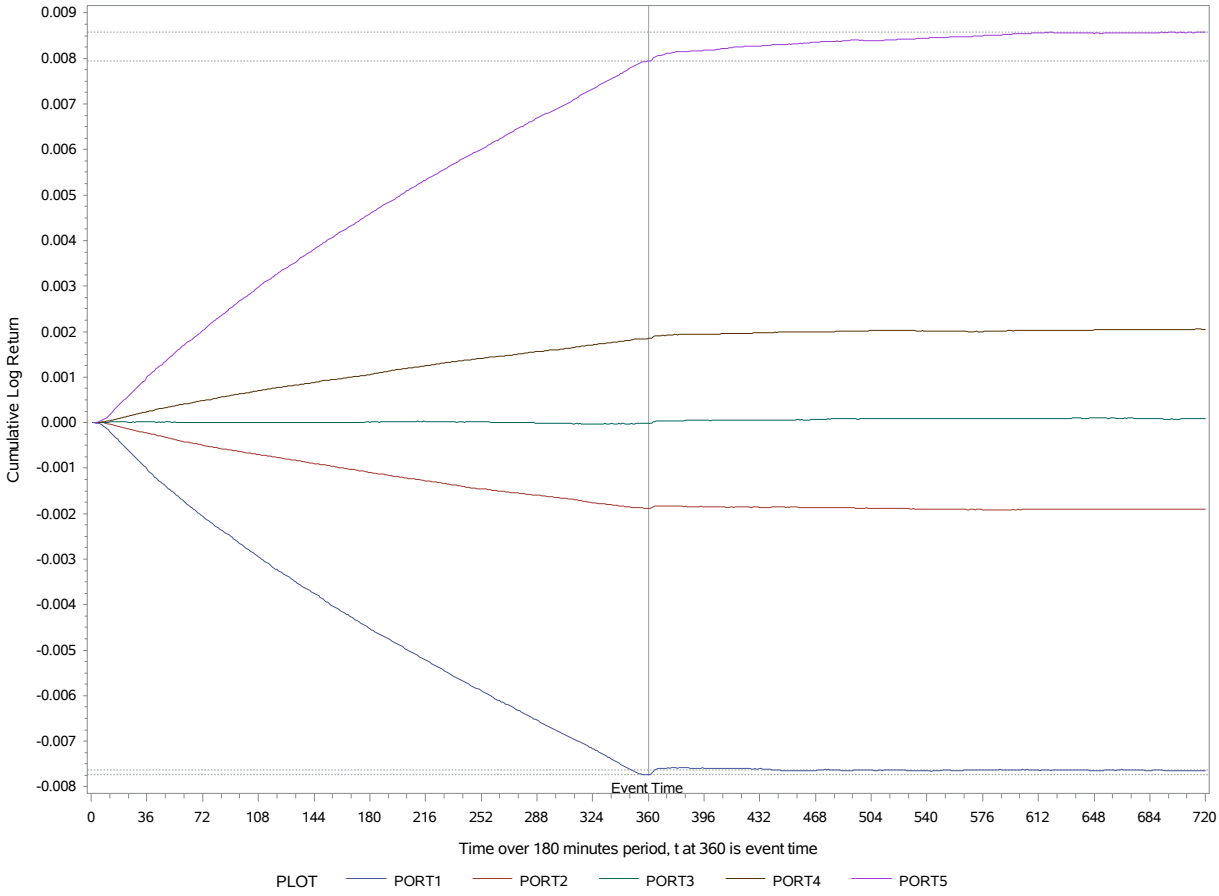

Figure 31: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, in the years 1994 to 2017.

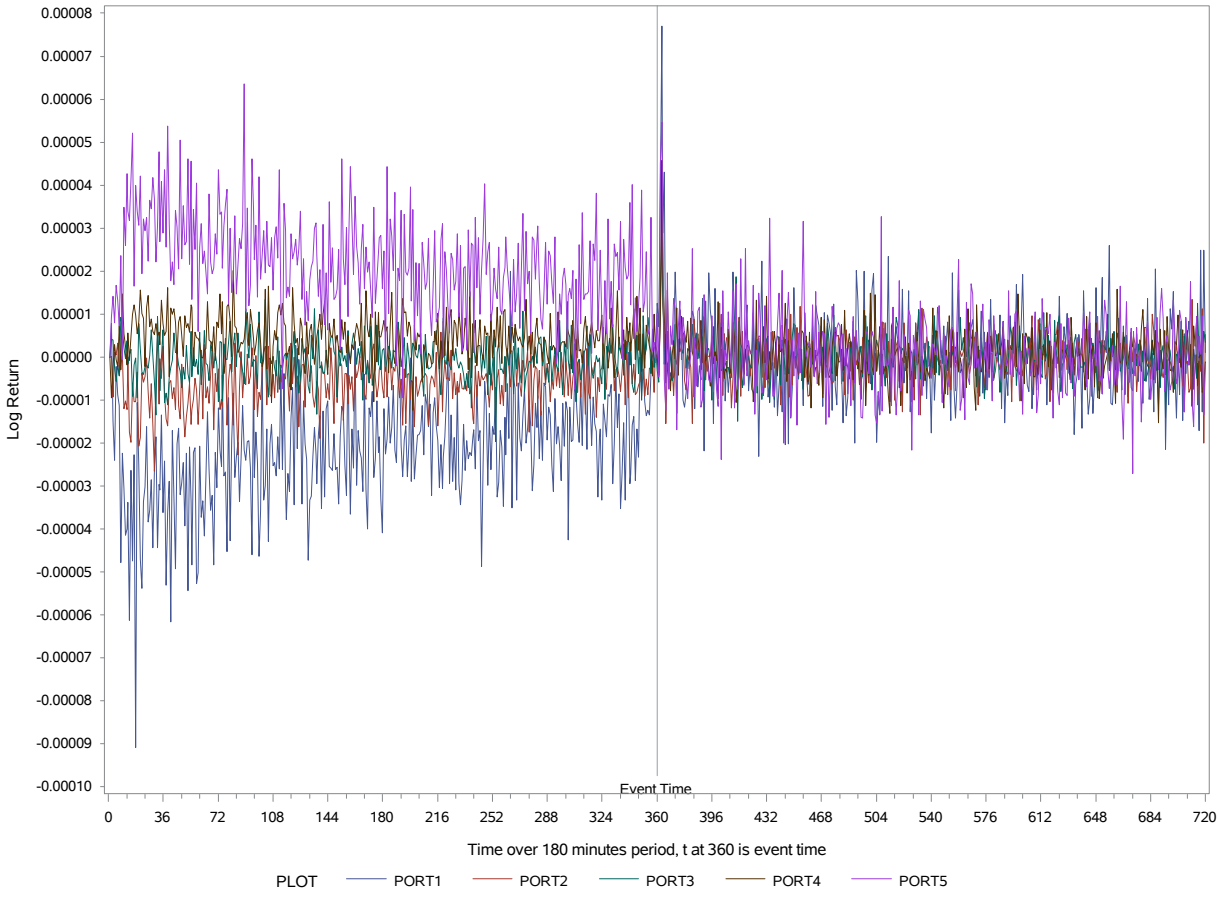

Figure 32: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017.

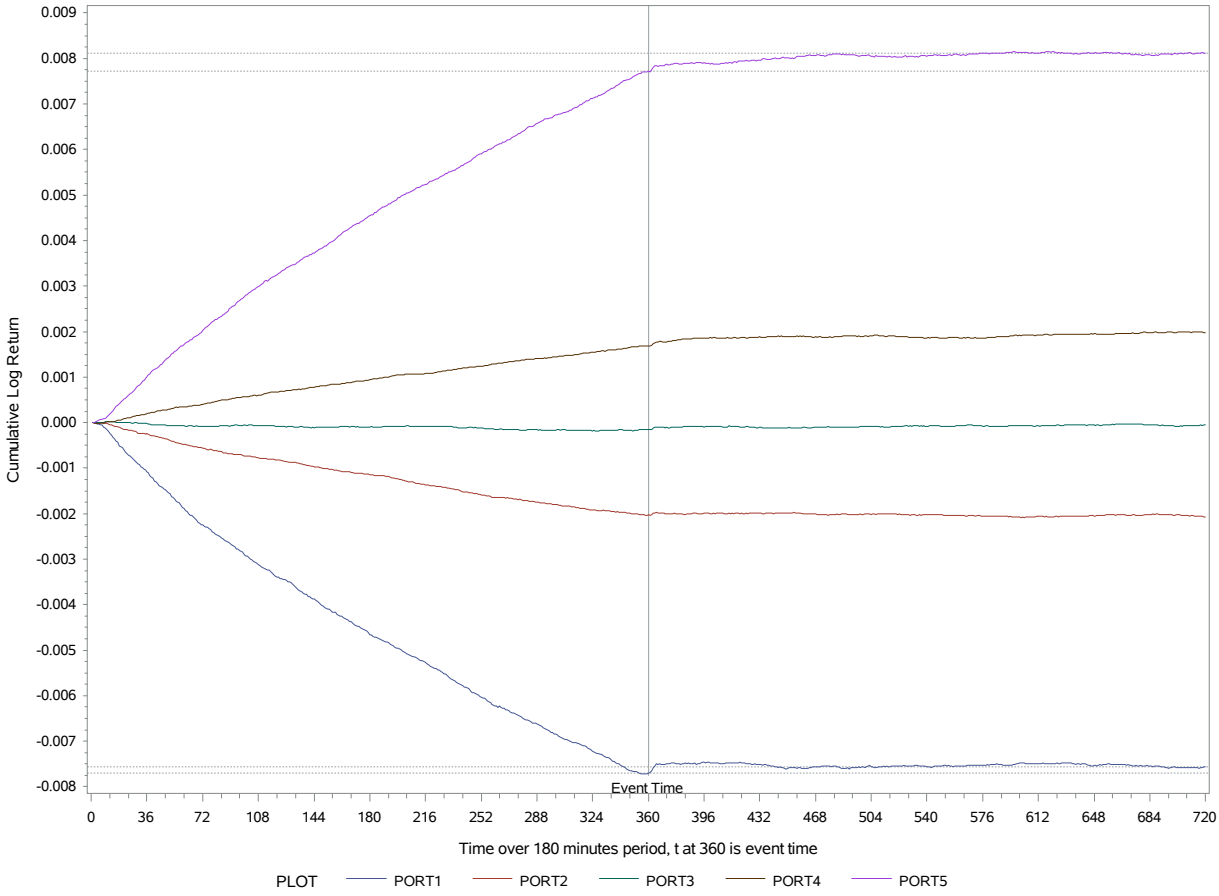

Figure 33: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017.

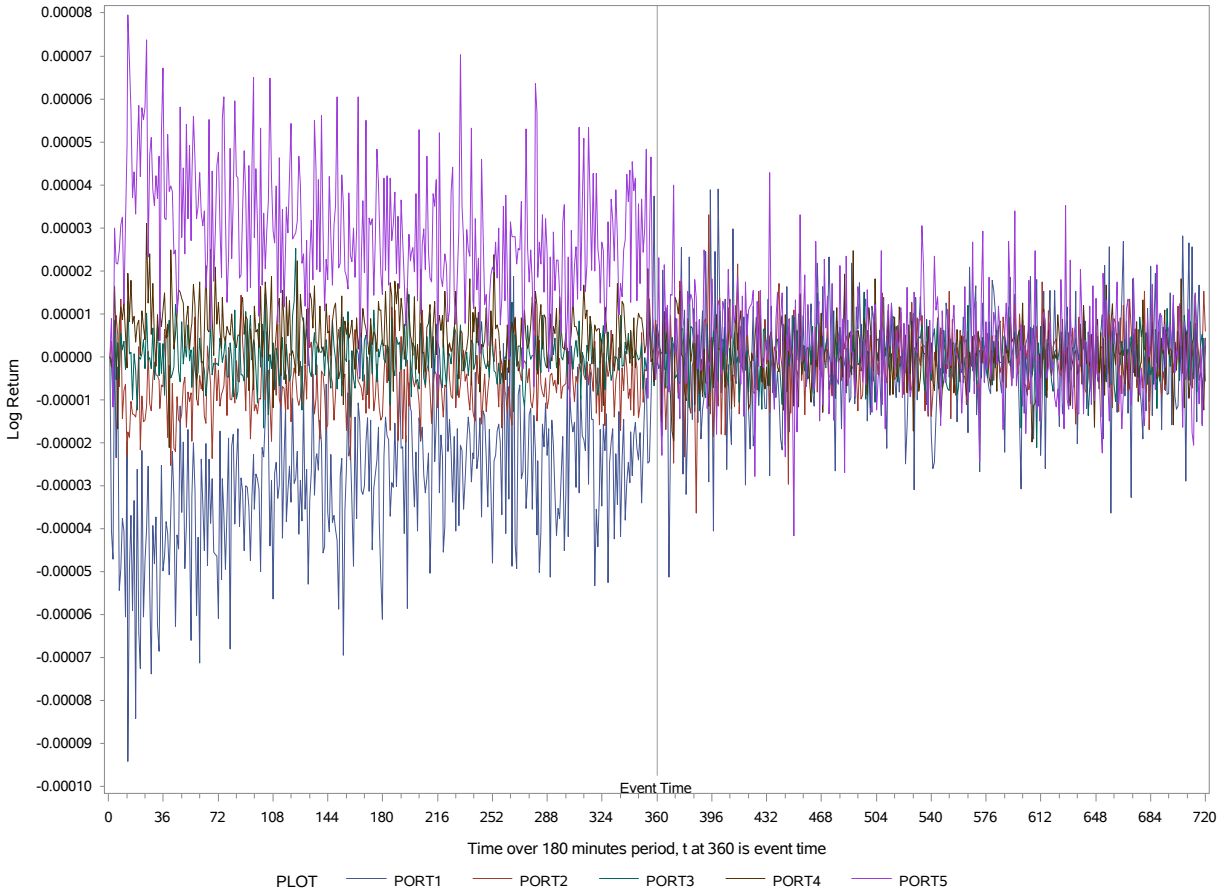

Figure 34: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form 8-K only.

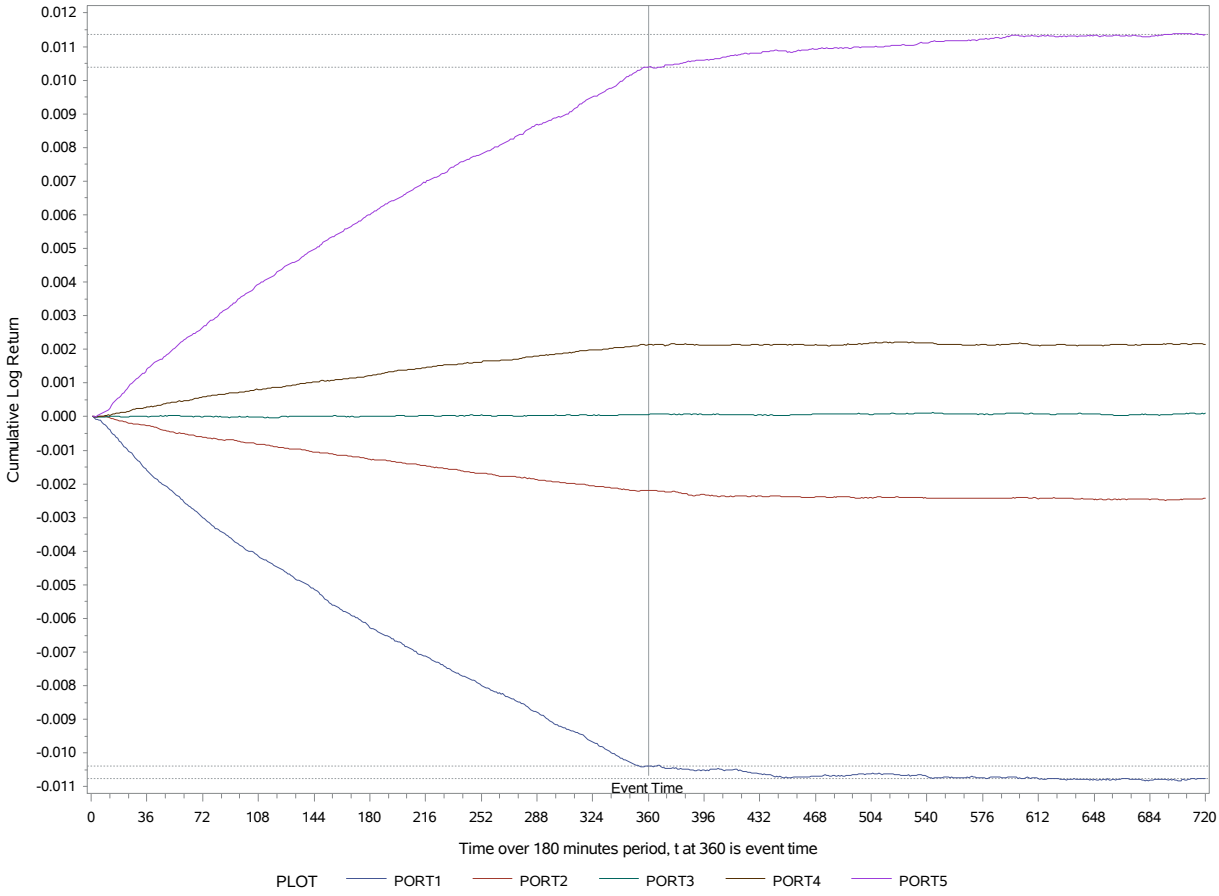

Figure 35: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form 8-K only.

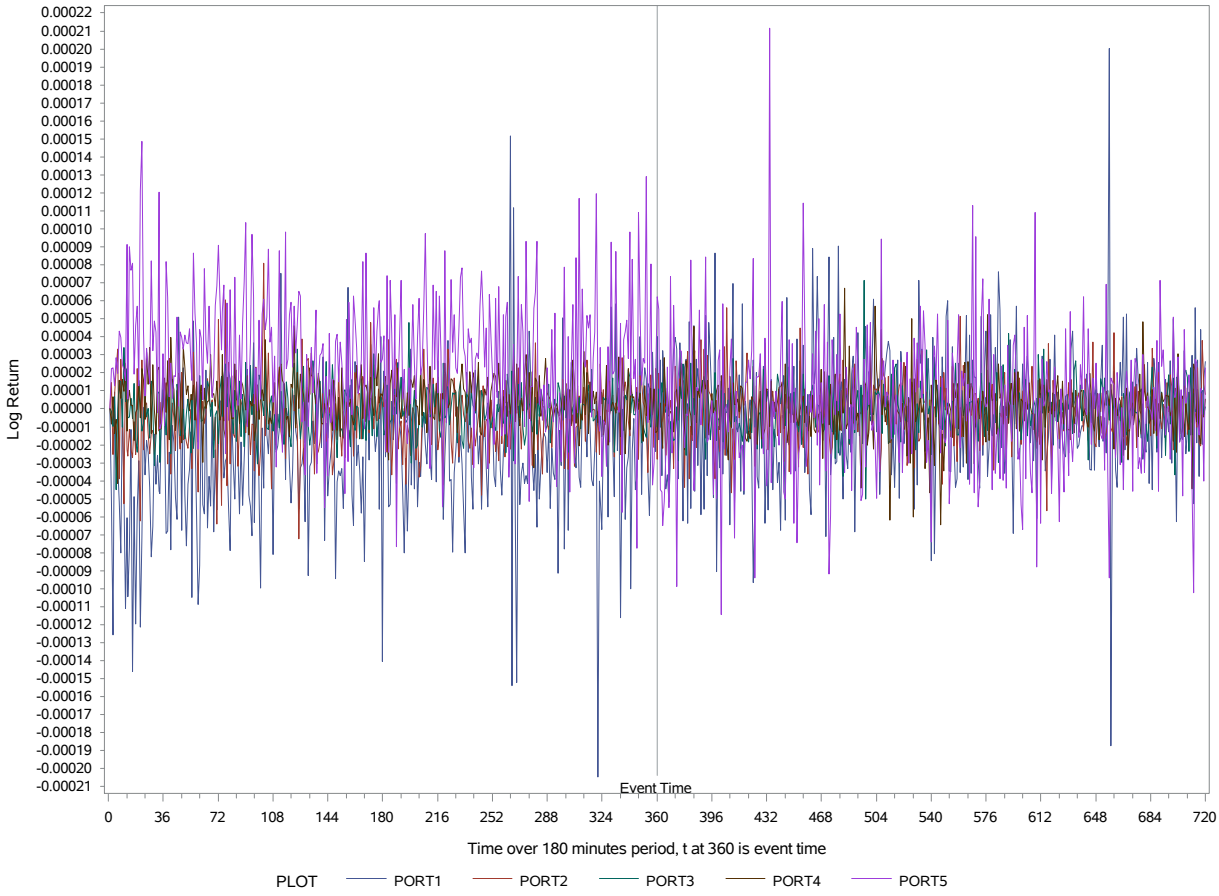

Figure 36: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 8-K only.

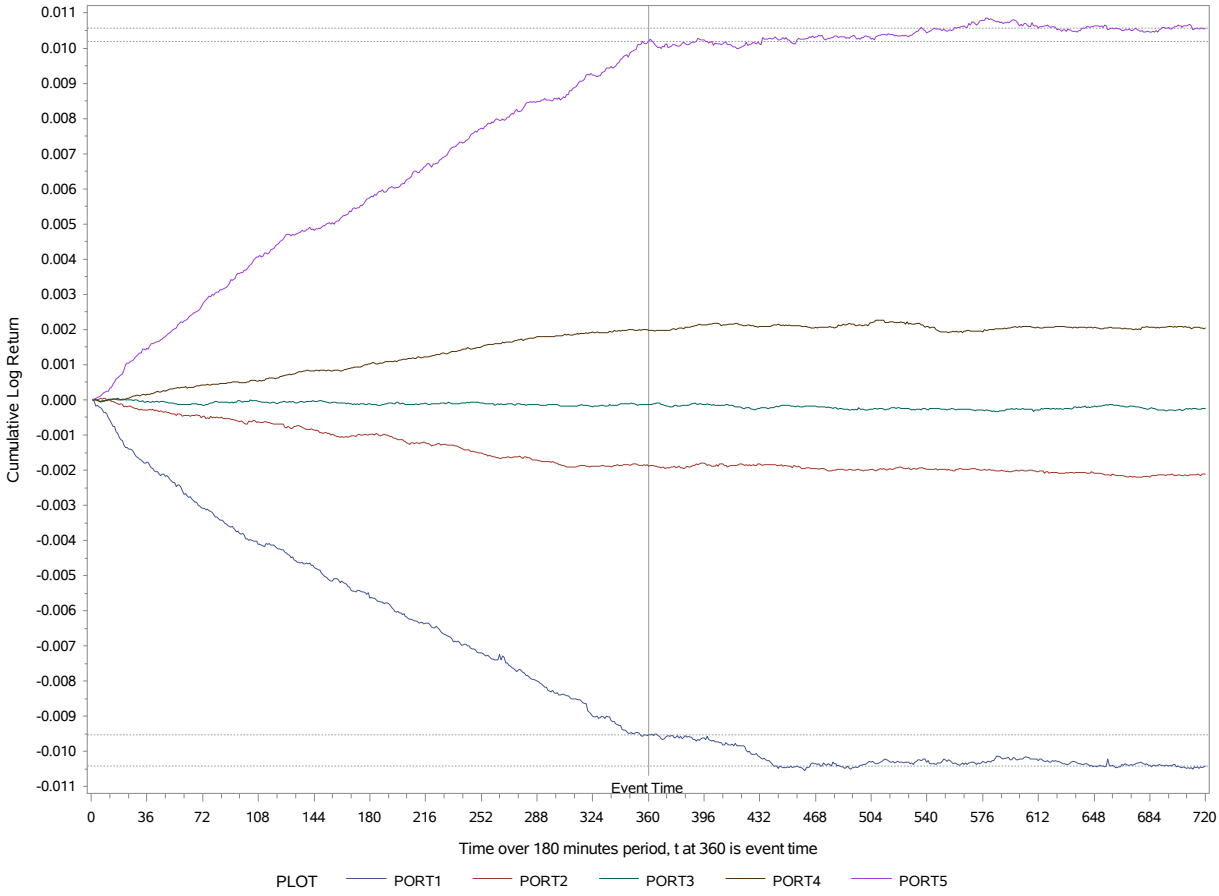

Figure 37: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 8-K only.

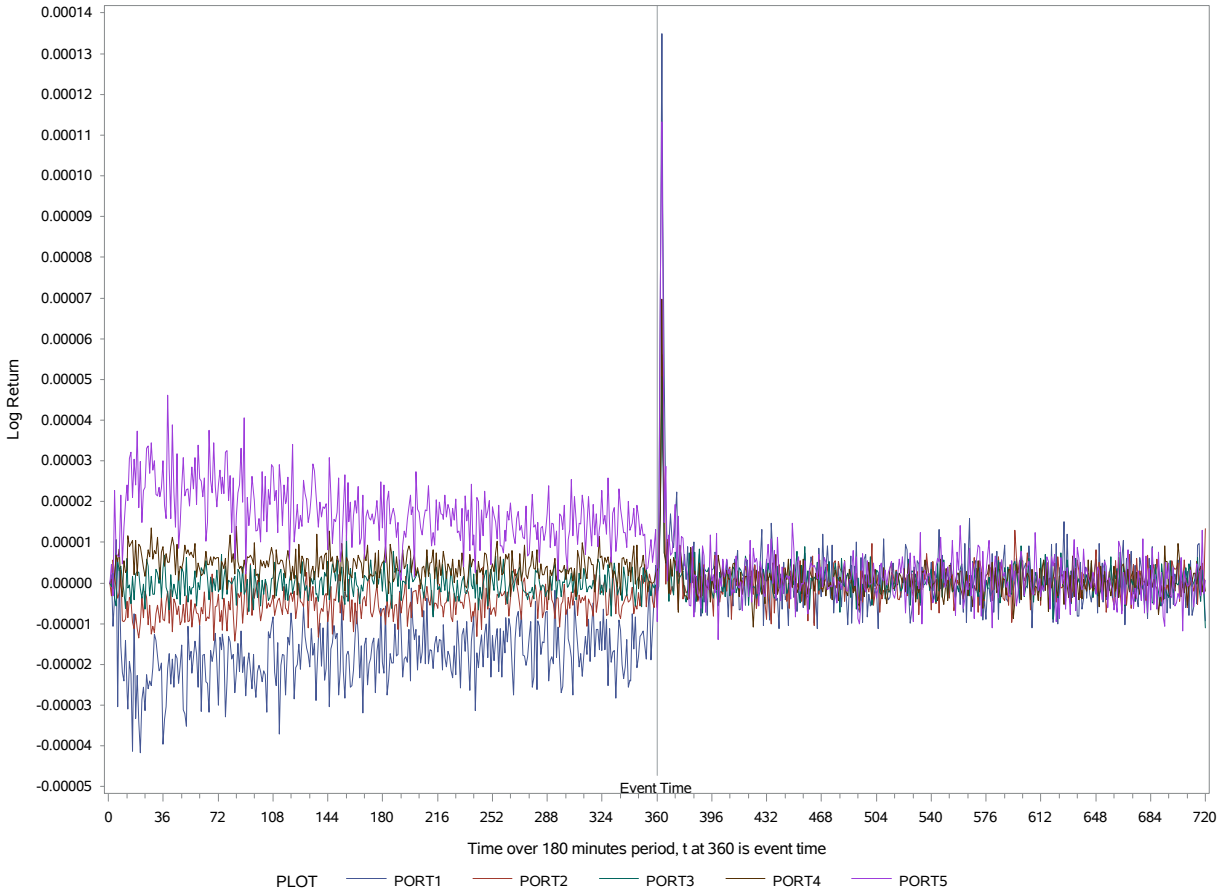

Figure 38: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form 4 only.

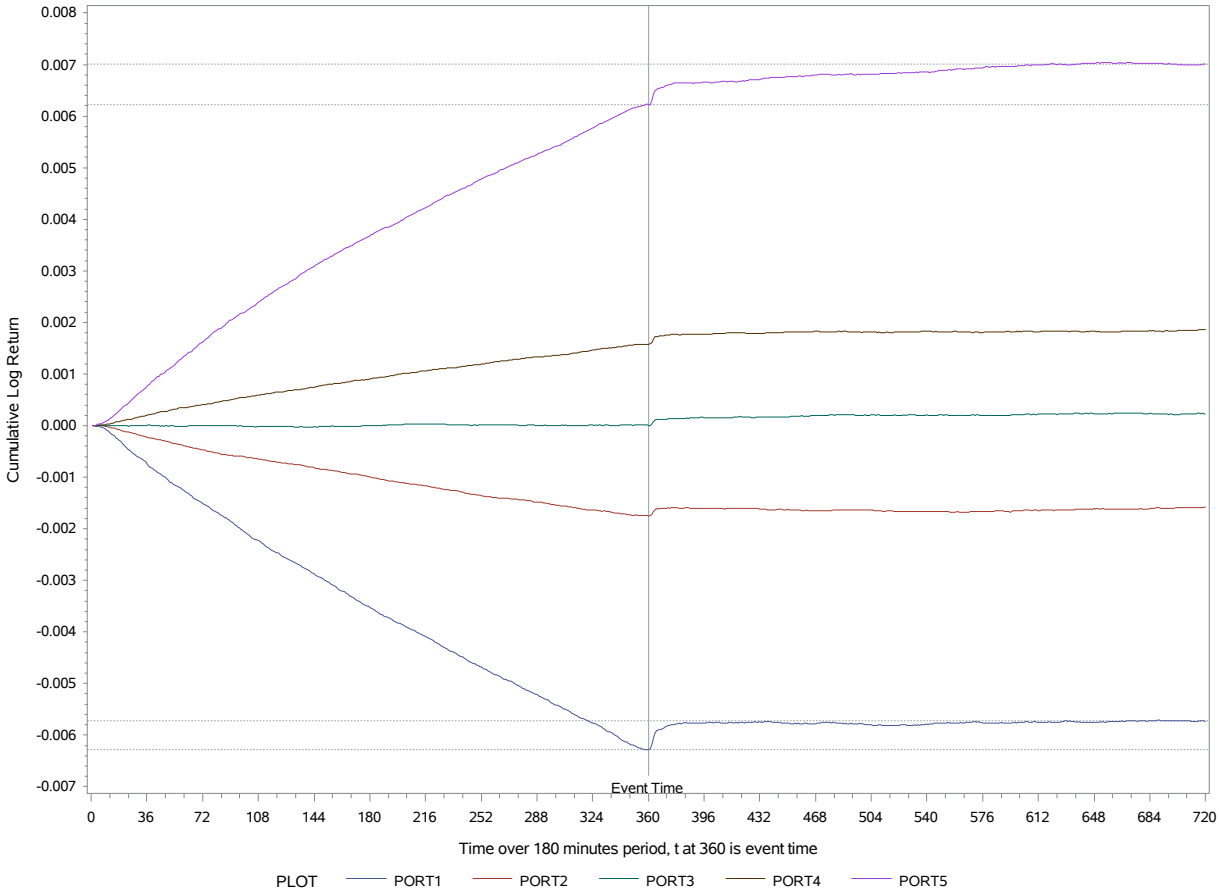

Figure 39: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form 4 only.

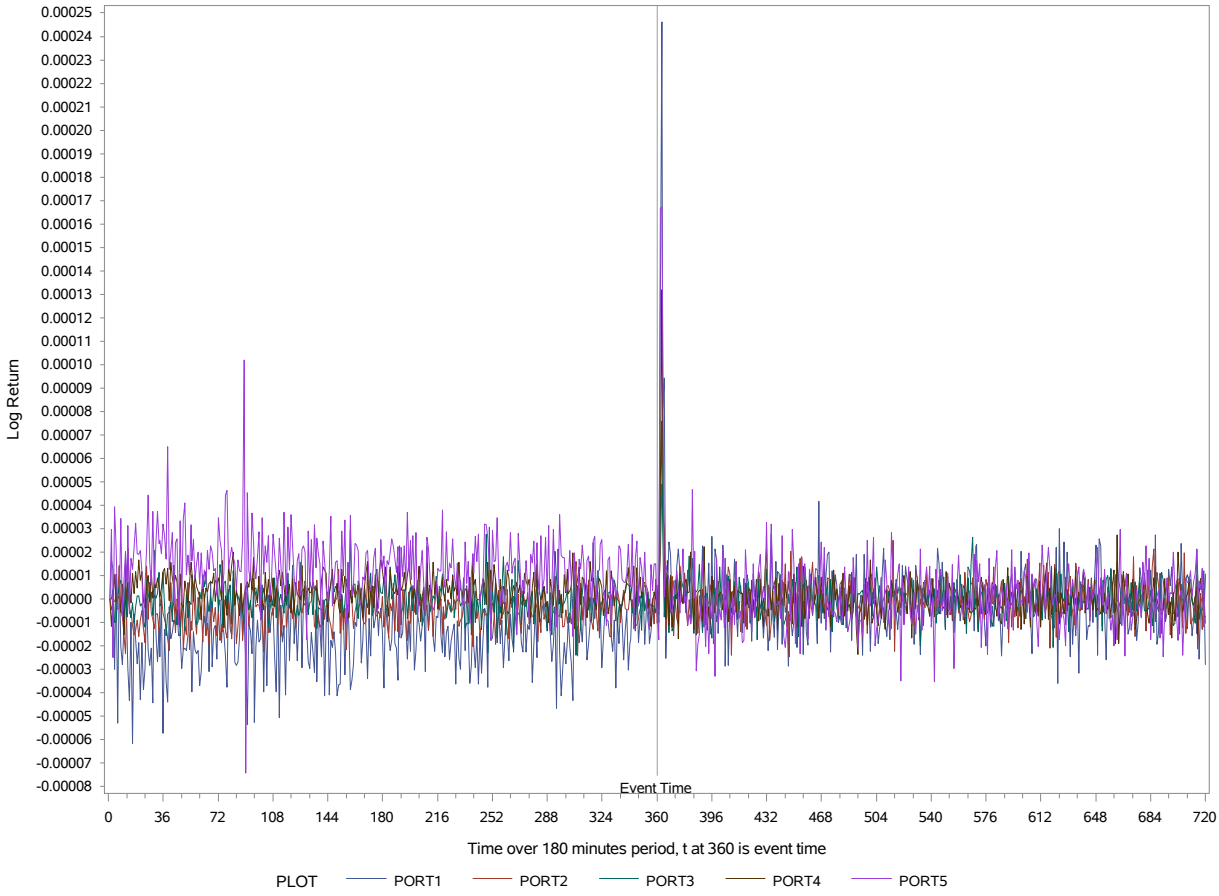

Figure 40: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 4 only.

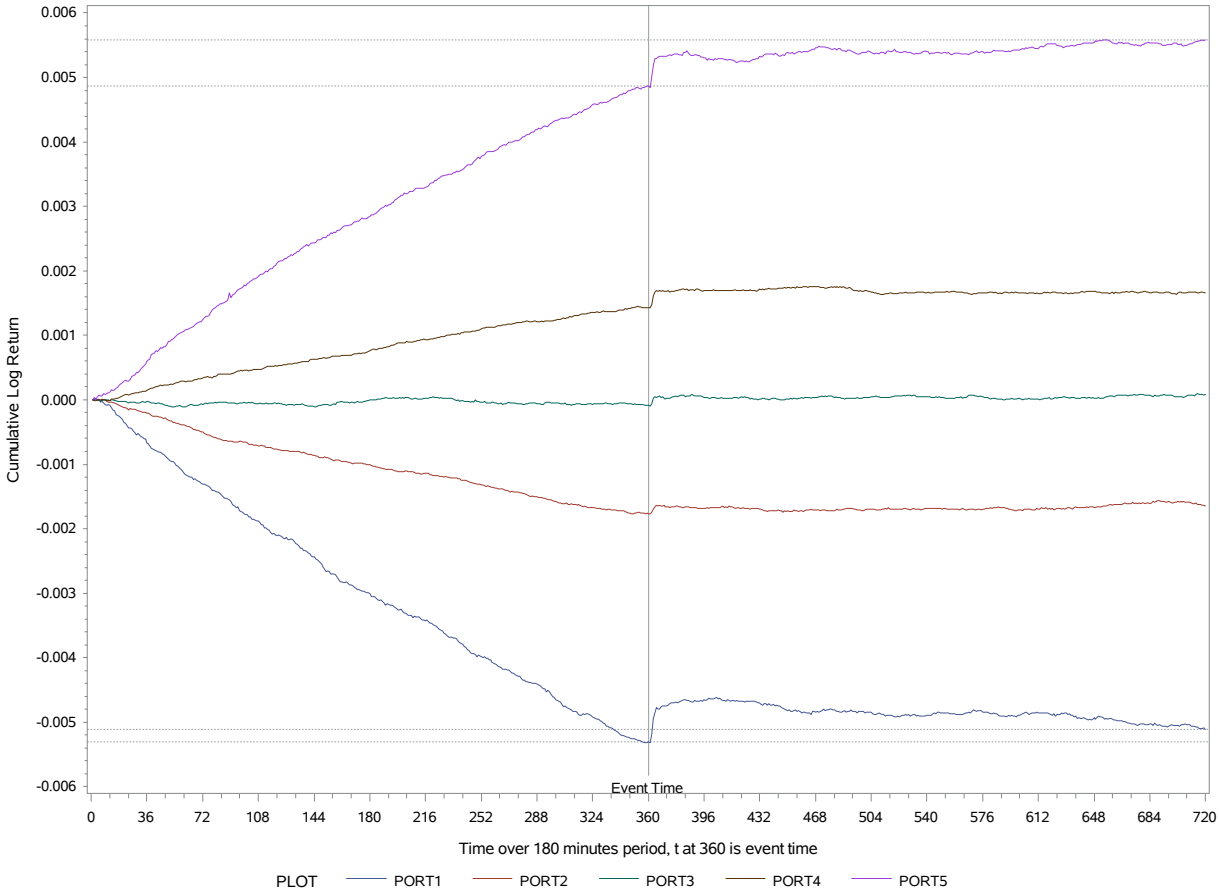

Figure 41: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 4 only.

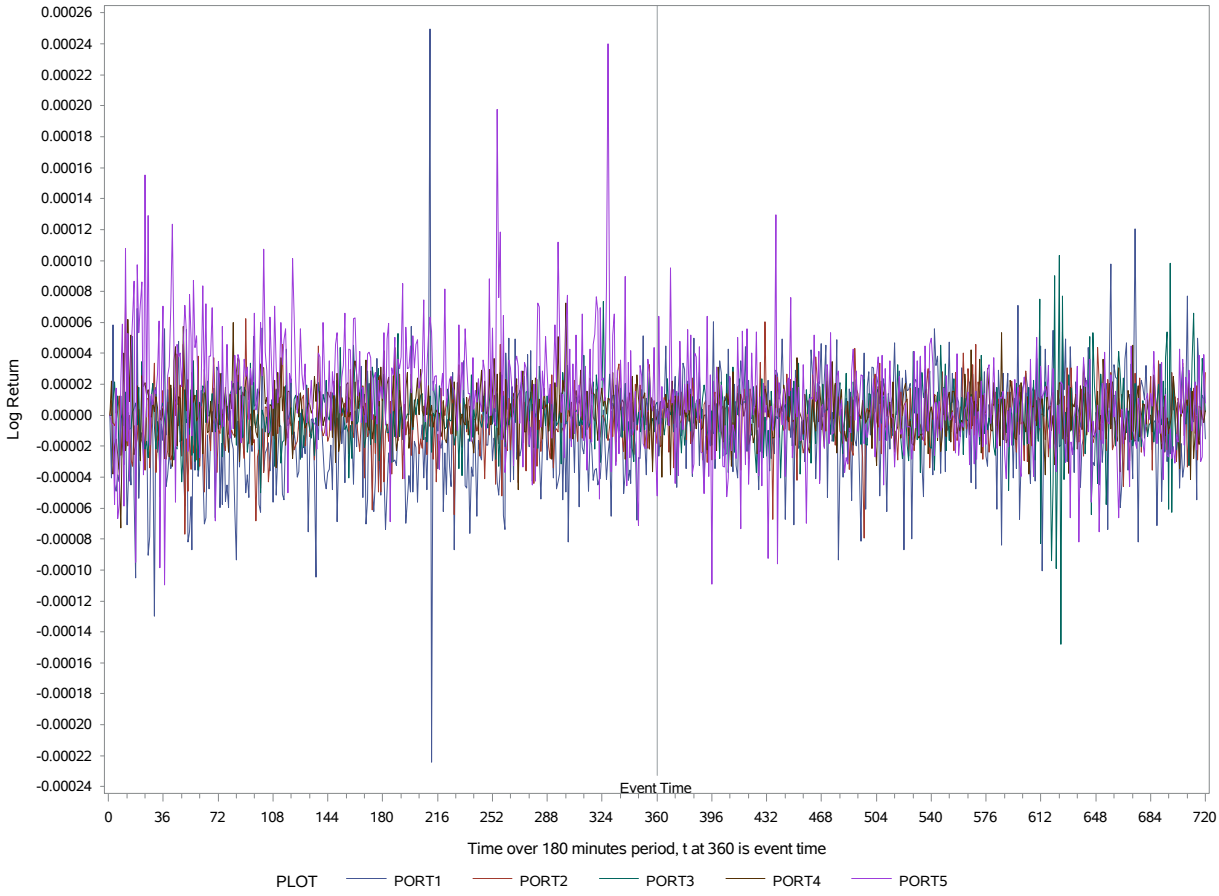

Figure 42: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form 10-K only.

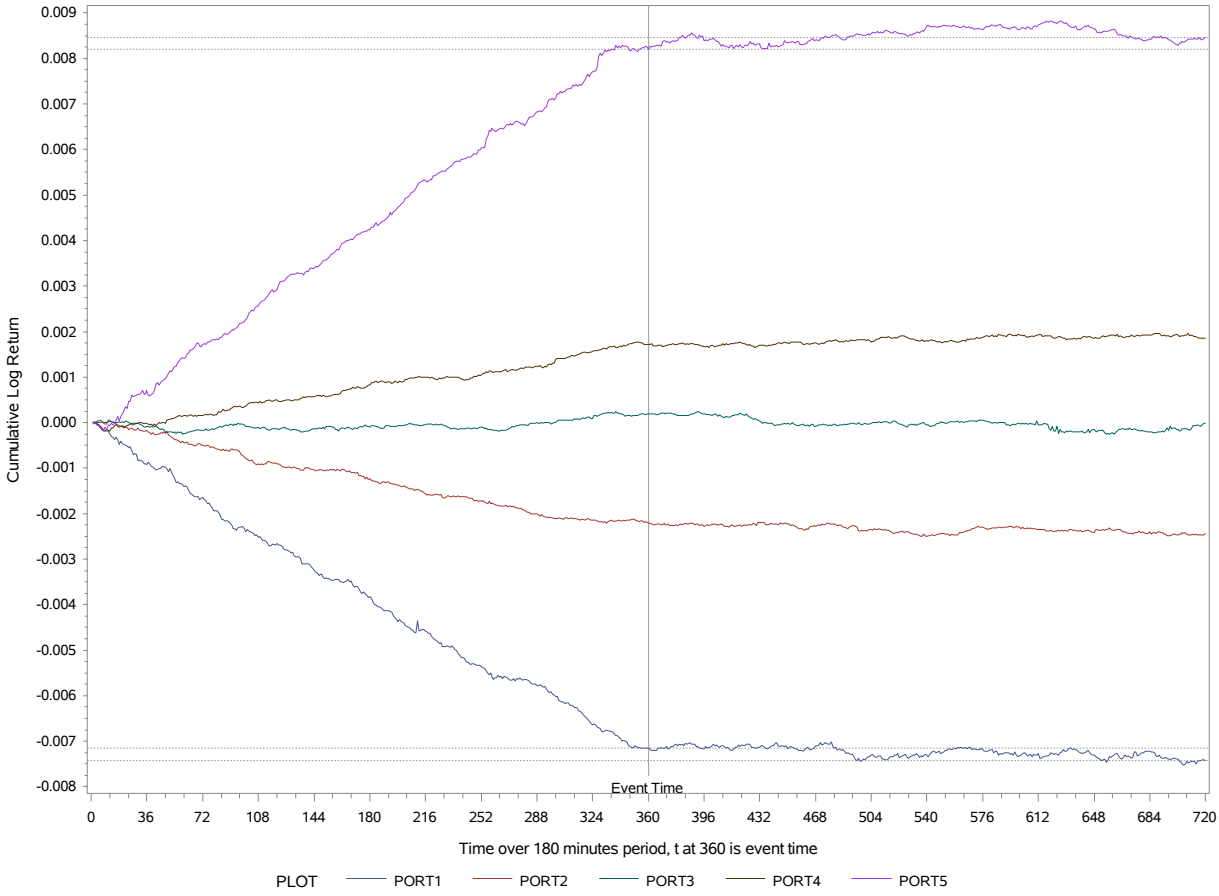

Figure 43: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form 10-K only.

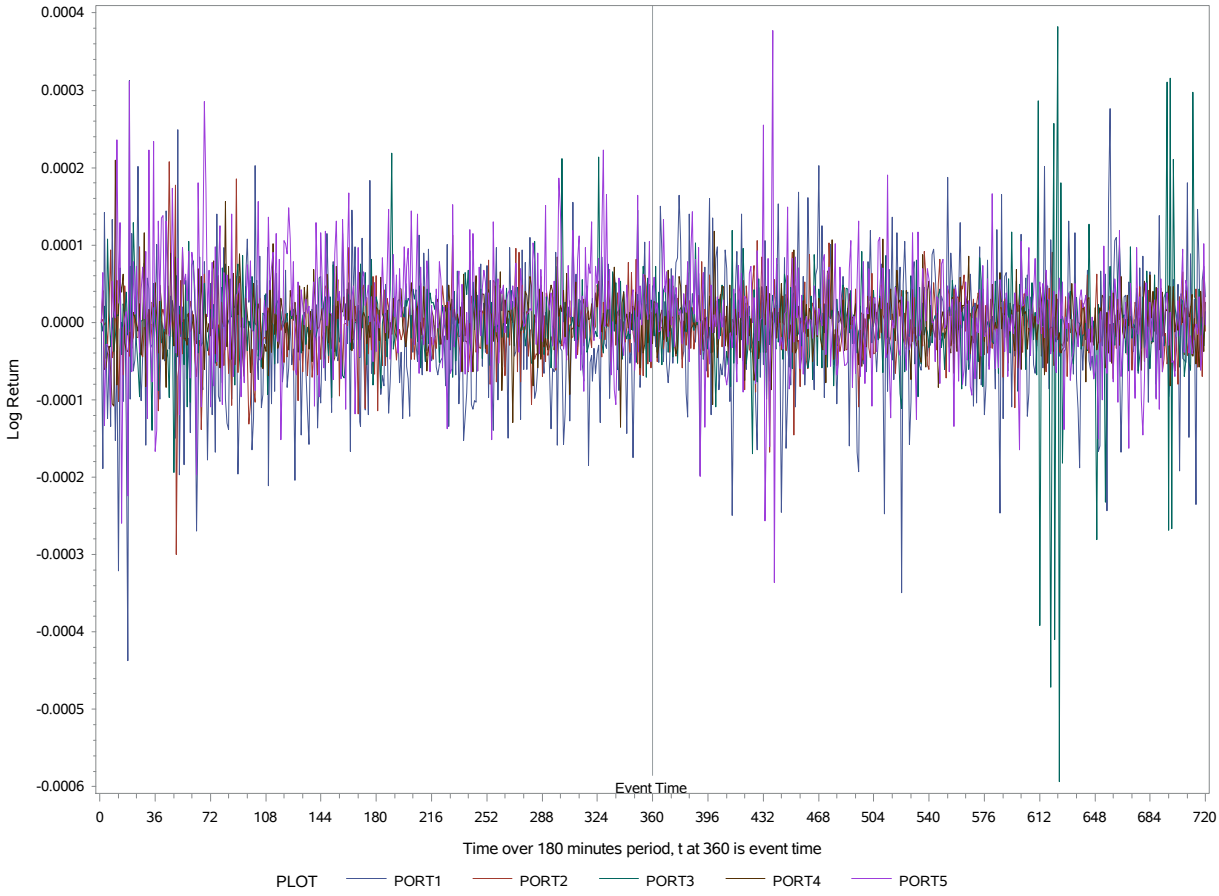

Figure 44: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 10-K only.

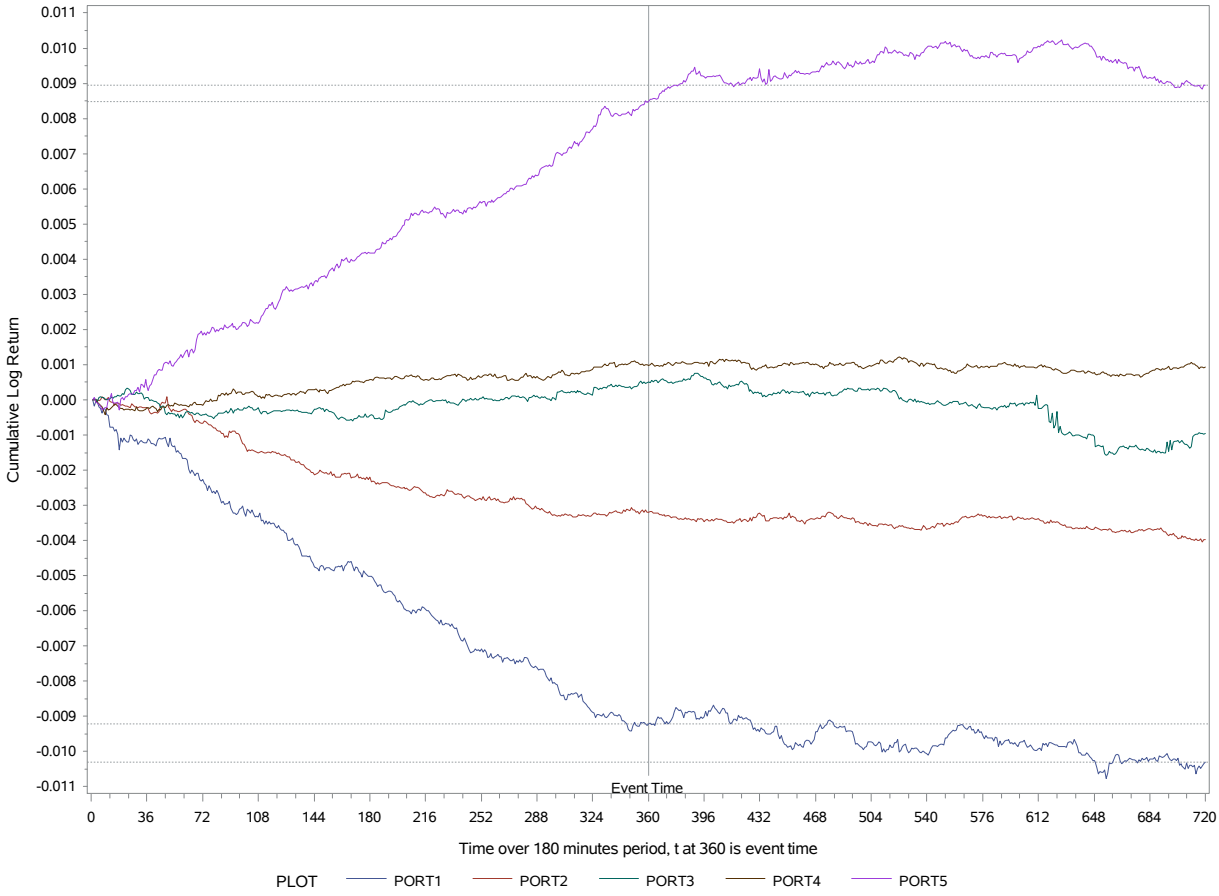

Figure 45: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 10-K only.

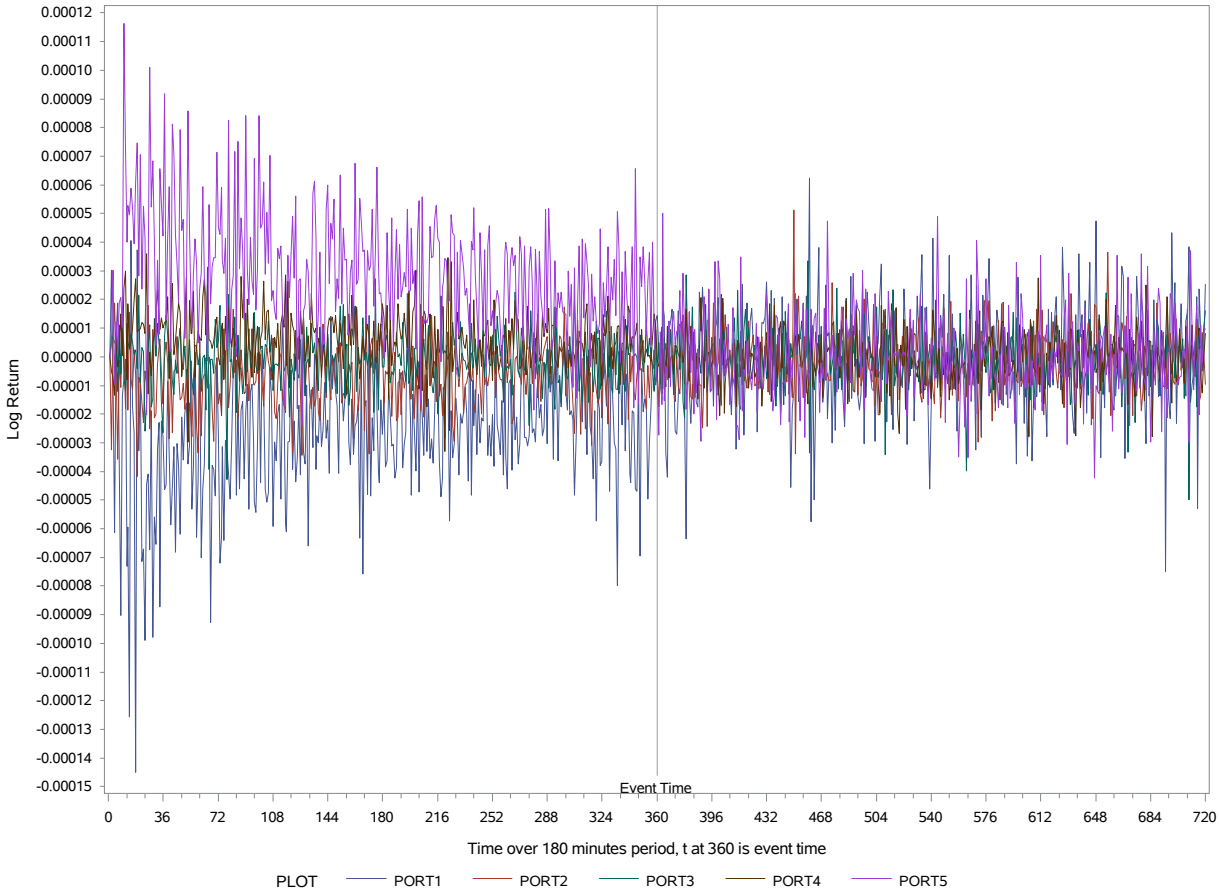

Figure 46: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form 10-Q only.

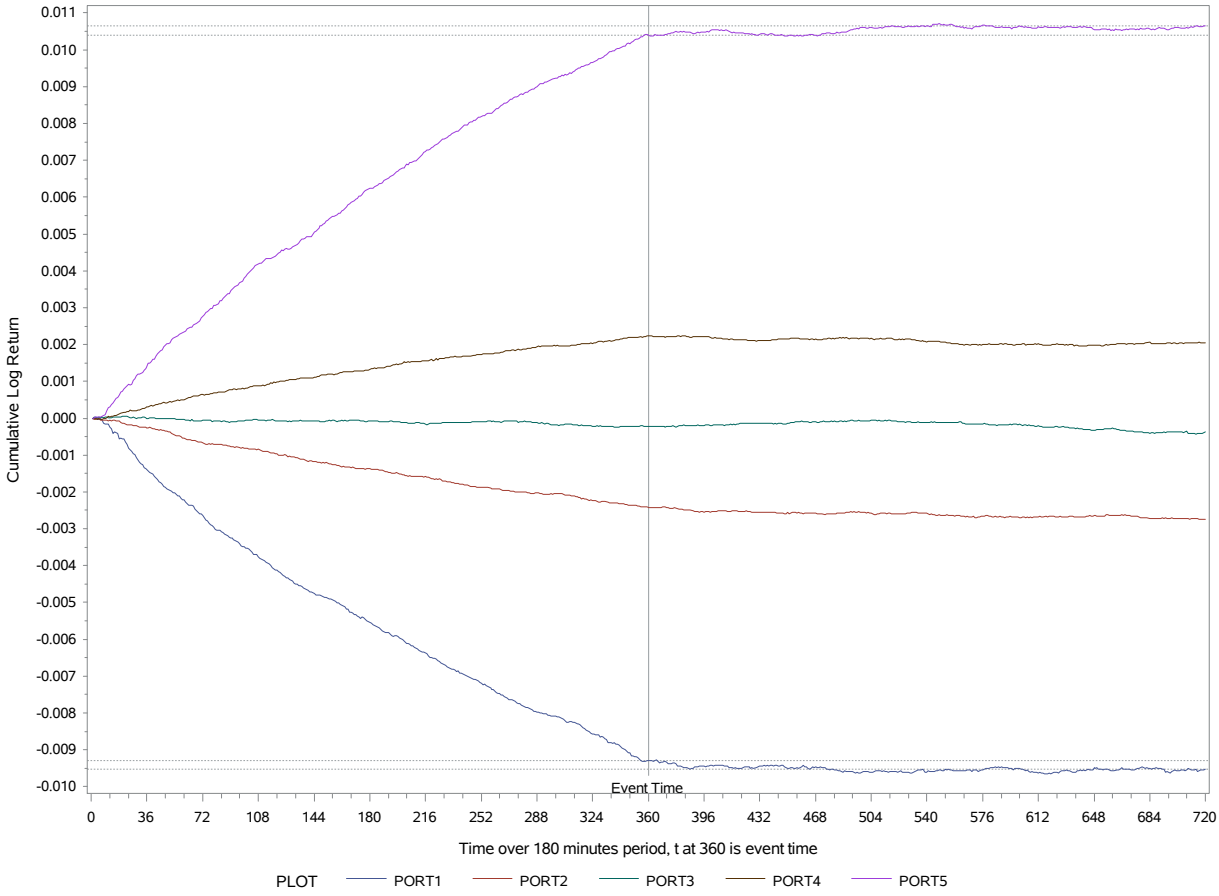

Figure 47: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form 10-Q only.

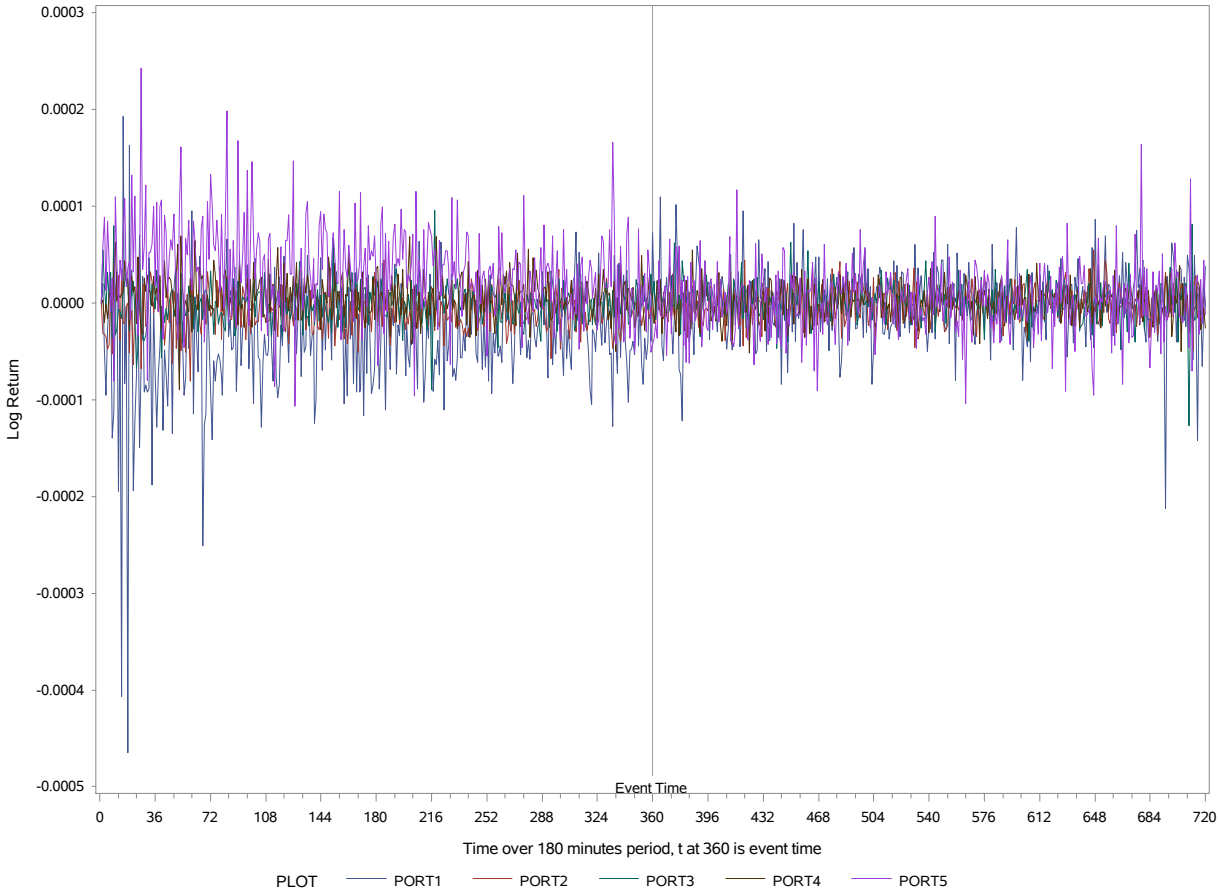

Figure 48: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 10-Q only.

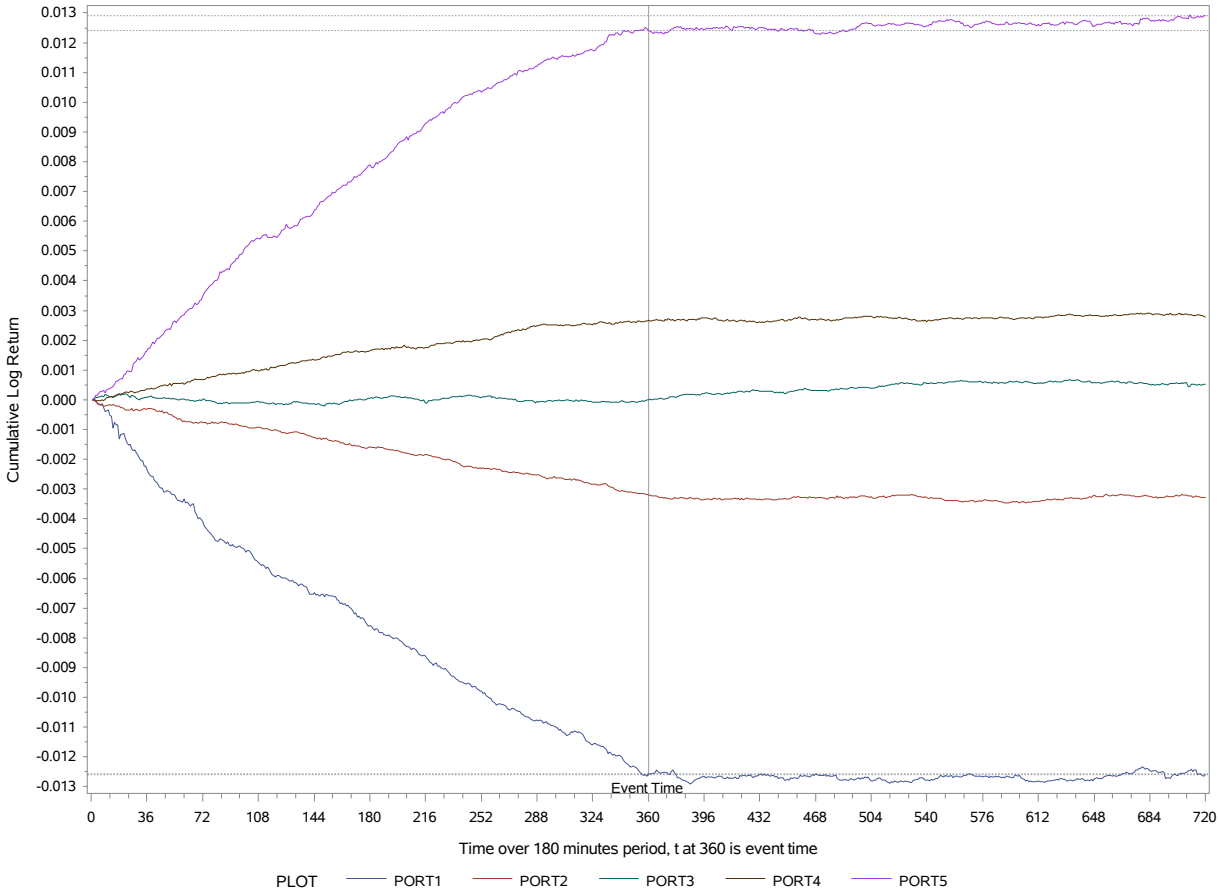

Figure 49: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form 10-Q only.

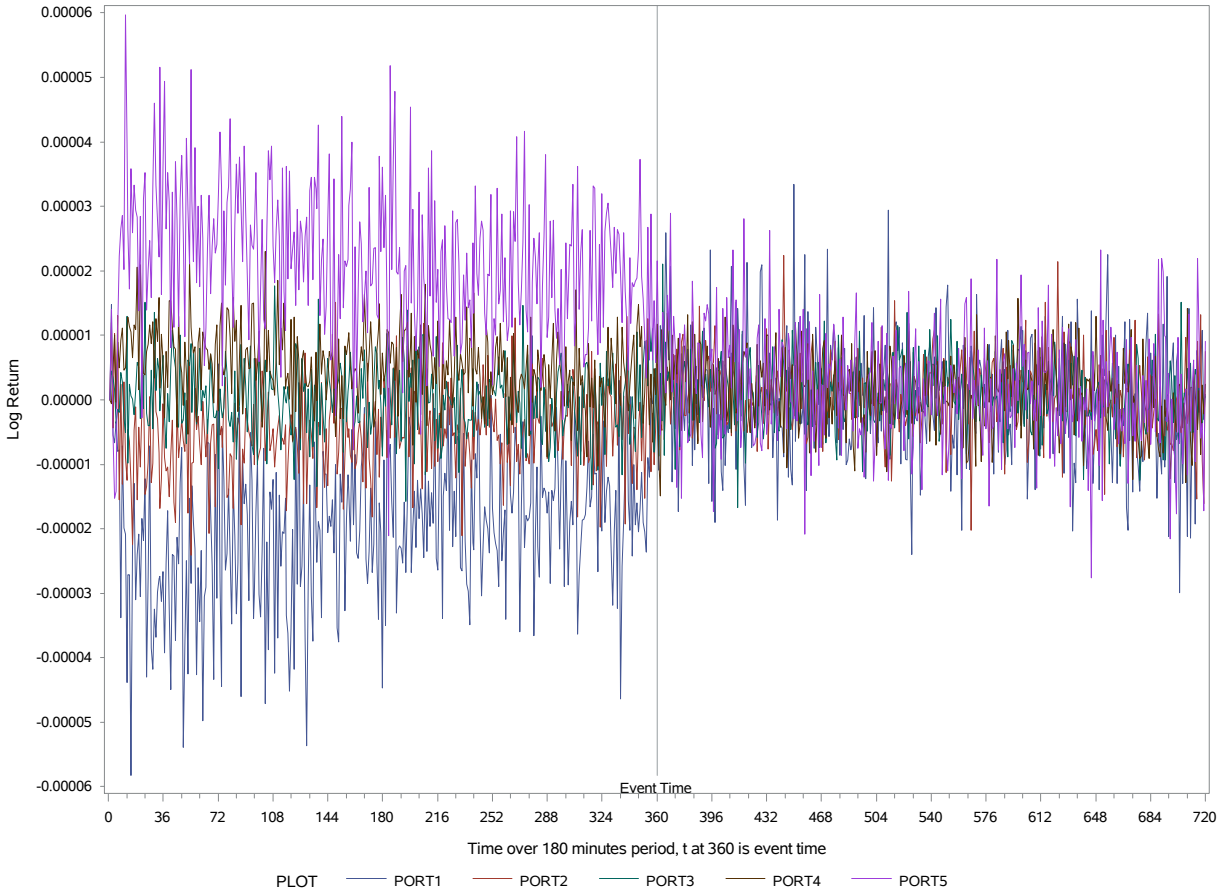

Figure 50: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form SC 13G only.

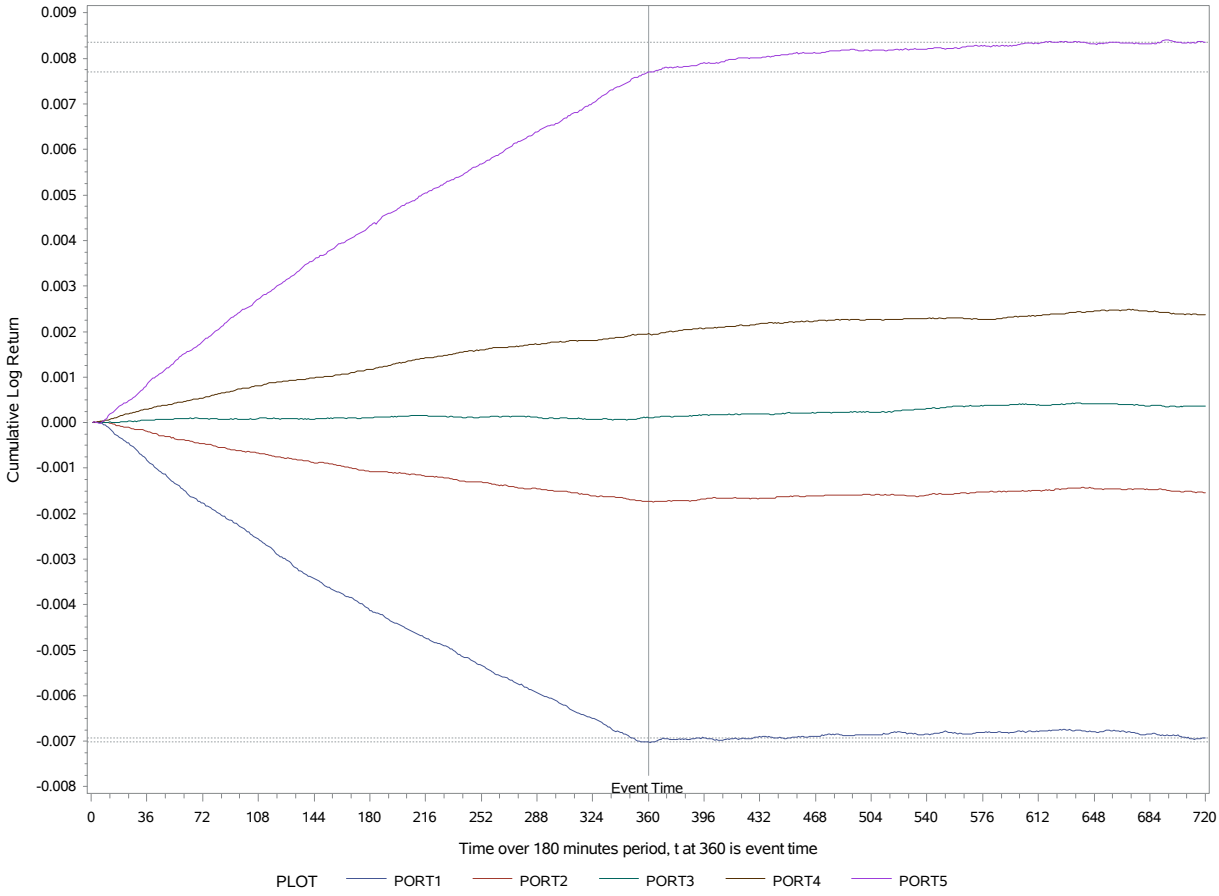

Figure 51: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form SC 13G only.

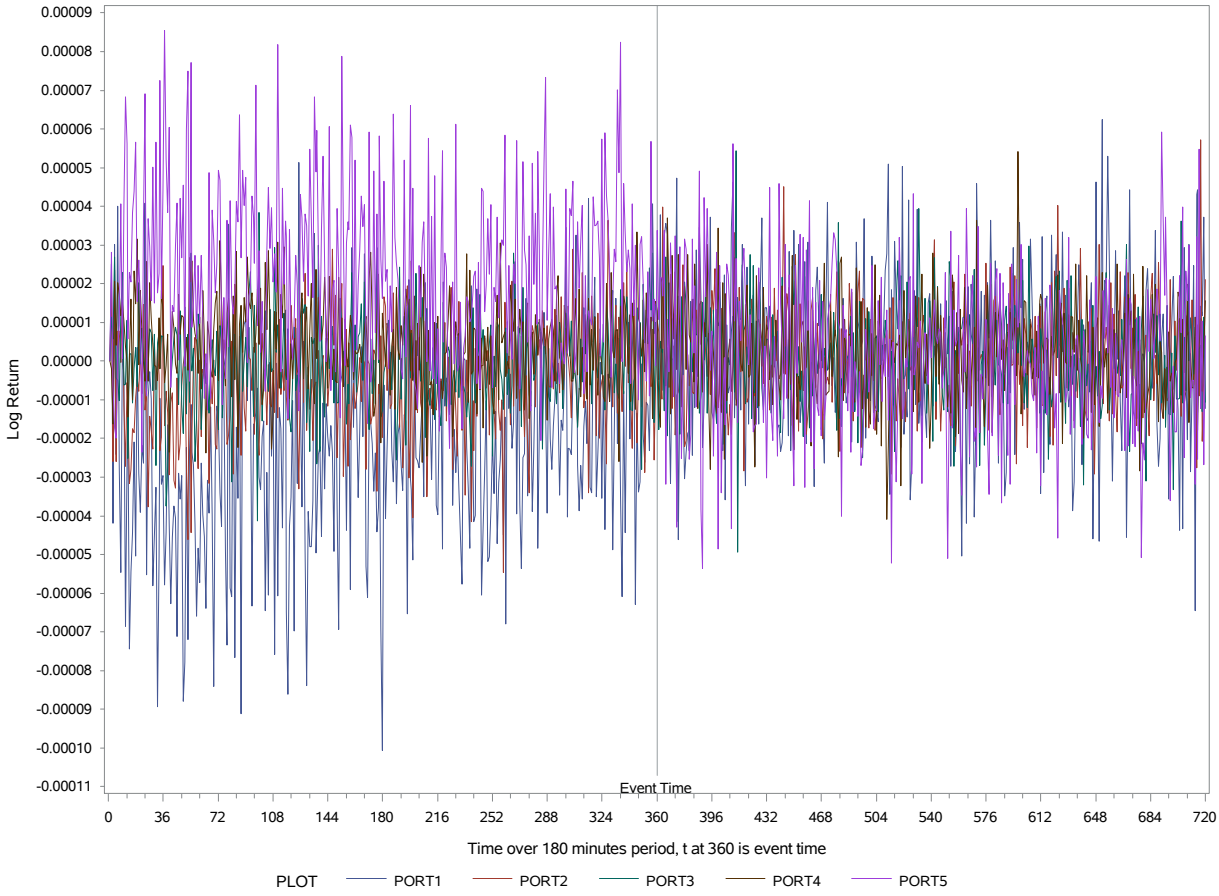

Figure 52: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form SC 13G only.

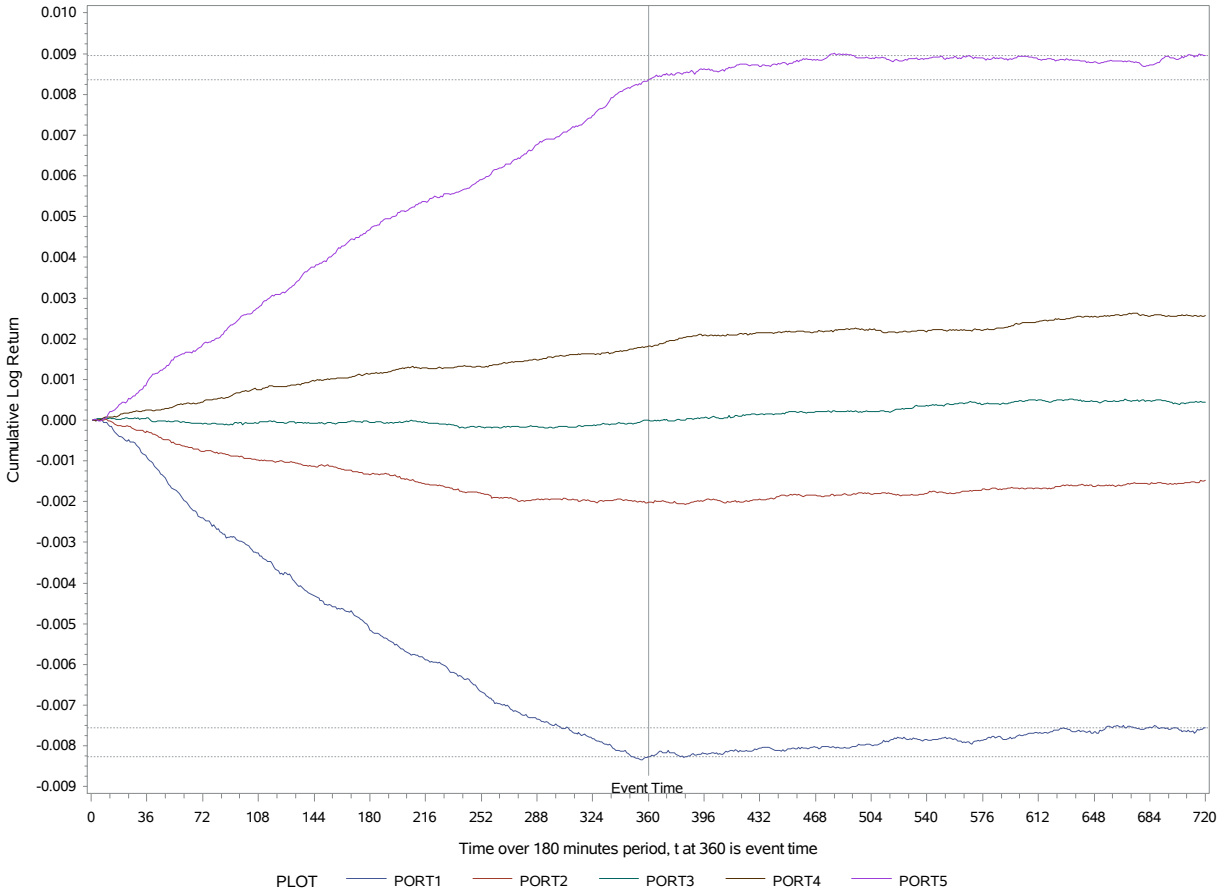

Figure 53: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form SC 13G only.

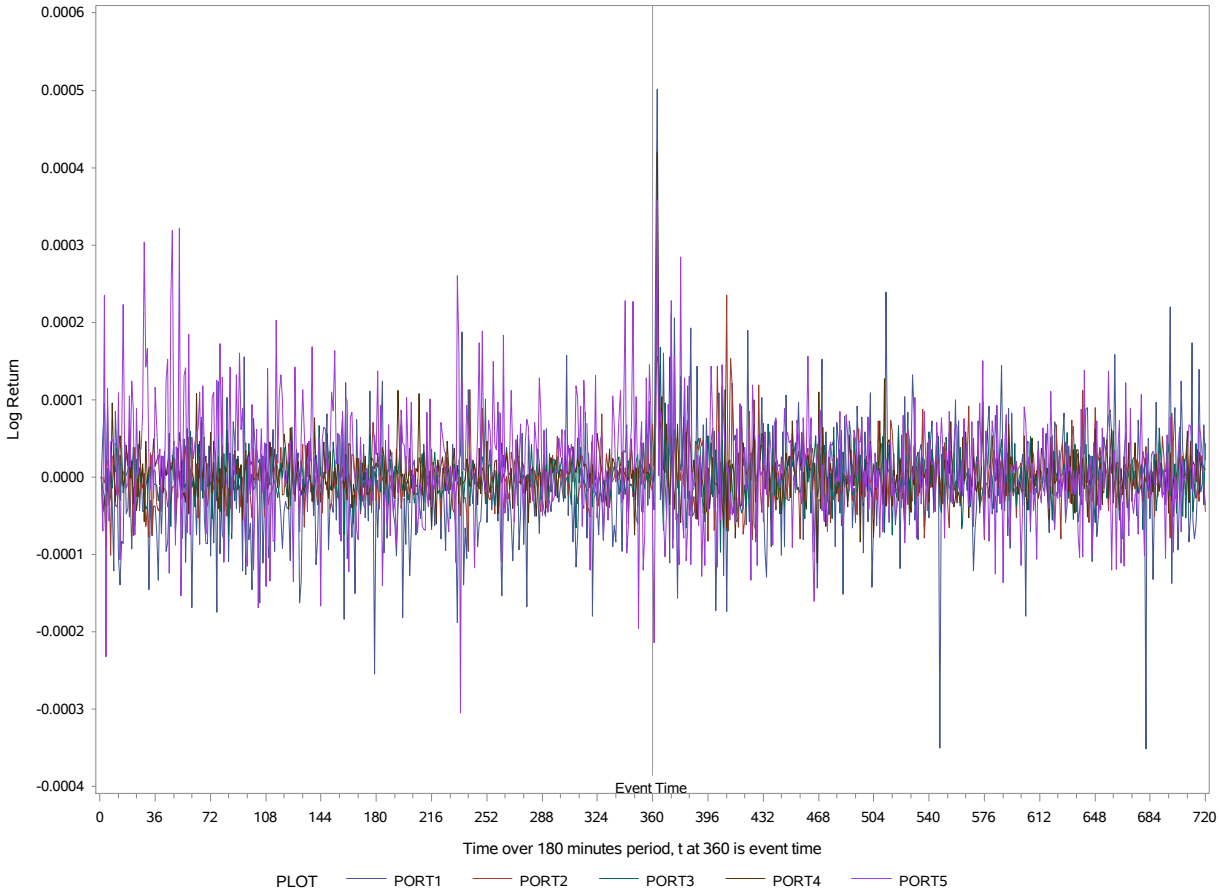

Figure 54: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance SEC form filings, in the years 1994 to 2017. The sample contains form SC 13D only.

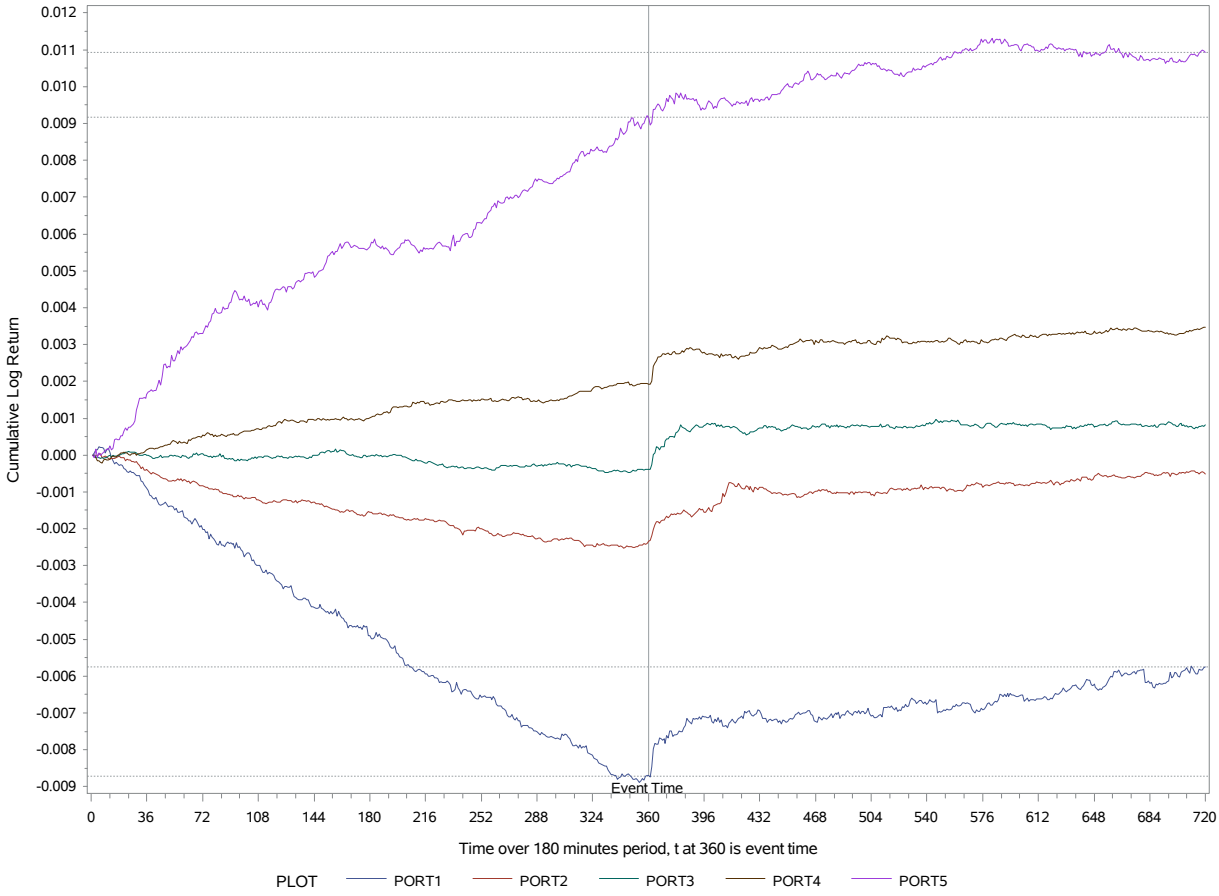

Figure 55: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, in the years 1994 to 2017. The sample contains form SC 13D only.

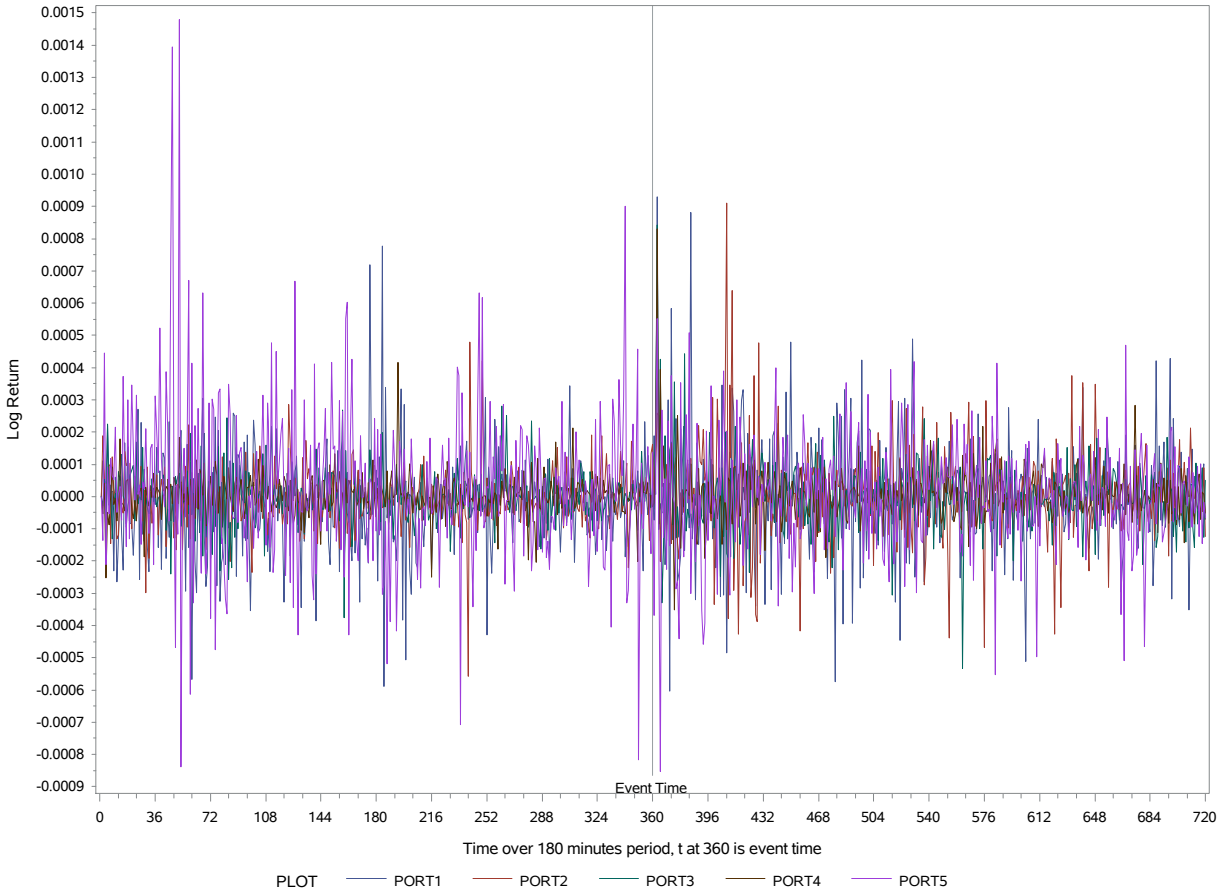

Figure 56: Average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form SC 13D only.

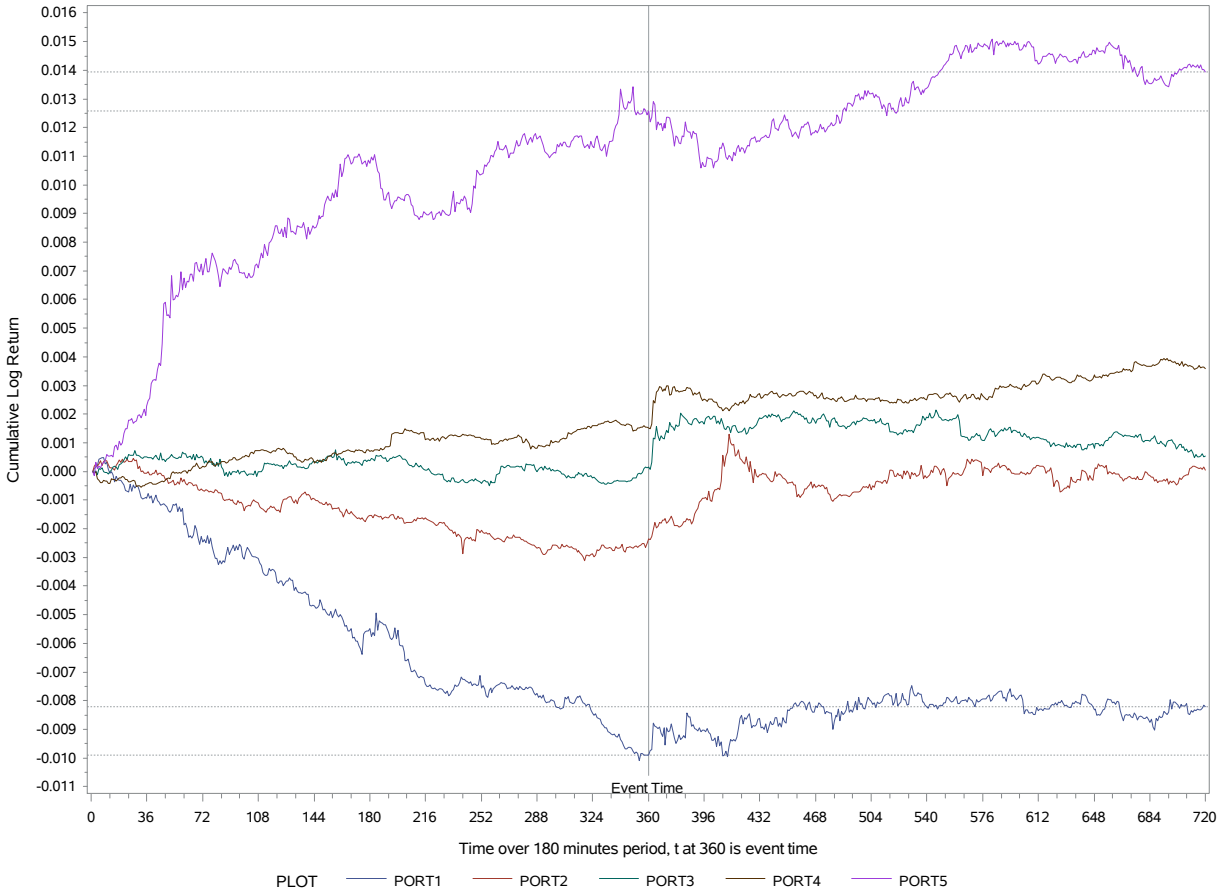

Figure 57: Cumulative average excess return for 15 seconds interval from 90 minutes before the acceptance to 90 minutes after the acceptance of SEC form filings, from March 2015 to 2017. The sample contains form SC 13D only.

H. 180-mins Results

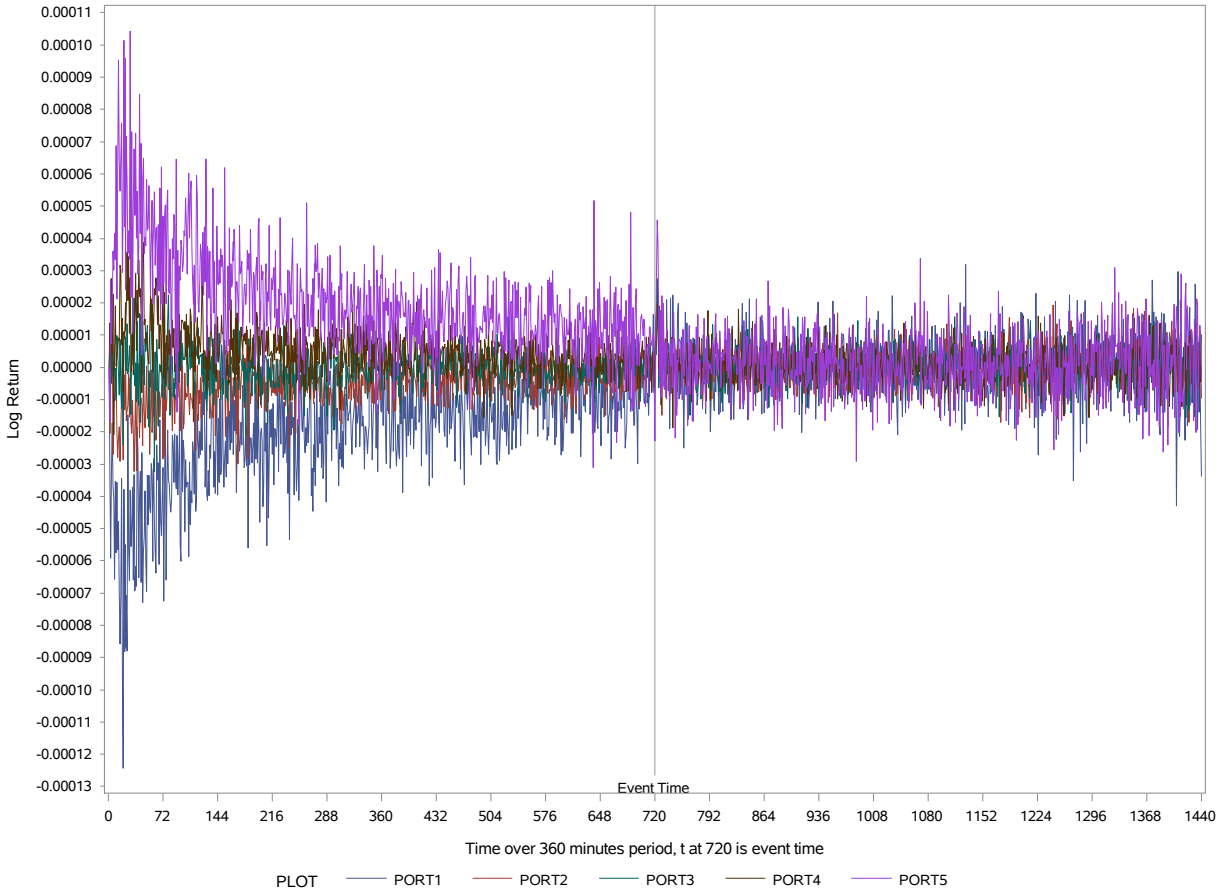

Figure 58: Average excess return for 15 seconds interval from 180 minutes before the acceptance to 180 minutes after the acceptance SEC form filings, in the years 1994 to 2017.

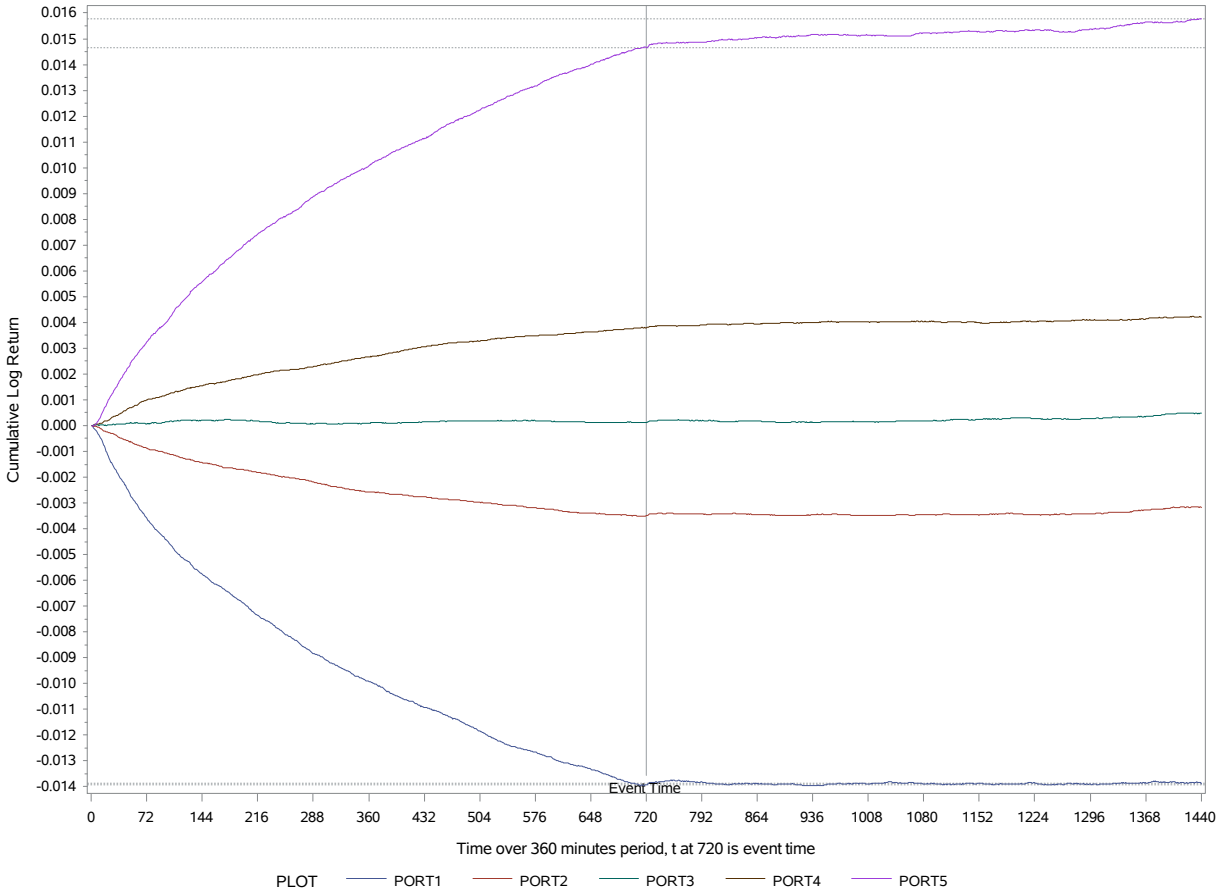

Figure 59: Cumulative average excess return for 15 seconds interval from 180 minutes before the acceptance to 180 minutes after the acceptance of SEC form filings, in the years 1994 to 2017.

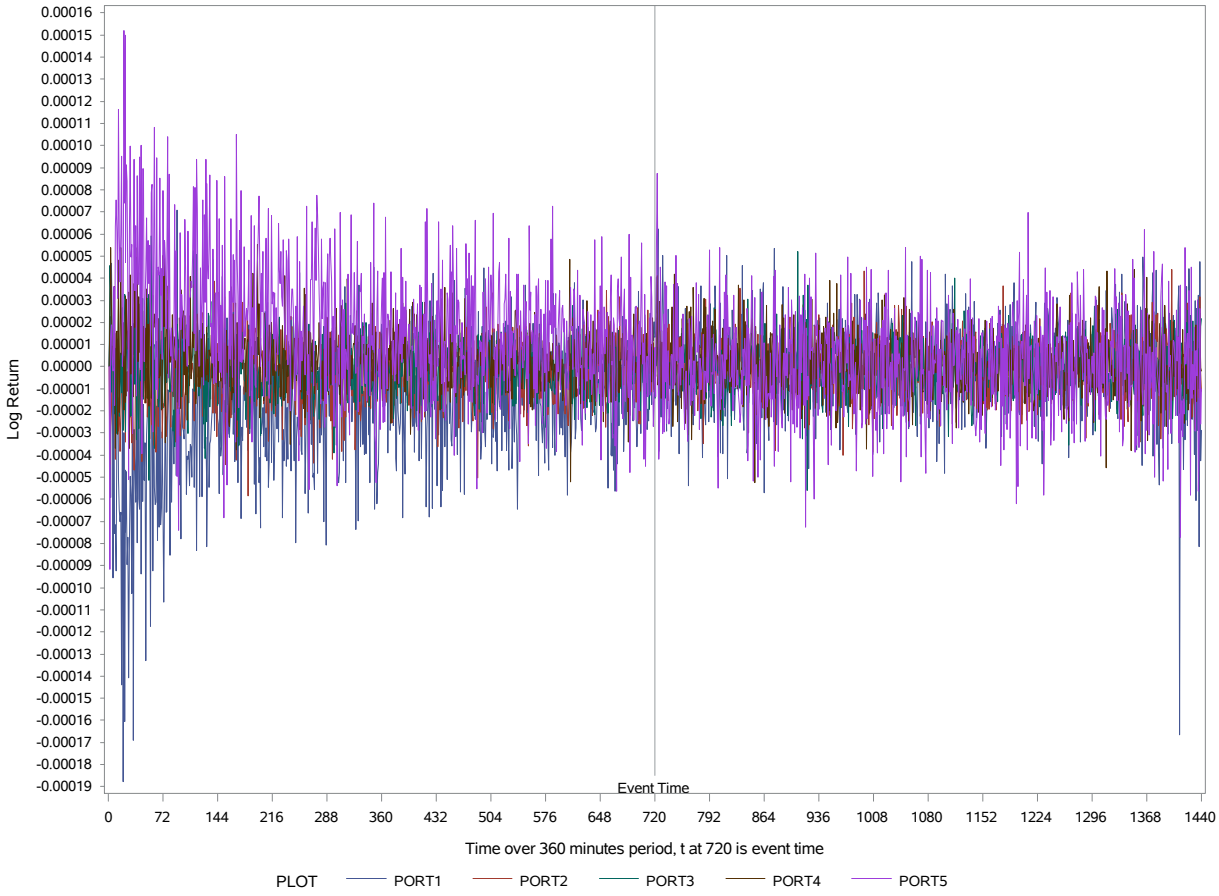

Figure 60: Average excess return for 15 seconds interval from 180 minutes before the acceptance to 180 minutes after the acceptance of SEC form filings, from March 2015 to 2017.

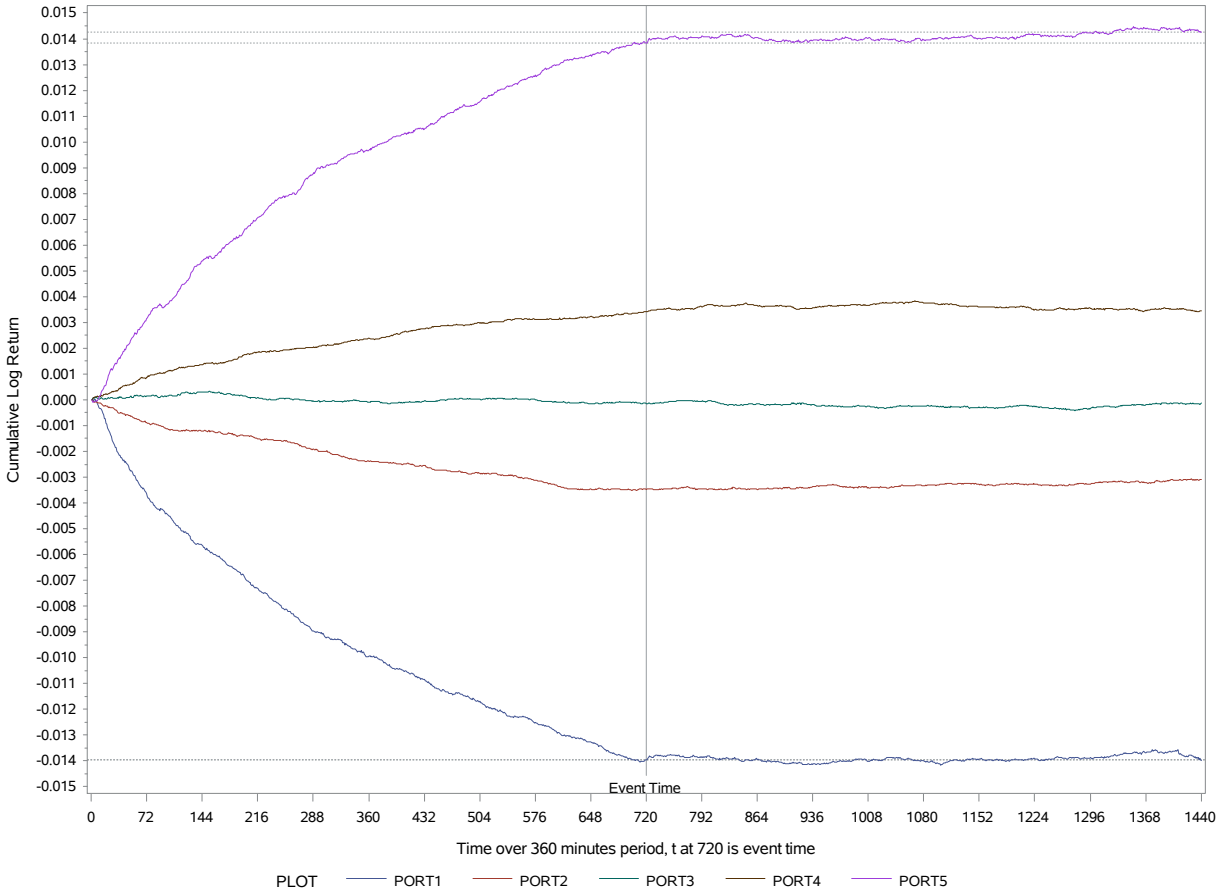

Figure 61: Cumulative average excess return for 15 seconds interval from 180 minutes before the acceptance to 180 minutes after the acceptance of SEC form filings, from March 2015 to 2017.

I. Single Sort Results

Table 4: Single Sort Results

Notes: The sample includes all form-types, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

all form-types

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	***t*-Stat**	**StdErr**	**Mean**	***t*-Stat**	**StdErr**	**Mean**	***t*-Stat**	**StdErr**
1	-0.000051**	-2.426	2.1e-05	-0.000018	-0.433	4.1e-05	-0.000218	-1.319	0.000165
2	5E-6	0.437	1.1e-05	-0.000064***	-2.612	2.5e-05	0.000232**	2.462	9.4e-05
3	0.000053***	4.95	1.1e-05	0.000113***	5.15	2.2e-05	0.000274***	3.041	9e-05
4	0.000143***	12.889	1.1e-05	0.000223***	9.396	2.4e-05	0.000164*	1.814	9e-05
5	0.000504***	23.823	2.1e-05	0.000616***	16.113	3.8e-05	0.000771***	4.91	0.000157
5−1	0.000555***	18.681	3e-05	0.000632***	11.196	5.6e-05	0.000983***	4.28	0.00023
	Total Observations N=832256			Total Observations N=492775			Total Observations N=64188		

Table 5: Single Sort Results

Notes: The sample includes form-type: 4, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 4

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	0.00005**	2.208	2.2e-05	0.000132***	2.738	4.8e-05	0.000073	0.402	0.000183
2	0.000055***	4.073	1.3e-05	-0.000021	-0.683	3e-05	0.000159	1.271	0.000125
3	0.000033**	2.446	1.4e-05	0.000132***	4.813	2.8e-05	0.000148	1.31	0.000113
4	0.00016***	11.8	1.4e-05	0.00028***	9.269	3e-05	-0.000145	-1.219	0.000119
5	0.000611***	25.13	2.4e-05	0.00066***	14.666	4.5e-05	0.00047**	2.511	0.000187
5−1	0.000561***	16.965	3.3e-05	0.00053***	8.016	6.6e-05	0.000433*	1.659	0.000261
	Total Observations N=463595			Total Observations N=272795			Total Observations N=34282		

Table 6: Single Sort Results

Notes: The sample includes form-type: 8K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 8K

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	-0.0005***	-3.813	0.000131	-0.000515**	-2.502	0.000206	-0.001276	-1.412	0.000904
2	-0.000073	-1.333	5.5e-05	-0.000248**	-2.051	0.000121	0.000246	0.559	0.000441
3	-0.00004	-0.845	4.7e-05	0.000067	0.674	0.0001	0.000491	1.226	0.0004
4	0.000108**	2.126	5.1e-05	0.000163	1.544	0.000106	-0.00031	-0.703	0.000441
5	0.000652***	5.719	0.000114	0.000979***	5.181	0.000189	0.002256***	2.793	0.000808
5−1	0.001151***	6.634	0.000173	0.001468***	5.225	0.000281	0.003558***	2.827	0.001259
	Total Observations N=74065			Total Observations N=42791			Total Observations N=5569		

Table 7: Single Sort Results

Notes: The sample includes form-type: 10K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10K

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	-0.000484**	-2.026	0.000239	0.000131	0.265	0.000495	0.002933*	1.89	0.001551
2	-0.000129	-1.051	0.000123	-0.00026	-1.133	0.000229	0.000463	0.513	0.000903
3	-0.00018	-1.555	0.000116	0.00046*	1.753	0.000262	0.001432	1.134	0.001264
4	0.000303**	2.166	0.00014	0.000073	0.261	0.000278	0.000121	0.159	0.000764
5	0.000605***	2.938	0.000206	0.000047	0.104	0.000451	-0.000018	-0.012	0.00154
5−1	0.001044***	3.304	0.000316	-0.000092	-0.138	0.000666	-0.003871	-1.651	0.002345
	Total Observations N=7212			Total Observations N=4039			Total Observations N=566		

Table 8: Single Sort Results

Notes: The sample includes form-type: 10Q, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10Q

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	-0.000404***	-3.031	0.000133	-0.000436	-1.597	0.000273	-0.000942	-0.555	0.001698
2	-0.000172**	-2.057	8.4e-05	-0.000459**	-2.515	0.000183	3e-05	0.046	0.000644
3	0.000045	0.598	7.5e-05	-0.000144	-0.853	0.000169	9.1e-05	0.103	0.000885
4	0.000059	0.798	7.4e-05	9E-6	0.054	0.000175	0.000512	0.757	0.000675
5	0.000304**	2.068	0.000147	0.000234	0.853	0.000274	0.001046	0.951	0.001099
5−1	0.000721***	3.636	0.000198	0.000754*	1.943	0.000388	0.001336	0.658	0.002031
	Total Observations N=25811			Total Observations N=15051			Total Observations N=1856		

Table 9: Single Sort Results

Notes: The sample includes form-type: SC 13D, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13D

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	0.000331	0.73	0.000453	0.002459**	2.523	0.000975	-0.000603	-0.147	0.004103
2	0.001184***	3.169	0.000374	0.001754***	3.943	0.000445	-0.002341	-1.283	0.001825
3	0.00056**	2.225	0.000252	0.001016**	2.435	0.000417	0.003036**	2.17	0.001399
4	0.001339***	4.518	0.000296	0.00083*	1.788	0.000464	0.001521	0.71	0.002142
5	0.002542***	3.994	0.000637	0.002292**	2.273	0.001008	0.00628*	1.907	0.003294
5−1	0.002428***	3.07	0.000791	0.000328	0.222	0.001474	0.004615	0.992	0.004653
	Total Observations N=5206			Total Observations N=3068			Total Observations N=423		

Table 10: Single Sort Results

Notes: The sample includes form-type: SC 13G, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13G

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	0.000148**	2.494	5.9e-05	0.000083	0.736	0.000112	-0.000062	-0.151	0.000413
2	0.00002	0.569	3.5e-05	0.000056	0.755	7.4e-05	0.001033***	4.155	0.000249
3	0.000111***	3.48	3.2e-05	0.000074	1.106	6.7e-05	0.00072***	2.895	0.000249
4	0.000268***	7.689	3.5e-05	0.000499***	6.899	7.2e-05	0.000918***	3.601	0.000255
5	0.000118*	1.87	6.3e-05	0.000579***	5.312	0.000109	0.000888**	2.14	0.000415
5−1	-0.000031	-0.357	8.6e-05	0.00049***	3.137	0.000156	0.001043*	1.762	0.000592
	Total Observations N=89343			Total Observations N=55611			Total Observations N=7501		

J. Post March 2015 Single Sort Results

Table 11: Single Sort Results

Notes: The sample includes all form-types, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile ("5-1") are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

all form-types

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	***t*-Stat**	**StdErr**	**Mean**	***t*-Stat**	**StdErr**	**Mean**	***t*-Stat**	**StdErr**
1	-0.000012	-0.292	4.3e-05	0.000028	0.286	9.7e-05	-0.00006	-0.183	0.000328
2	-5E-6	-0.218	2.1e-05	-0.000012	-0.265	4.5e-05	0.000278*	1.698	0.000164
3	0.000115***	5.56	2.1e-05	0.000056	1.296	4.3e-05	-0.000082	-0.537	0.000152
4	0.000064***	3.058	2.1e-05	0.00017***	3.579	4.7e-05	0.000101	0.581	0.000173
5	0.000357***	7.643	4.7e-05	0.00051***	6.366	8e-05	0.000673**	2.158	0.000312
5−1	0.00037***	5.828	6.4e-05	0.000482***	3.824	0.000126	0.000667	1.459	0.000457
	Total Observations N=180938			Total Observations N=109775			Total Observations N=14791		

Table 12: Single Sort Results

Notes: The sample includes form-type: 4, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile ("5-1") are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 4

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	0.000089**	1.984	4.5e-05	-0.000079	-0.773	0.000102	-5.4e-05	-0.138	0.000391
2	0.000058**	2.19	2.7e-05	7E-6	0.114	5.8e-05	-0.000156	-0.731	0.000213
3	0.000102***	3.759	2.7e-05	0.000047	0.807	5.8e-05	-2e-06	-0.013	0.000194
4	0.000098***	3.467	2.8e-05	0.000084	1.302	6.5e-05	-4.3e-05	-0.18	0.000237
5	0.000594***	10.593	5.6e-05	0.000422***	4.241	0.0001	0.00038	1.037	0.000366
5−1	0.000504***	6.999	7.2e-05	0.000498***	3.493	0.000143	0.000489	0.909	0.000538
	Total Observations N=87728			Total Observations N=51999			Total Observations N=6630		

Table 13: Single Sort Results

Notes: The sample includes form-type: 8K, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile ("5-1") are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 8K

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	-0.00055*	-1.848	0.000298	-0.000715	-1.122	0.000637	-0.004264**	-2.292	0.00186
2	-0.000054	-0.43	0.000126	-0.00038	-1.589	0.000239	-0.00194	-1.536	0.001263
3	0.000026	0.309	8.4e-05	-2.7e-05	-0.112	0.000239	-0.000762	-1.01	0.000754
4	-0.00009	-0.886	0.000101	1.4e-05	0.066	0.000213	0.000076	0.121	0.000628
5	0.000707**	2.135	0.000331	0.000712	1.37	0.00052	0.001466	1.069	0.001371
5−1	0.001273***	2.823	0.000451	0.001433*	1.734	0.000826	0.005723**	2.494	0.002295
	Total Observations N=12012			Total Observations N=7127			Total Observations N=920		

Table 14: Single Sort Results

Notes: The sample includes form-type: 10K, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10K

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	1E-6	0.002	0.000616	0.000907	0.915	0.000991	0.003536	0.889	0.003979
2	0.000188	0.798	0.000235	-0.000183	-0.418	0.000439	-0.000903	-0.487	0.001853
3	-0.000473**	-1.981	0.000239	-0.000111	-0.212	0.000526	0.005136	1.504	0.003415
4	0.000872***	3.375	0.000258	-0.000637	-1.281	0.000498	-0.000337	-0.217	0.001558
5	0.001071**	2.225	0.000481	0.000461	0.577	0.000798	0.001955	0.732	0.002671
5−1	0.001026	1.361	0.000754	-0.000374	-0.303	0.001235	-0.00443	-0.996	0.004449
	Total Observations N=1573			Total Observations N=914			Total Observations N=119		

Table 15: Single Sort Results

Notes: The sample includes form-type: 10Q, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10Q

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	-0.000308	-1.052	0.000293	6.3e-05	0.106	0.000592	0.005023	1.529	0.003285
2	-0.000126	-0.964	0.000131	-0.000238	-0.772	0.000308	-0.001942	-1.629	0.001192
3	-5.9e-05	-0.491	0.00012	2.3e-05	0.072	0.000324	-0.001724	-0.565	0.003052
4	0.000109	0.738	0.000148	0.000504	1.636	0.000308	0.001241	0.829	0.001497
5	0.000282	0.847	0.000333	0.000616	1.152	0.000535	0.003652*	1.765	0.002069
5−1	0.000626	1.456	0.00043	0.000646	0.815	0.000793	-0.001008	-0.265	0.003807
	Total Observations N=6193			Total Observations N=3804			Total Observations N=427		

Table 16: Single Sort Results

Notes: The sample includes form-type: SC 13D, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13D

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	-0.000735	-0.485	0.001517	0.001983	0.896	0.002213	-0.011212	-1.373	0.008166
2	-0.000154	-0.247	0.000624	0.002034*	1.788	0.001138	-0.006101	-1.59	0.003836
3	0.000022	0.038	0.000579	0.000491	0.519	0.000946	0.004289	1.073	0.003997
4	0.001173**	2.107	0.000557	0.001166	0.81	0.00144	0.001927	0.455	0.004238
5	0.004541**	2.286	0.001986	0.001415	0.517	0.002738	0.017562	1.471	0.011936
5−1	0.005354**	2.011	0.002662	0.000038	0.01	0.003848	0.041785**	2.463	0.016969
	Total Observations N=1121			Total Observations N=690			Total Observations N=109		

Table 17: Single Sort Results

Notes: The sample includes form-type: SC 13G, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30, 90, or 180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed returns for each portfolio. The long-short returns of going long for the highest quintile and going short for the lowest quintile (''5-1'') are also shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13G

	Panel A: J=30-mins			**Panel B: J=90-mins**			**Panel C: J=180-mins**		
PORT	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**	**Mean**	**t-Stat**	**StdErr**
1	0.00022*	1.832	0.00012	0.000955***	4.076	0.000234	0.002977***	3.222	0.000924
2	-0.000019	-0.26	7.4e-05	0.000642***	4.303	0.000149	0.001958***	3.724	0.000526
3	0.000363***	5.801	6.3e-05	-0.000158	-1.221	0.000129	0.001445***	3.103	0.000466
4	0.000205***	3.095	6.6e-05	0.00114***	8.386	0.000136	0.000407	0.856	0.000476
5	-0.000371***	-2.854	0.00013	0.001458***	6.695	0.000218	-0.000225	-0.251	0.000898
5−1	-0.000595***	-3.343	0.000178	0.000471	1.485	0.000317	-0.003215**	-2.364	0.00136
	Total Observations N=24280			Total Observations N=15773			Total Observations N=1835		

K. Portfolio Return Differences Results

Table 18: Portfolio Return Differences

Notes: The sample includes all form-types, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

all form-types, J=30 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000362***	-	-	-	15.155	-	-	-	2.4e-05	-	-	-
3	0.000452***	0.00009***	-	-	19.074	5.874	-	-	2.4e-05	1.5e-05	-	-
2	0.0005***	0.000138***	0.000048***	-	20.85	8.809	3.117	-	2.4e-05	1.6e-05	1.5e-05	-
1	0.000555***	0.000194***	0.000104***	2.349	18.681	8.164	4.397	2.349	3e-05	2.4e-05	2.4e-05	2.4e-05
	Total Observations N=833184											

Table 19: Portfolio Return Differences

Notes: The sample includes all form-types, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

all form-types, J=90 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000395***	-	-	-	8.815	-	-	-	4.5e-05	-	-	-
3	0.000504***	0.00011***	-	-	11.463	3.439	-	-	4.4e-05	3.2e-05	-	-
2	0.000681***	0.000289***	0.000178***	-	15.051	8.52	5.456	-	4.5e-05	3.4e-05	3.3e-05	-
1	0.000632***	0.000241***	0.00013***	-0.941	11.196	5.056	2.774	-0.941	5.6e-05	4.8e-05	4.7e-05	4.8e-05
	Total Observations N=493209											

Table 20: Portfolio Return Differences

Notes: The sample includes all form-types, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

all form-types, J=180 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000602***	-	-	-	3.321	-	-	-	0.000181	-	-	-
3	0.000486***	-0.000104	-	-	2.687	-0.806	-	-	0.000181	0.000129	-	-
2	0.000516***	-0.000069	0.000029	-	2.812	-0.531	0.225	-	0.000184	0.00013	0.000131	-
1	0.000983***	0.000378**	0.000514***	2.467	4.28	2.005	2.743	2.467	0.00023	0.000189	0.000187	0.000191
	Total Observations N=64238											

Table 21: Portfolio Return Differences

Notes: The sample includes form-type: 4, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 4, J=30 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000451***	-	-	-	16.176	-	-	-	2.8e-05	-	-	-
3	0.000578***	0.000128***	-	-	20.723	6.726	-	-	2.8e-05	1.9e-05	-	-
2	0.000556***	0.000106***	-0.000022	-	20.015	5.544	-1.14	-	2.8e-05	1.9e-05	1.9e-05	-
1	0.000561***	0.000112***	-0.000016	0.185	16.965	4.239	-0.628	0.185	3.3e-05	2.6e-05	2.6e-05	2.6e-05
	Total Observations N=464337											

Table 22: Portfolio Return Differences

Notes: The sample includes form-type: 4, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 4, J=90 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000378***	-	-	-	7.001	-	-	-	5.4e-05	-	-	-
3	0.000531***	0.000148***	-	-	10.072	3.628	-	-	5.3e-05	4.1e-05	-	-
2	0.000682***	0.000301***	0.000153***	-	12.597	7.067	3.76	-	5.4e-05	4.3e-05	4.1e-05	-
1	0.00053***	0.000152***	-3E-6	-2.689	8.016	2.66	-0.047	-2.689	6.6e-05	5.7e-05	5.5e-05	5.7e-05
	Total Observations N=273137											

Table 23: Portfolio Return Differences

Notes: The sample includes form-type: 4, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 4, J=180 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000639***	-	-	-	2.921	-	-	-	0.000219	-	-	-
3	0.000274	-0.000293*	-	-	1.264	-1.811	-	-	0.000217	0.000162	-	-
2	0.000288	-0.000304*	-0.00002	-	1.307	-1.777	-0.12	-	0.00022	0.000171	0.000165	-
1	0.000433*	-0.000247	0.000124	0.49	1.659	-1.147	0.58	0.49	0.000261	0.000215	0.000214	0.000225
	Total Observations N=34310											

Table 24: Portfolio Return Differences

Notes: The sample includes form-type: 8K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 8K, J=30 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000543***	-	-	-	4.355	-	-	-	0.000125	-	-	-
3	0.000698***	0.000148**	-	-	5.645	2.139	-	-	0.000124	6.9e-05	-	-
2	0.000722***	0.000181**	0.000033	-	5.691	2.413	0.457	-	0.000127	7.5e-05	7.1e-05	-
1	0.001151***	0.000609***	0.000453***	2.992	6.634	4.324	3.263	2.992	0.000173	0.000141	0.000139	0.000142
	Total Observations N=74099											

Table 25: Portfolio Return Differences

Notes: The sample includes form-type: 8K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 8K, J=90 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000818***	-	-	-	3.787	-	-	-	0.000216	-	-	-
3	0.000905***	0.000096	-	-	4.253	0.667	-	-	0.000213	0.000144	-	-
2	0.001218***	0.000411**	0.000313**	-	5.394	2.552	2.003	-	0.000226	0.000161	0.000156	-
1	0.001468***	0.000678***	0.000587**	1.17	5.225	2.931	2.555	1.17	0.000281	0.000231	0.00023	0.000241
	Total Observations N=42809											

Table 26: Portfolio Return Differences

Notes: The sample includes form-type: 8K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 8K, J=180 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.002518***	-	-	-	2.748	-	-	-	0.000916	-	-	-
3	0.00155*	-0.000841	-	-	1.699	-1.435	-	-	0.000912	0.000586	-	-
2	0.001743*	-0.000556	0.000285	-	1.932	-0.892	0.483	-	0.000902	0.000624	0.000589	-
1	0.003558***	0.000946	0.001977*	1.877	2.827	0.923	1.957	1.877	0.001259	0.001025	0.00101	0.001025
	Total Observations N=5571											

Table 27: Portfolio Return Differences

Notes: The sample includes form-type: 10K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10K, J=30 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000311	-	-	-	1.242	-	-	-	0.00025	-	-	-
3	0.000772***	0.000486***	-	-	3.286	2.649	-	-	0.000235	0.000183	-	-
2	0.00073***	0.000439**	-0.000054	-	3.041	2.355	-0.323	-	0.00024	0.000186	0.000168	-
1	0.001044***	0.000766***	0.000295	1.261	3.304	2.781	1.099	1.261	0.000316	0.000275	0.000269	0.000268
	Total Observations N=7218											

Table 28: Portfolio Return Differences

Notes: The sample includes form-type: 10K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10K, J=90 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	-0.000069	-	-	-	-0.125	-	-	-	0.000553	-	-	-
3	-0.000457	-0.000344	-	-	-0.863	-0.898	-	-	0.00053	0.000383	-	-
2	0.000234	0.000334	0.000687*	-	0.459	0.941	1.924	-	0.00051	0.000355	0.000357	-
1	-0.000092	0.000027	0.000315	-0.583	-0.138	0.044	0.537	-0.583	0.000666	0.000604	0.000586	0.000567
	Total Observations N=4041											

Table 29: Portfolio Return Differences

Notes: The sample includes form-type: 10K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10K, J=180 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	-0.000834	-	-	-	-0.413	-	-	-	0.002018	-	-	-
3	-0.00108	-0.001465	-	-	-0.482	-0.815	-	-	0.00224	0.001797	-	-
2	-0.000775	-0.000341	0.001123	-	-0.419	-0.278	0.704	-	0.001849	0.001226	0.001595	-
1	-0.003871	-0.002039	-0.002125	-1.499	-1.651	-1.026	-0.883	-1.499	0.002345	0.001987	0.002406	0.001959
	Total Observations N=566											

Table 30: Portfolio Return Differences

Notes: The sample includes form-type: 10Q, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10Q, J=30 minutes

		Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$		**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4		0.000241	-	-	-	1.466	-	-	-	0.000165	-	-	-
3		0.000268	0.000014	-	-	1.608	0.135	-	-	0.000166	0.000106	-	-
2		0.000462***	0.000231**	0.000217*	-	2.748	2.056	1.937	-	0.000168	0.000112	0.000112	-
1		0.000721***	0.000468***	0.000447***	1.552	3.636	3.047	2.901	1.552	0.000198	0.000154	0.000154	0.000154
		Total Observations N=25821											

Table 31: Portfolio Return Differences

Notes: The sample includes form-type: 10Q, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10Q, J=90 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000235	-	-	-	0.719	-	-	-	0.000326	-	-	-
3	0.000446	0.000155	-	-	1.384	0.633	-	-	0.000322	0.000244	-	-
2	0.000729**	0.000468*	0.000315	-	2.17	1.846	1.271	-	0.000336	0.000254	0.000248	-
1	0.000754*	0.000423	0.000219	-0.205	1.943	1.306	0.682	-0.205	0.000388	0.000323	0.000321	0.000335
	Total Observations N=15057											

Table 32: Portfolio Return Differences

Notes: The sample includes form-type: 10Q, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10Q, J=180 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000737	-	-	-	0.56	-	-	-	0.001316	-	-	-
3	0.000432	0.000468	-	-	0.336	0.417	-	-	0.001285	0.001122	-	-
2	0.000494	0.000482	1.4e-05	-	0.373	0.516	0.013	-	0.001322	0.000934	0.001074	-
1	0.001336	0.001243	0.001483	0.632	0.658	0.667	0.832	0.632	0.002031	0.001863	0.001782	0.001914
	Total Observations N=1858											

Table 33: Portfolio Return Differences

Notes: The sample includes form-type: SC 13D, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13D, J=30 minutes

		Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$		**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4		0.001284*	-	-	-	1.818	-	-	-	0.000706	-	-	-
3		0.001891***	0.000783**	-	-	2.698	1.986	-	-	0.000701	0.000394	-	-
2		0.001357*	0.000155	-0.000631	-	1.81	0.323	-1.409	-	0.000749	0.00048	0.000448	-
1		0.002428***	0.000978*	0.000282	1.753	3.07	1.77	0.539	1.753	0.000791	0.000553	0.000523	0.000586
		Total Observations N=5212											

Table 34: Portfolio Return Differences

Notes: The sample includes form-type: SC 13D, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13D, J=90 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.001161	-	-	-	1.066	-	-	-	0.001089	-	-	-
3	0.001308	-0.000111	-	-	1.202	-0.176	-	-	0.001088	0.000632	-	-
2	0.000581	-0.000909	-0.000635	-	0.532	-1.45	-1.073	-	0.001091	0.000627	0.000592	-
1	0.000328	-0.001471	-0.001523	-0.869	0.222	-1.437	-1.409	-0.869	0.001474	0.001023	0.00108	0.001073
	Total Observations N=3072											

Table 35: Portfolio Return Differences

Notes: The sample includes form-type: SC 13D, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13D, J=180 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.001997	-	-	-	0.357	-	-	-	0.005587	-	-	-
3	0.004011	-0.001593	-	-	1.083	-0.583	-	-	0.003704	0.002733	-	-
2	0.005899	0.003865	0.004686*	-	1.22	1.354	1.856	-	0.004836	0.002855	0.002524	-
1	0.004615	0.003328	0.003902	-0.502	0.992	0.741	0.893	-0.502	0.004653	0.004489	0.004368	0.006158
	Total Observations N=423											

Table 36: Portfolio Return Differences

Notes: The sample includes form-type: SC 13G, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13G, J=30 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	-0.000153**	-	-	-	-2.141	-	-	-	7.2e-05	-	-	-
3	3E-6	0.000158***	-	-	0.037	3.373	-	-	7e-05	4.7e-05	-	-
2	0.000094	0.000247***	0.000092**	-	1.311	5.033	1.966	-	7.2e-05	4.9e-05	4.7e-05	-
1	-0.000031	0.000123*	-0.000033	-1.79	-0.357	1.784	-0.492	-1.79	8.6e-05	6.9e-05	6.7e-05	6.9e-05
	Total Observations N=89397											

Table 37: Portfolio Return Differences

Notes: The sample includes form-type: SC 13G, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13G, J=90 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000077	-	-	-	0.587	-	-	-	0.000131	-	-	-
3	0.000499***	0.000425***	-	-	3.886	4.355	-	-	0.000128	9.7e-05	-	-
2	0.000519***	0.000438***	0.000019	-	3.923	4.231	0.194	-	0.000132	0.000104	9.8e-05	-
1	0.00049***	0.000418***	1E-6	-0.169	3.137	3.114	0.006	-0.169	0.000156	0.000134	0.000128	0.000135
	Total Observations N=55631											

Table 38: Portfolio Return Differences

Notes: The sample includes form-type: SC 13G, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13G, J=180 minutes

		Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$		**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4		0.000032	-	-	-	0.066	-	-	-	0.000488	-	-	-
3		0.000307	0.000178	-	-	0.654	0.512	-	-	0.00047	0.000347	-	-
2		-0.000108	-0.000116	-0.000293	-	-0.219	-0.331	-0.844	-	0.000492	0.000349	0.000347	-
1		0.001043*	0.001004**	0.00066	2.217	1.762	2.05	1.345	2.217	0.000592	0.00049	0.00049	0.000484
		Total Observations N=7503											

L. Post March, 2015 Portfolio Return Differences Results

Table 39: Portfolio Return Differences

Notes: The sample includes all form-types, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

all form-types, J=30 minutes

		Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$		**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4		0.000293***	-	-	-	5.723	-	-	-	5.1e-05	-	-	-
3		0.000243***	-0.00005*	-	-	4.755	-1.721	-	-	5.1e-05	2.9e-05	-	-
2		0.000361***	0.000069**	0.000119***	-	7.06	2.327	4.053	-	5.1e-05	3e-05	2.9e-05	-
1		0.00037***	0.000076	0.000126***	0.163	5.828	1.606	2.663	0.163	6.4e-05	4.7e-05	4.7e-05	4.7e-05
		Total Observations N=181026											

Table 40: Portfolio Return Differences

Notes: The sample includes all form-types, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

all form-types, J=90 minutes

		Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$		**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4		0.00034***	-	-	-	3.675	-	-	-	9.3e-05	-	-	-
3		0.000457***	0.000113*	-	-	4.986	1.769	-	-	9.2e-05	6.4e-05	-	-
2		0.000531***	0.000182***	0.000069	-	5.814	2.794	1.112	-	9.1e-05	6.5e-05	6.2e-05	-
1		0.000482***	0.000141	0.000023	-0.467	3.824	1.304	0.221	-0.467	0.000126	0.000108	0.000106	0.000106
		Total Observations N=109829											

Table 41: Portfolio Return Differences

Notes: The sample includes all form-types, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

all form-types, J=180 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000578	-	-	-	1.621	-	-	-	0.000356	-	-	-
3	0.000748**	0.00017	-	-	2.187	0.739	-	-	0.000342	0.00023	-	-
2	0.000355	-0.000188	-0.000366*	-	1.02	-0.796	-1.695	-	0.000348	0.000236	0.000216	-
1	0.000667	0.000208	0.000018	1.096	1.459	0.564	0.049	1.096	0.000457	0.00037	0.000357	0.000364
	Total Observations N=14799											

Table 42: Portfolio Return Differences

Notes: The sample includes form-type: 4, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 4, J=30 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000495***	-	-	-	7.862	-	-	-	6.3e-05	-	-	-
3	0.00049***	-4E-6	-	-	7.833	-0.102	-	-	6.3e-05	3.9e-05	-	-
2	0.000533***	0.00004	0.000044	-	8.625	1.034	1.17	-	6.2e-05	3.9e-05	3.8e-05	-
1	0.000504***	6E-6	0.000015	-0.526	6.999	0.114	0.294	-0.526	7.2e-05	5.3e-05	5.2e-05	5.2e-05
	Total Observations N=87784											

Table 43: Portfolio Return Differences

Notes: The sample includes form-type: 4, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 4, J=90 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000341***	-	-	-	2.885	-	-	-	0.000118	-	-	-
3	0.000383***	0.000039	-	-	3.358	0.455	-	-	0.000114	8.6e-05	-	-
2	0.000415***	0.000079	0.00004	-	3.616	0.907	0.481	-	0.000115	8.7e-05	8.3e-05	-
1	0.000498***	0.000162	0.000117	0.733	3.493	1.331	0.996	0.733	0.000143	0.000122	0.000118	0.000117
	Total Observations N=52033											

Table 44: Portfolio Return Differences

Notes: The sample includes form-type: 4, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR ‘‘acceptance timestamp’’ as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 4, J=180 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000393	-	-	-	0.897	-	-	-	0.000438	-	-	-
3	0.000242	-0.000026	-	-	0.597	-0.083	-	-	0.000406	0.000308	-	-
2	0.000443	0.00013	0.000145	-	1.039	0.42	0.502	-	0.000427	0.000311	0.000288	-
1	0.000489	-0.000023	0.000274	0.067	0.909	-0.051	0.615	0.067	0.000538	0.000446	0.000446	0.00044
	Total Observations N=6630											

Table 45: Portfolio Return Differences

Notes: The sample includes form-type: 8K, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 8K, J=30 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000801**	-	-	-	2.294	-	-	-	0.000349	-	-	-
3	0.000685**	-0.000116	-	-	2.015	-0.867	-	-	0.00034	0.000133	-	-
2	0.000766**	-0.000036	0.00008	-	2.157	-0.221	0.531	-	0.000355	0.000161	0.000151	-
1	0.001273***	0.000457	0.00055*	1.536	2.823	1.449	1.787	1.536	0.000451	0.000315	0.000308	0.000322
	Total Observations N=12016											

Table 46: Portfolio Return Differences

Notes: The sample includes form-type: 8K, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 8K, J=90 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000711	-	-	-	1.247	-	-	-	0.00057	-	-	-
3	0.000713	0.000044	-	-	1.246	0.139	-	-	0.000573	0.000315	-	-
2	0.001048*	0.000394	0.000339	-	1.829	1.219	1.002	-	0.000573	0.000323	0.000339	-
1	0.001433*	0.000687	0.00073	0.565	1.734	1.007	1.071	0.565	0.000826	0.000682	0.000682	0.000671
	Total Observations N=7133											

Table 47: Portfolio Return Differences

Notes: The sample includes form-type: 8K, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 8K, J=180 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.00117	-	-	-	0.765	-	-	-	0.00153	-	-	-
3	0.002188	0.000875	-	-	1.406	0.877	-	-	0.001556	0.000997	-	-
2	0.003275*	0.002017	0.001163	-	1.66	1.405	0.778	-	0.001973	0.001435	0.001496	-
1	0.005723**	0.004674**	0.00352*	0.929	2.494	2.327	1.767	0.929	0.002295	0.002008	0.001992	0.002398
	Total Observations N=922											

Table 48: Portfolio Return Differences

Notes: The sample includes form-type: 10K, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10K, J=30 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000244	-	-	-	0.44	-	-	-	0.000554	-	-	-
3	0.001519***	0.001345***	-	-	2.816	3.46	-	-	0.00054	0.000389	-	-
2	0.000849	0.000684*	-0.00066**	-	1.62	1.934	-2.019	-	0.000524	0.000354	0.000327	-
1	0.001026	0.000854	-0.000439	0.358	1.361	1.319	-0.632	0.358	0.000754	0.000648	0.000694	0.000668
	Total Observations N=1573											

Table 49: Portfolio Return Differences

Notes: The sample includes form-type: 10K, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10K, J=90 minutes

		Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$		**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4		0.000748	-	-	-	0.738	-	-	-	0.001014	-	-	-
3		0.000521	-0.00033	-	-	0.525	-0.444	-	-	0.000993	0.000743	-	-
2		0.000461	-0.000453	-0.000141	-	0.491	-0.727	-0.212	-	0.000938	0.000623	0.000663	-
1		-0.000374	-0.001268	-0.000956	-0.792	-0.303	-1.152	-0.876	-0.792	0.001235	0.001101	0.001092	0.001044
		Total Observations N=914											

Table 50: Portfolio Return Differences

Notes: The sample includes form-type: 10K, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10K, J=180 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.001789	-	-	-	0.561	-	-	-	0.003191	-	-	-
3	-0.006096	-0.005904	-	-	-0.979	-1.437	-	-	0.006228	0.004108	-	-
2	0.003024	0.000565	0.006469	-	0.875	0.209	1.427	-	0.003456	0.002711	0.004533	-
1	-0.00443	-0.003891	0.008449	-0.828	-0.996	-0.951	0.969	-0.828	0.004449	0.004091	0.008724	0.005054
	Total Observations N=119											

Table 51: Portfolio Return Differences

Notes: The sample includes form-type: 10Q, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10Q, J=30 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000163	-	-	-	0.446	-	-	-	0.000365	-	-	-
3	0.000343	0.00018	-	-	0.968	0.962	-	-	0.000355	0.000187	-	-
2	0.000362	0.000236	7.5e-05	-	1.02	1.169	0.432	-	0.000355	0.000201	0.000173	-
1	0.000626	0.000427	0.000236	0.679	1.456	1.315	0.749	0.679	0.00043	0.000325	0.000316	0.000325
	Total Observations N=6195											

Table 52: Portfolio Return Differences

Notes: The sample includes form-type: 10Q, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10Q, J=90 minutes

		Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$		**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4		-0.000014	-	-	-	-0.022	-	-	-	0.000628	-	-	-
3		0.000647	0.000544	-	-	1.053	1.211	-	-	0.000614	0.000449	-	-
2		0.000942	0.000742*	0.000262	-	1.557	1.749	0.591	-	0.000605	0.000424	0.000443	-
1		0.000646	0.000566	-0.000123	-0.606	0.815	0.844	-0.184	-0.606	0.000793	0.00067	0.000668	0.000685
		Total Observations N=3804											

Table 53: Portfolio Return Differences

Notes: The sample includes form-type: 10Q, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: 10Q, J=180 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.002684	-	-	-	1.052	-	-	-	0.00255	-	-	-
3	0.00315	0.003251	-	-	1.316	0.921	-	-	0.002393	0.003529	-	-
2	0.006477***	0.003183*	-0.000068	-	2.731	1.703	-0.021	-	0.002372	0.001869	0.003285	-
1	-0.001008	-0.004099	-0.004592	-1.865	-0.265	-1.052	-1.311	-1.865	0.003807	0.003895	0.003502	0.003591
	Total Observations N=427											

Table 54: Portfolio Return Differences

Notes: The sample includes form-type: SC 13D, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13D, J=30 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.003568*	-	-	-	1.753	-	-	-	0.002036	-	-	-
3	0.004476**	0.001124	-	-	2.109	1.378	-	-	0.002122	0.000816	-	-
2	0.004549**	0.001309	0.000103	-	2.165	1.576	0.118	-	0.002101	0.000831	0.000874	-
1	0.005354**	0.00154	0.000749	0.419	2.011	0.941	0.457	0.419	0.002662	0.001636	0.001639	0.001692
	Total Observations N=1121											

Table 55: Portfolio Return Differences

Notes: The sample includes form-type: SC 13D, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13D, J=90 minutes

		Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$		**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4		-0.000327	-	-	-	-0.104	-	-	-	0.003129	-	-	-
3		0.001326	0.000821	-	-	0.471	0.473	-	-	0.002816	0.001735	-	-
2		0.000085	-0.000869	-0.001728	-	0.03	-0.472	-1.191	-	0.002827	0.001839	0.001451	-
1		0.000038	0.000188	-0.002163	-0.087	0.01	0.067	-0.903	-0.087	0.003848	0.002819	0.002396	0.002476
		Total Observations N=690											

Table 56: Portfolio Return Differences

Notes: The sample includes form-type: SC 13D, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13D, J=180 minutes

	Mean				**t-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.014055	-	-	-	0.967	-	-	-	0.014533	-	-	-
3	0.008793	-0.002315	-	-	0.581	-0.309	-	-	0.015128	0.007481	-	-
2	0.022583	0.008028	0.008815	-	1.411	1.381	1.701	-	0.016006	0.005813	0.005182	-
1	0.041785**	0.021605	0.012582	0.073	2.463	1.883	1.621	0.073	0.016969	0.011474	0.007763	0.015969
	Total Observations N=109											

Table 57: Portfolio Return Differences

Notes: The sample includes form-type: SC 13G, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=30 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13G, J=30 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	-0.00057***	-	-	-	-3.886	-	-	-	0.000147	-	-	-
3	-0.000733***	-0.000165*	-	-	-5.095	-1.825	-	-	0.000144	9.1e-05	-	-
2	-0.000351**	0.000229**	0.000383***	-	-2.334	2.297	3.97	-	0.00015	0.0001	9.6e-05	-
1	-0.000595***	-0.000013	0.000141	-1.623	-3.343	-0.092	1.05	-1.623	0.000178	0.000137	0.000135	0.000141
	Total Observations N=24292											

Table 58: Portfolio Return Differences

Notes: The sample includes form-type: SC 13G, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=90 minutes. The event-time here is the EDGAR ''acceptance timestamp'' as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13G, J=90 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	0.000289	-	-	-	1.152	-	-	-	0.000251	-	-	-
3	0.001615***	0.001296***	-	-	6.221	6.935	-	-	0.00026	0.000187	-	-
2	0.000787***	0.000498**	-0.000798***	-	3.025	2.506	-4.125	-	0.00026	0.000199	0.000194	-
1	0.000471	0.000178	-0.001112***	-1.1	1.485	0.662	-4.17	-1.1	0.000317	0.000269	0.000267	0.000278
	Total Observations N=15777											

Table 59: Portfolio Return Differences

Notes: The sample includes form-type: SC 13G, for the timeperiod March, 2015 to December, 2018. Each firm-announcement level observation are included in this sample if J-minutes prior or after the event-time still falls within the normal trading hours, (i.e., 9:30am to 4pm), where J=180 minutes. The event-time here is the EDGAR "acceptance timestamp" as described in Section 3.1.1. All observations in the sample are sorted into five portfolios based on the sorting variable Q_J as described in Section 4.1, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We present equal-weighed return difference between portfolio i and portfolio j, where i can be equal to 5, 4, 3, or 2, and j can be equal to 4, 3, 2, or 1. In other words, the long-short returns of going long for portfolio i and going short for portfolio j is shown. The table reports average returns and differences in returns, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

form-type: SC 13G, J=180 minutes

	Mean				***t*-Stat**				**StdErr**			
$PORT_j$ \ $PORT_i$	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**	**5**	**4**	**3**	**2**
4	-0.000492	-	-	-	-0.508	-	-	-	0.000969	-	-	-
3	-0.001405	-0.001125*	-	-	-1.405	-1.715	-	-	0.001	0.000656	-	-
2	-0.002084**	-0.00148**	-0.000447	-	-2.05	-2.16	-0.647	-	0.001016	0.000685	0.000692	-
1	-0.003215**	-0.002729***	-0.001883**	-1.199	-2.364	-2.63	-1.978	-1.199	0.00136	0.001038	0.000952	0.001049
	Total Observations N=1835											

M. Regression Results

Table 60: OLS Regression results of 30-minutes post-event returns on Q_{30}, for all form-types, September, 2003 to December, 2018

Notes: The sample includes all form-types, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time (i.e., EDGAR "acceptance timestamp") still falls within the normal trading hours, (i.e., 9:30am to 4pm). All observations in the sample are sorted into five portfolios based on the sorting variable Q_{30} as described in Section 4.1 which is equal to $Q_{30} = \frac{P_0 - P_{-30}}{P_{-30}}$, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We perform OLS regression in the form of: $R_{0,30} = Intercept + \beta \times Q_{30}$, where $R_{0,30}$ is the cumulative return from the event time to 30 minutes after the event time. We run the regression on the sample with all 5 portfolios combined, as well as on each of the 5 portfolio, as well as on portfolio 5 combined with portfolio 1. The table reports intercept, coefficient β and standard errors, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

All Portfolio Combined

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	18.222	0.0
β	0.05	0.001	45.581	0.0

Portfolio 1

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	8.074	0.0
β	0.056	0.002	23.315	0.0

Portfolio 2

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	3.604	0.0
β	0.037	0.004	10.19	0.0

Portfolio 3

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	4.931	0.0
β	0.017	0.004	4.383	0.0

Portfolio 4

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	8.576	0.0
β	0.04	0.004	11.022	0.0

Portfolio 5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	13.659	0.0
β	0.04	0.003	15.964	0.0

Portfolio 1&5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	14.973	0.0
β	0.052	0.002	33.265	0.0

Table 61: OLS Regression results of 30-minutes post-event returns on Q_{30}, for form-type: 4, September, 2003 to December, 2018

Notes: The sample includes form-type: 4, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time (i.e., EDGAR ''acceptance timestamp'') still falls within the normal trading hours, (i.e., 9:30am to 4pm). All observations in the sample are sorted into five portfolios based on the sorting variable Q_{30} as described in Section 4.1 which is equal to $Q_{30} = \frac{P_0 - P_{-30}}{P_{-30}}$, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We perform OLS regression in the form of: $R_{0,30} = Intercept + \beta \times Q_{30}$, where $R_{0,30}$ is the cumulative return from the event time to 30 minutes after the event time. We run the regression on the sample with all 5 portfolios combined, as well as on each of the 5 portfolio, as well as on portfolio 5 combined with portfolio 1. The table reports intercept, coefficient β and standard errors, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

All Portfolio Combined

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	22.167	0.0
β	0.044	0.002	28.924	0.0

Portfolio 1

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	7.63	0.0
β	0.041	0.004	11.421	0.0

Portfolio 2

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	7.12	0.0
β	0.05	0.005	10.336	0.0

Portfolio 3

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	2.44	0.015
β	0.006	0.005	1.209	0.227

Portfolio 4

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	9.163	0.0
β	0.03	0.005	6.32	0.0

Portfolio 5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	17.085	0.0
β	0.036	0.004	10.079	0.0

Portfolio 1&5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	19.715	0.0
β	0.047	0.002	21.51	0.0

Table 62: OLS Regression results of 30-minutes post-event returns on Q_{30}, for form-type: 8K, September, 2003 to December, 2018

Notes: The sample includes form-type: 8K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time (i.e., EDGAR "acceptance timestamp") still falls within the normal trading hours, (i.e., 9:30am to 4pm). All observations in the sample are sorted into five portfolios based on the sorting variable Q_{30} as described in Section 4.1 which is equal to $Q_{30} = \frac{P_0 - P_{-30}}{P_{-30}}$, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We perform OLS regression in the form of: $R_{0,30} = Intercept + \beta \times Q_{30}$, where $R_{0,30}$ is the cumulative return from the event time to 30 minutes after the event time. We run the regression on the sample with all 5 portfolios combined, as well as on each of the 5 portfolio, as well as on portfolio 5 combined with portfolio 1. The table reports intercept, coefficient β and standard errors, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

All Portfolio Combined

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	0.677	0.498
β	0.097	0.003	27.817	0.0

Portfolio 1

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	1.884	0.06
β	0.116	0.007	15.522	0.0

Portfolio 2

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-1.461	0.144
β	-0.009	0.013	-0.655	0.513

Portfolio 3

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-0.86	0.39
β	0.018	0.014	1.321	0.186

Portfolio 4

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-0.866	0.386
β	0.122	0.012	10.169	0.0

Portfolio 5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	0.845	0.398
β	0.082	0.008	9.735	0.0

Portfolio 1&5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	0.857	0.392
β	0.101	0.005	19.739	0.0

Table 63: OLS Regression results of 30-minutes post-event returns on Q_{30}, for form-type: 10K, September, 2003 to December, 2018

Notes: The sample includes form-type: 10K, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time (i.e., EDGAR "acceptance timestamp") still falls within the normal trading hours, (i.e., 9:30am to 4pm). All observations in the sample are sorted into five portfolios based on the sorting variable Q_{30} as described in Section 4.1 which is equal to $Q_{30} = \frac{P_0 - P_{-30}}{P_{-30}}$, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We perform OLS regression in the form of: $R_{0,30} = Intercept + \beta \times Q_{30}$, where $R_{0,30}$ is the cumulative return from the event time to 30 minutes after the event time. We run the regression on the sample with all 5 portfolios combined, as well as on each of the 5 portfolio, as well as on portfolio 5 combined with portfolio 1. The table reports intercept, coefficient β and standard errors, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

All Portfolio Combined

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	0.257	0.797
β	0.068	0.011	6.164	0.0

Portfolio 1

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	-0.001	0.0	-1.956	0.051
β	-0.011	0.029	-0.362	0.718

Portfolio 2

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	0.648	0.517
β	0.192	0.031	6.254	0.0

Portfolio 3

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-1.555	0.12
β	-0.003	0.037	-0.074	0.941

Portfolio 4

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	1.533	0.125
β	0.068	0.04	1.692	0.091

Portfolio 5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	1.015	0.31
β	0.081	0.021	3.855	0.0

Portfolio 1&5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	0.363	0.717
β	0.059	0.016	3.796	0.0

Table 64: OLS Regression results of 30-minutes post-event returns on Q_{30}, for form-type: 10Q, September, 2003 to December, 2018

Notes: The sample includes form-type: 10Q, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time (i.e., EDGAR "acceptance timestamp") still falls within the normal trading hours, (i.e., 9:30am to 4pm). All observations in the sample are sorted into five portfolios based on the sorting variable Q_{30} as described in Section 4.1 which is equal to $Q_{30} = \frac{P_0 - P_{-30}}{P_{-30}}$, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We perform OLS regression in the form of: $R_{0,30} = Intercept + \beta \times Q_{30}$, where $R_{0,30}$ is the cumulative return from the event time to 30 minutes after the event time. We run the regression on the sample with all 5 portfolios combined, as well as on each of the 5 portfolio, as well as on portfolio 5 combined with portfolio 1. The table reports intercept, coefficient β and standard errors, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

All Portfolio Combined

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-0.681	0.496
β	0.041	0.006	6.636	0.0

Portfolio 1

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-3.246	0.001
β	-0.016	0.013	-1.217	0.224

Portfolio 2

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-0.31	0.757
β	0.114	0.021	5.355	0.0

Portfolio 3

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	0.591	0.554
β	-0.065	0.024	-2.715	0.007

Portfolio 4

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-0.223	0.823
β	0.063	0.021	2.992	0.003

Portfolio 5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-1.011	0.312
β	0.085	0.015	5.597	0.0

Portfolio 1&5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	-0.494	0.622
β	0.039	0.009	4.482	0.0

Table 65: OLS Regression results of 30-minutes post-event returns on Q_{30}, for form-type: SC 13D, September, 2003 to December, 2018

Notes: The sample includes form-type: SC 13D, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time (i.e., EDGAR "acceptance timestamp") still falls within the normal trading hours, (i.e., 9:30am to 4pm). All observations in the sample are sorted into five portfolios based on the sorting variable Q_{30} as described in Section 4.1 which is equal to $Q_{30} = \frac{P_0 - P_{-30}}{P_{-30}}$, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We perform OLS regression in the form of: $R_{0,30} = Intercept + \beta \times Q_{30}$, where $R_{0,30}$ is the cumulative return from the event time to 30 minutes after the event time. We run the regression on the sample with all 5 portfolios combined, as well as on each of the 5 portfolio, as well as on portfolio 5 combined with portfolio 1. The table reports intercept, coefficient β and standard errors, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

All Portfolio Combined

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.001	0.0	6.369	0.0
β	0.041	0.022	1.906	0.057

Portfolio 1

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.001	0.0	2.098	0.036
β	0.148	0.041	3.622	0.0

Portfolio 2

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.001	0.0	3.689	0.0
β	0.197	0.085	2.327	0.02

Portfolio 3

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.001	0.0	2.224	0.026
β	0.008	0.071	0.106	0.916

Portfolio 4

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.001	0.0	4.278	0.0
β	0.027	0.065	0.423	0.672

Portfolio 5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.003	0.001	4.524	0.0
β	-0.11	0.051	-2.175	0.03

Portfolio 1&5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.001	0.0	3.677	0.0
β	0.033	0.031	1.077	0.282

Table 66: OLS Regression results of 30-minutes post-event returns on Q_{30}, for form-type: SC 13G, September, 2003 to December, 2018

Notes: The sample includes form-type: SC 13G, for the timeperiod September, 2003 to December, 2018. Each firm-announcement level observation are included in this sample if 30-minutes prior or after the event-time (i.e., EDGAR "acceptance timestamp") still falls within the normal trading hours, (i.e., 9:30am to 4pm). All observations in the sample are sorted into five portfolios based on the sorting variable Q_{30} as described in Section 4.1 which is equal to $Q_{30} = \frac{P_0 - P_{-30}}{P_{-30}}$, with portfolio 1 representing the lowest quintile and portfolio 5 representing the highest quintile. We perform OLS regression in the form of: $R_{0,30} = Intercept + \beta \times Q_{30}$, where $R_{0,30}$ is the cumulative return from the event time to 30 minutes after the event time. We run the regression on the sample with all 5 portfolios combined, as well as on each of the 5 portfolio, as well as on portfolio 5 combined with portfolio 1. The table reports intercept, coefficient β and standard errors, together with t-statistics and standard errors. To indicate significance: *** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$.

All Portfolio Combined

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	6.33	0.0
β	0.015	0.003	4.645	0.0

Portfolio 1

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	1.561	0.118
β	-0.01	0.007	-1.357	0.175

Portfolio 2

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	3.458	0.001
β	0.095	0.011	8.999	0.0

Portfolio 3

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	3.549	0.0
β	0.091	0.01	8.748	0.0

Portfolio 4

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	5.184	0.0
β	0.064	0.01	6.222	0.0

Portfolio 5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	0.682	0.496
β	0.015	0.007	1.984	0.047

Portfolio 1&5

	Coef.	Std Err.	t-Stat	$P > \|t\|$
Intercept	0.0	0.0	3.068	0.002
β	0.001	0.005	0.297	0.767

N. List of Form Types

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
1	4	Application for registration or exemption from registration as a national securities exchange
1-A/A	1	Amendment to offering statement under Regulation A
1/A	2	Amendment to application for registration or exemption from registration as a national securities exchange
10-12B	8	Initial general form for registration of a class of securities pursuant to Section 12(b)
10-12B/A	21	Amendment to above
10-12G	5	Initial general form for registration of a class of securities pursuant to Section 12(g)
10-12G/A	12	Amendment to above
10-C	1	This filing is required of an issuer of securities quoted on the NASDAQ Inter-dealer Quotation System, and contains information regarding a change in the number of shares outstanding or a change in the name of the issuer[1]
10-K	54166	Annual report pursuant to section 13 and 15(d)
10-K/A	9824	Amendment to above
10-K405	7	An annual report which provides a comprehensive overview of the company for the past year. The Regulation S-K Item 405 box on the cover page is checked [1]
10-K405/A	1	Amendment to above
10-KT	90	Transition report pursuant to Rule 13a-10 or 15d-10
10-KT/A	18	Amendment to above
10-Q	161916	Quarterly report pursuant to sections 13 or 15(d)
10-Q/A	8293	Amendment to quarterly report pursuant to sections 13 or 15(d)
10-QT	32	Transition report pursuant to Rule 13a-10 or 15d-10
10-QT/A	3	Amendment to above

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
10KSB/A	362	Amendment to An annual report which provides a comprehensive overview of the company for the past year. The filing is due 90 days after the close of the company's fiscal year, and contains such information as company history, organization, nature of business, equity, holdings, earnings per share, subsidiaries, and other pertinent financial information. The 10KSB is filed by small businesses[1]
10KSB40	1	An optional form for annual and transition reports of small business issuers under Section 13 or 15 (d) of the Securities Exchange Act where the Regulation S-B Item 405 box on the cover page (relating to section 16 (a) reports) is checked[1]
10QSB	2944	A quarterly report which provides a continuing view of a company's financial position during the year. The 10QSB form is filed by small businesses[1]
10QSB/A	332	Amendment to above
10SB12B	1	Filed for the registration of securities for small business issuers pursuant to section 12(b) of the Securities Exchange Act[1]
11-K	20612	Annual report of employee stock purchase, savings and similar plans
11-K/A	432	Amendment to above
11-KT	33	Transition report pursuant to rule 13a-10 or 15d10
11-KT/A	1	Amendment to above
13F-HR	4642	Initial Quarterly Form 13F Holdings report filed by institutional managers
13F-HR/A	751	Amendment to above
13F-NT	866	Initial Quarterly Form 13F Notice Report filed by institutional managers
13F-NT/A	28	Amendment to above
13FCONP	70	
13FCONP/A	4	Amendment to above
144	3993	Filing for proposed sale of securities under Rule 144
144/A	107	Amendment to above
15-12B	512	Notice of termination of registration of a class of securities under Section 12(b)
15-12B/A	6	Amendment to above

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
15-12G	712	Notice of termination of registration of a class of securities under Section 12(g)
15-12G/A	10	Amendment to above
15-15D	197	Notice of suspension of duty to file reports pursuant to Section 13 and 15(d) of the Act
15-15D/A	3	Amendment to above
15F-12B	5	Notice of termination of a foreign private issuer's registration of a class of securities under Section 12(b)
15F-12G	8	Notice of termination of a foreign private issuer's registration of a class of securities under Section 12(g)
18-12B	1	Form for initial registration of securities of foreign governments or political subdivisions pursuant to section 12(b)
18-K	2	Annual report for foreign governments and political subdivisions
19B-4E	21	Rule 19b-4(e) requires every self-regulatory organization (SRO) seeking to rely on Rule 19b-4(e) to file Form 19b-4(e) with the Securities and Exchange Commission (Commission or SEC) at least 5 business days after commencement of trading a new derivative securities product that is not deemed to be a proposed rule change. Each time an SRO files Form 19b-4(e), the execution page must be completed
2-E	1	Report of Sales of Securities
20-F	3314	Annual and transition report of foreign private issuers pursuant to sections 13 or 15(d)
20-F/A	702	Amendment to above
20FR12B	2	Form for initial registration of a class of securities of foreign private issuers pursuant to section 12(b)
24F-2NT	3629	Rule 24F-2 notice filed on Form 24F-2
24F-2NT/A	224	Amendment to above
25	1803	Notification filed by issuer to voluntarily withdraw a class of securities from listing and registration on a national securities exchange
25/A	75	Amendment to above
25-NSE	4922	Notification filed by national security exchange to report the removal from listing and registration of matured, redeemed or retired securities

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
25-NSE/A	87	Amendment to above
3	86251	Initial statement of beneficial ownership of securities
3/A	6321	Amendment to above
305B2	275	Application for designation of a new trustee under the Trust Indenture Act
305B2/A	2	Amendment to above
34-12H	2	
35-CERT	695	Certificate concerning terms and conditions filed pursuant to Rule 24 of the Public Utility Holding Company Act [1]
35-CERT/A	9	Amendment to above
4	1986545	Statement of changes in beneficial ownership of securities
4/A	60616	Amendment to above
40-17F1	2	Initial certificate of accounting of securities and similar investments in the custody of management investment companies filed pursuant to Rule 17f-1 of the Investment Company Act of 1940 filed on Form N-17F-1
40-17F2	1528	Initial certificate of accounting of securities and similar investments in the custody of management investment companies filed pursuant to Rule 17f-2 of the Investment Company Act of 1940 filed on Form N-17F-2
40-17F2/A	7	Amendment to above
40-17G	4594	Fidelity bond filed pursuant to Rule 17g1(g)(1) of the Investment Company Act of 1940
40-17G/A	1502	Amendment to above
40-17GCS	2	Filings of claim or settlement pursuant to rule 17g-1(g)(1)(2) or (3) of the Investment Company Act of 1940
40-24B2	1	Filing of sales literature pursuant to Rule 24b2 under the Investment Company Act of 1940
40-33	114	Copies of all stockholder derivative actions filed with a court against an investment company or an affiliate thereof pursuant to Section 33 of the Investment Company Act of 1940
40-33/A	1	Amendment to above

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
40-6B	2	Application under the Investment Company Act by an employees' securities company
40-6B/A	15	Amendment to above
40-6C	116	
40-6C/A	195	Amendment to above
40-APP	1008	Applications under the Investment Company Act other than those reviewed by Office of Insurance Products
40-APP/A	1332	Amendment to above
40-F	1191	Annual reports filed by certain Canadian issuers pursuant to Section 15(d) and Rule 15d-4
40-F/A	198	Amendment to above
40FR12B	5	Registration of a class of securities of certain Canadian issuers pursuant to Section 12(b) of the 1934 Act
40FR12G	2	Registration of a class of securities of certain Canadian issuers pursuant to Section 12(g) of the 1934 Act
424A	46	Prospectus filed pursuant to Rule 424(a)
424B1	541	Prospectus filed pursuant to Rule 424(b)(1)
424B2	56389	Prospectus filed pursuant to Rule 424(b)(2)
424B3	25657	Prospectus filed pursuant to Rule 424(b)(3)
424B4	1011	Prospectus filed pursuant to Rule 424(b)(4)
424B5	15060	Prospectus filed pursuant to Rule 424(b)(5)
424B7	2158	Prospectus filed pursuant to Rule 424(b)(7)
424B8	250	Prospectus filed pursuant to Rule 424(b)(8)
425	38931	Filing under Securities Act Rule 425 of certain prospectuses and communications in connection with business combination transactions
485APOS	16372	Post-effective amendment filed pursuant to Securities Act Rule 485(a) (this filing cannot be submitted as a 1940 Act only filing)
485BPOS	25973	Post-effective amendment filed pursuant to Securities Act Rule 485(b) (this filing cannot be submitted as a 1940 Act only filing)

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
485BXT	57674	Post-effective amendment filed pursuant to Securities Act Rule 485(b)(1)(iii) to designate a new effective date for a post-effective amendment previously filed pursuant to Securities Act Rule 485(a) (this filing cannot be submitted as a 1940 Act only filing)
486BPOS	71	Post-effective amendment to filing filed pursuant to Securities Act Rule 486(b)
497	43451	Definitive materials filed under paragraph (a), (b), (c), (d), (e) or (f) of Securities Act Rule 497
497AD	338	Filing by certain investment companies of Securities Act Rule 482 advertising in accordance with Securities Act Rule 497 and the Note to Rule 482(c)
497H2	1	Filings made pursuant to Rule 497(h)(2)
497J	9261	Certification of no change in definitive materials under paragraph (j) of Securities Act Rule 497
497K	178336	Summary Prospectus for certain open-end management investment companies filed pursuant to Securities Act Rule 497(k) Cannot be used until March 31, 2009.
5	47091	Annual statement of changes in beneficial ownership of securities
5/A	1818	Amendment to above
6-K	99254	Current report of foreign issuer pursuant to Rules 13a-16 and 15d-16 Amendments
6-K/A	868	Amendment to above
6B NTC	3	
6B ORDR	2	
8-A12B	9516	Form for the registration / listing of a class of securities on a national securities exchange pursuant to section 12(b)
8-A12B/A	1263	Amendment to above
8-A12G	385	Form for registration of a class of securities pursuant to section 12(g)
8-A12G/A	581	Amendment to above
8-K	653821	Current report filing
8-K/A	18888	Amendment to above

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
8-K12B	28	Notification that a class of securities of successor issuer is deemed to be registered pursuant to section 12(b)
8-K12B/A	2	Amendment to above
8-K12G3	13	Notification that a class of securities of successor issuer is deemed to be registered pursuant to section 12(g)
8-K12G3/A	5	Amendment to above
8A12BT	1	Registration of listed debt securities pursuant to section 12(b) - filing to become effective simultaneously with the effective of a concurrent Securities Act registration statement[1]
ABS-15G	108	Asset-backed securities report pursuant to Section 15G
ABS-15G/A	2	Amendment to above
ANNLRPT	18	Periodic Development Bank filing, submitted annually
APP WD	77	Withdrawal of an application for exemptive or other relief from the federal securities laws
APP WD/A	1	Amendment to above
ARS	17488	Annual report to security holders
ARS/A	17	Amendment to above
AW	829	Withdrawal of amendment to a registration statement filed under the Securities Act
AW WD	11	Withdrawal of a request for withdrawal of an amendment to a registration statement
CB	113	Notification form filed in connection with certain tender offers, business combinations and rights offerings, in which the subject company is a foreign private issuer of which less than 10% of its securities are held by U.S. persons
CB/A	127	Amendment to above
CERT	1	Certification by an exchange approving securities for listing
CERTAMX	737	Filing CERTAMX
CERTNAS	978	Filing CERTNAS
CERTNYS	1950 Filing CERTNYS	

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
CERTPAC	717	Filing CERTPAC
CORRESP	59940	A correspondence can be sent as a document with another submission type or can be sent as a separate submission [1]
CT ORDER	6515	Confidential Treatment Order [1]
D	1407	Official notice of an offering of securities that is made without registration under the Securities Act in reliance on an exemption provided by Regulation D and Section 4(a)(5) under the Act.
D/A	140	Amendment to above
DEF 14A	55176	Definitive proxy statements
DEF 14C	409	Definitive information statements
DEFA14A	42211	Additional definitive proxy solicitation materials
DEFA14C	27	Definitive additional information statement materials including Rule 14(a)(12) material
DEFC14A	822	Definitive proxy statement in connection with contested solicitations
DEFC14C	5	Definitive information statement – contested solicitations
DEFM14A	1969	Definitive proxy statement relating to a merger,acquisition, or disposition
DEFM14C	48	Definitive information statement relating to merger or acquisition
DEFN14A	115	Definitive proxy statement filed by non management
DEFR14A	1593	Definitive revised proxy soliciting materials
DEFR14C	10	Definitive revised information statement materials
DEFS14A	4	A definitive proxy statement giving notice regarding a special meeting [1]
DEL AM	94	Separately filed delaying amendment under Securities Act Rule 473 to delay effectiveness of a 1933 Act registration statement
DFAN14A	6163	Definitive additional proxy soliciting materials filed by non-management including Rule 14(a)(12) material
DFRN14A	87	Revised definitive proxy statement filed by non-management
DRS	10	Draft registration statement submitted by Emerging Growth Company under Securities Act Section 6(e) or by Foreign Private Issuer under Division of Corporation Finance policy

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
DRSLTR	1	Correspondence Related to Draft Registration Statement
EFFECT	10782	Filing EFFECT
F-1	95	Registration statement for securities of certain foreign private issuers
F-1/A	173	Amendment to above
F-10	342	Registration statement for securities of certain Canadian issuers under the Securities Act of 1933
F-10/A	389	Amendment to above
F-10EF	5	Auto effective registration statement for securities of certain Canadian issuers under the Securities Act of 1933
F-10POS	32	Post-effective amendment to a F-10EF registration
F-1MEF	23	A new registration statement filed under Rule 462(b) to add securities to a prior related effective registration statement filed on Form F-1
F-2	6	Registration of securities by foreign private issuers meeting certain 1934 Act fling requirements [1]
F-2/A	12	Amendment to above
F-3	505	Registration statement for specified transactions by certain foreign private issuers
F-3/A	412	Amendment to above
F-3ASR	225	Automatic shelf registration statement of securities of well-known seasoned issuers
F-3D	38	Registration statement for dividend or interest reinvestment plan securities of foreign private issuers
F-3DPOS	4	Post-Effective amendment to a F-3D registration
F-3MEF	15	A new registration statement filed under Rule 462(b) to add securities to a prior related effective registration statement filed on Form F 3
F-4	132	Registration statement for securities issued by foreign private issuers in certain business combination transactions
F-4 POS	1	Post-effective amendment to a F-4EF registration
F-4/A	190	Amendment to above
F-4MEF	2	A new registration statement filed under Rule 462(b) to add securities to a prior related effective registration statement filed on Form F 4

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
F-6	92	Registration statement for American Depositary Receipts representing securities of certain foreign private issuers
F-6/A	4	Amendment to above
F-6 POS	96	Post-effective amendment to a F-6EF registration
F-6EF	104	Auto effective registration statement for American Depositary Receipts representing securities of certain foreign private issuers
F-7	5	Registration statement for securities of certain Canadian issuers offered for cash upon the exercise of rights granted to existing security holders under the Securities Act of 1933
F-7/A	1	Amendment to above
F-8	14	Registration statement for securities of certain Canadian issuers to be issued in exchange offers or a business combination under the Securities Act of 1933
F-8/A	31	Amendment to above
F-8 POS	3	Post-effective amendment to a F-8 registration
F-80	6	Registration of securities of certain Canadian issuers to be issued in exchange offers or a business combination under the Securities Act of 1933
F-80/A	2	Amendment to above
F-80POS	7	Post-effective amendment to a F-80 registration
F-9	64	Registration of securities of certain investment grade debt or investment grade preferred securities of certain Canadian issuers under the Securities Act of 1933
F-9/A	62	Amendment to above
F-9EF	2	Auto effective registration of securities of certain investment grade debt or investment grade preferred securities of certain Canadian issuers under the Securities Act of 1933
F-N	93	Auto effective registration of securities of certain investment grade debt or investment grade preferred securities of certain Canadian issuers under the Securities Act of 1933
F-N/A	3	Amendment to above
F-X	670	For appointment of agent for service of process by issuers registering securities
F-X/A	77	Amendment to above

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Form	Frequency	Description
FOCUSN	1	FOCUSN Filing
FWP	38642	Filing under Securities Act Rules 163/433 of free writing prospectuses
IRANNOTICE	781	Notice of disclosure filed in Exchange Act quarterly and annual reports pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012 and Section 13(r) of the Exchange Act
N-14	23	Initial registration statement filed on Form N14 for open-end investment company, including those filed with automatic effectiveness under Rule 488 (business combinations)
N-14/A	6	Amendment to above
N-14 8C	50	Initial registration statement filed on Form N14 by closed-end investment company (business combinations)
N-14 8C/A	66	Amendment to above
N-18F1	1	Initial notification of election pursuant to Rule 18f-1 filed on Form N-18F-1
N-1A	5	Initial registration statement filed on Form N1A for open-end management investment companies
N-1A/A	3	Amendment to above
N-2	272	Initial filing of a registration statement on Form N-2 for closed-end investment companies
N-2/A	422	Amendment to above
N-23C-1/A	8	Amendment to above
N-23C-2	340	Notice by closed-end investment companies of intention to call or redeem their own securities under Investment Company Act Rule 23c-2
N-23C-2/A	6	Amendment to above
N-23C3A	87	Notification of periodic repurchase offer Filed pursuant to Rule 23c-3(b) only
N-23C3A/A	1	Amendment to above
N-2MEF	6	A new registration statement on Form N-2 filed under Securities Act Rule 462(b) by closed-end investment companies of up to an additional 20% of securities for an offering that was registered on Form N-2

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Form	Frequency	Description
N-30B-2	360	Periodic and interim reports mailed to investment company shareholders (other than annual and semi-annual reports mailed to shareholders pursuant to Rule 30e-1)
N-30D	306	Initial annual and semi-annual reports mailed to investment company shareholders pursuant to Rule 30e-1 (other than those required to be submitted as part of Form NCSR)
N-30D/A	4	Amendment to above
N-5	1	Registration statement for small business investment companies
N-5/A	2	Amendment to above
N-54C	2	Notification of withdrawal by business development companies filed on Form N-54C
N-8A	2	Initial notification of registration under section 8(a) filed on Form N-8A
N-8A/A	23	Amendment to above
N-8F	5	Application for deregistration made on Form N8F
N-8F/A	2	Amendment to above
N-CSR	6865	Certified annual shareholder report of registered management investment companies filed on Form N-CSR
N-CSR/A	347	Amendment to above
N-CSRS	5984	Certified semi-annual shareholder report of registered management investment companies filed on Form N-CSR
N-CSRS/A	239	Amendment to above
N-MFP	67	Monthly Schedule of Portfolio Holdings of Money Market Funds
N-MFP/A	5	Amendment to above
N-PX	5146	Annual Report of Proxy Voting Record of Registered Management Investment Companies filed on Form N-PX
N-PX/A	210	Amendment to above
N-Q	12995	Annual Report of Proxy Voting Record of Registered Management Investment Companies filed on Form N-PX
N-Q/A	72	Amendment to above

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
NO ACT	4651	NO ACT Filing
NRSRO-CE	1	Form NRSRO – Annual Certification for Nationally Recognized Statistical Rating Organizations
NSAR-A	6795	Semi-annual report for management companies filed on Form N-SAR
NSAR-A/A	332	Amendment to above
NSAR-B	6689	Annual report for management companies filed on Form N-SAR
NSAR-B/A	754	Amendment to above
NSAR-BT	40	Transitional annual report filed on Form NSAR
NSAR-U	13	Annual report for unit investment trusts filed on Form N-SAR
NSAR-U/A	1	Amendment to above
NT 10-K	3035	Notice under Rule 12b25 of inability to timely file all or part of a Form 10-K, 10-KSB, or 10KT
NT 10-K/A	50	Amendment to above
NT 10-Q	3811	Notice under Rule 12b25 of inability to timely file all or part of a form 10-Q or 10-QSB
NT 10-Q/A	44	Amendment to above
NT 11-K	657	Notice under Rule 12b25 of inability to timely file all or part of a form 11-K
NT 11-K/A	3	Amendment to above
NT 20-F	179	Notice under Rule 12b25 of inability to timely file all or part of an annual report of form 20-F
NT 20-F/A	4	Amendment to above
NT-NCSR	23	Notice under Exchange Act Rule 12b-25 of inability to timely file Form N-CSR (annual or semi-annual report)
NT-NCSR/A	1	Amendment to above
NT-NSAR	35	Notice under Exchange Act Rule 12b-25 of inability to timely file Form N-SAR
NT-NSAR/A	2	Amendment to above
NTN 10K	37	Filing NTN 10K
NTN 10Q	71	Filing NTN 10Q

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Form	Frequency	Description
NTN 20F	5	Filing NTN 20F
POS 8C	223	Post-effective amendment filed under the 1933 Act only or under both the 1933 and 1940 Acts pursuant to Section 8(c) of the 1933 Act by closed-end investment companies (this filing cannot be submitted as a 1940 Act only filing)
POS AM	4321	Post-effective amendment to a registration statement that is not immediately effective upon filing
POS AMI	76	Post-effective amendment (for filings made under the 1940 Act only)
POS EX	1110	Post-effective amendment filed solely to add exhibits to a registration statement
POS462B	14	Post-effective amendment to Securities Act Rule 462(b) registration statement
POS462C	2	Post-effective amendment to a registration statement filed under Rule 462(c)
POSASR	746	Post-effective Amendment to an automatic shelf registration statement on Form S-3ASR or Form F-3ASR
PRE 14A	8089	Preliminary proxy statement not related to a contested matter or merger/acquisition
PRE 14C	259	Preliminary information statement not related to a contested matter or merger/acquisition
PREC14A	1118	Preliminary proxy statement in connection with contested solicitations
PREC14C	17	Preliminary information statements – contested solicitations
PREM14A	1734	Preliminary proxy statement relating to a merger, acquisition, or disposition
PREM14C	55	Preliminary information statements relating to merger or acquisition
PREN14A	135	Preliminary proxy statement filed by non-management
PRER14A	2514	Preliminary revised proxy soliciting materials
PRER14C	80	Preliminary revised information statements
PRES14A	10	Preliminary proxy statement giving notice regarding a special meeting[1]
PRRN14A	793	Revised preliminary proxy statement filed by non-management
PX14A6G	761	Notice of exempt solicitation
PX14A6N	20	Notice of exempt solicitation for the purpose of determining whether to solicit proxies, consents, or authorizations in opposition to a proposed roll-up transaction filed pursuant to Rule 14a6(g) of the Securities Exchange Act of 1934

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Form	Frequency	Description
REGDEX	1902	Regulation D Exemption Filing
REGDEX/A	179	Amendment to above
REVOKED	2	Registration Withdrawal Request
RW	875	Registration Withdrawal Request
RW WD	19	Withdrawal of a Registration Withdrawal Request
S-1	1167	General form of registration statement for all companies including face-amount certificate companies
S-1/A	1894	Amendment to above
S-11	81	Registration statement for securities to be issued by real estate companies
S-11/A	124	Amendment to above
S-11MEF	20	A new registration statement filed under Rule 462(b) to add securities to a prior related effective registration statement filed on Form S 11
S-1MEF	204	A new registration statement filed under Rule 462(b) to add securities to a prior related effective registration statement filed on Form S 1
S-2	57	This filing is an optional registration form that may be used by companies which have reported under the '34 Act for a minimum of three years and have timely filed all required reports during the 12 calendar months and any portion of the month immediately preceding the filing of the registration statement[1]
S-2/A	109	Amendment to above
S-2MEF	7	Registration of up to an additional 20% of securities for any offering registered on an S-2[1]
S-3	8716	Registration statement for specified transactions by certain issuers
S-3/A	6809	Amendment to above
S-3ASR	4699	Automatic shelf registration statement of securities of well-known seasoned issuers
S-3D	220	Automatically effective registration statement for securities issued pursuant to dividend or interest reinvestment plans
S-3DPOS	118	Post-effective amendment to a S-3D registration statement
S-3MEF	380	A new registration statement filed under Rule 462(b) to add securities to a prior related effective registration statement filed on Form S 3

Table 67: This table provides a list of forms that used in the data set with their corresponding frequency and description. Descriptions with superscript[1] are non-SEC descriptions from other sources.

Form	Frequency	Description
S-4	3400	Registration of securities issued in business combination transactions
S-4/A	4143	Amendment to above
S-4 POS	32	Post-effective amendment to a S-4EF registration statement
S-4MEF	33	A new registration statement filed under Rule 462(b) to add securities to a prior related effective registration statement filed on Form S-4
S-8	23885	Initial registration statement for securities to be offered to employees pursuant to employee benefit plans
S-8 POS	7651	Post-effective amendment to a S-8 registration statement
S-B	1	Registration statement for securities of foreign governments and subdivisions thereof under the Securities Act of 1933 (Schedule B)
SB-1/A	1	Amendment to an optional filing for small business issuers for the registration of securities to be sold to the public.[1]
SB-2	66	An optional filing for small business issuers for the registration of securities to be sold to the public[1]
SB-2/A	133	A pre-effective amendment to an SB-2 filing.[1]
SB-2MEF	5	Registration of up to an additional 20% of securities for any offering registered on a SB-2
SC 13D	12430	Schedule filed to report acquisition of beneficial ownership of 5% or more of a class of equity securities
SC 13D/A	46452	Amendment to above
SC 13E1	5	Schedule 13-E1 statement of issuer required by Rule 13e-1
SC 13E3	519	Schedule filed to report going private transactions
SC 13E3/A	1722	Amendment to above
SC 13G	136999	Schedule filed to report acquisition of beneficial ownership of 5% or more of a class of equity securities by passive investors and certain institutions
SC 13G/A	289239	Amendment to above
SC 14D1	7	Tender offer statement[1]
SC 14D9	1116	Tender offer solicitation/recommendation statements filed under Rule 14d-9
SC 14D9/A	4193	Amendment to above

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Form	Frequency	Description
SC 14F1	53	Statement regarding change in majority of directors pursuant to Rule 14f-1
SC 14F1/A	5	Amendment to above
SC 14N	3	Information filed by certain nominating shareholders (pursuant to Section 240 14n-1)
SC 14N/A	3	Amendment to above
SC TO-C	3531	Written communication relating to an issuer or third party tender offer
SC TO-I	1420	Issuer tender offer statement
SC TO-I/A	3937	Amendment to above
SC TO-T	1166	Third party tender offer statement
SC TO-T/A	7516	Amendment to above
SC13E4F	7	Issuer tender offer statement filed pursuant to Rule 13(e)(4) by foreign issuers
SC13E4F/A	10	Amendment to above
SC14D1F	22	Third party tender offer statement filed pursuant to Rule 14d-1(b) by foreign issuers
SC14D1F/A	79	Amendment to above
SC14D9C	1474	Written communication by the subject company relating to a third party tender offer
SC14D9F	18	Solicitation/recommendation statement pursuant to Section 14(d)(4) of the Securities Exchange Act of 1934 and Rules 14d-1(b) and 14e-2(c) by foreign issuers
SC14D9F/A	14	Amendment to above
SD	3065	Specialized Disclosure Report filed pursuant to Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act relating to the use of conflict minerals (Rule 13p-1)
SD/A	13	Amendment to above
SE	101	SE Submission of Paper Format Exhibits by Electronic Filers
SUPPL	569	Voluntary supplemental material filed pursuant to Section 11(a) of the Securities Act of 1933 by foreign issuers
T-3	82	Initial application for qualification of trust indentures
T-3/A	52	Amendment to above

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Form	Frequency	Description
U-1	100	Application of declaration under the Public Utility Holding Company Act
U-1/A	230	Amendment to above
U-12-IA	5	Statement pursuant to section 12(i) of the Act by person employed or retained by a registered holding company or subsidiary thereof
U-12-IB	459	Annual statement pursuant to section 12(i) of the Public Utility Company Act or by a registered holding company or a subsidiary thereof
U-13-60	27	Annual report for mutual and subsidiary service companies filed pursuant to Rule 94 of the Public Utility Holding Company Act
U-13-60/A	1	Amendment to above
U-33-S	7	Annual report concerning Foreign Utility Companies pursuant to section 33(e) of the Public Utility Holding Company Act
U-3A-2	78	Statement by holding company claiming exemption from provisions of the act pursuant to Rule 2
U-3A-2/A	29	Amendment to above
U-57	35	Notification of Foreign Utility Company Status under section 33(a)(2) of the Public Utility Holding Company Act
U-57/A	29	Amendment to above
U-6B-2	101	Certificate of notification of security issue, renewal or guaranty filed pursuant to Rule 20(d) of the Public Utility Holding Company Act
U-9C-3	203	Quarterly report concerning energy and gas-related companies
U-9C-3/A	2	Amendment to above
U5A	2	Notification of registration filed under section 5(a) of the Public Utility Holding Company Act [1]
U5S	56	Annual report for holding companies registered pursuant to section 5 of the Public Utility Holding Company Act
U5S/A	17	Amendment to above
UNDER	3	Initial undertaking to file reports
UPLOAD	51785	Comments provided to issuers as part of the SEC fling review process[1]
X-17A-5	1	Information Required of Brokers and Dealers Pursuant to Section 17 of the Securities Exchange Act of 1934 and Rules 17a-5 and 17a-12 thereunder