Internet Appendix for:

Place your bets? The market consequences of investment research on Reddit's Wallstreetbets

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In this appendix, we discuss and tabulate results from select robustness tests referenced in the paper. The set of figures and tables are as follows:

- Figure IA.1 GME Trading Volume (December 2020 – January 2021)
- Table IA1. WSB Reports and Future Returns – Robustness
- Table IA.2. Non-Research Posts and Future Returns – Alternative Horizons
- Table IA3. WSB Reports and Future Returns – Quantile Regressions
- Table IA.4. WSB Reports, Future Volatility, and Risk-Adjusted Returns
- Table IA.5 SA Reports and Future Returns (2005-2021)
- Table IA.6 WSB Reports and Future Returns – New vs. Existing Contributors
- Table IA.7 Sensitivity of Results to Price Pressure Words
- Table IA.8 WSB Reports and Future Returns – Price Pressure and Attention Reports (Robustness)
- Table IA.9 WSB Reports and Investor Trading Volume
- Table IA.10 WSB Reports and Investor Order Imbalances – Price Pressure and Attention Reports
- Table IA.11 Informativeness of Large Retail Trading Following WSB DD Reports
- Table IA.12 Informativeness of Institutional Trading Following WSB DD Reports

IA.1 Defining the Post-GME Period

Figure IA.1 plots the GME trading volume from December 2020 through January 2021. We observe a roughly 10-fold increase in trading volume on January 13, 2021, and the elevated trading volume persists throughout the remainder of the month. Accordingly, in our main analysis we define the pre-GME period as July 2018 – January 12, 2021, the post-GME period as January 14, 2021 – June 2021, and we exclude 35 DD reports issued on the event day itself. As we show in the next section, the main results are robust to excluding the week prior to and after the GME-event day.

IA.2 WSB Reports and Future Returns – Robustness

In Table IA.1, we examine whether the findings reported in Table 3 are robust to different research design choices. For reference, Panel A of Table IA.1 tabulates the one-month horizon results from Table 3 for the full sample of stocks and for the sample that excludes GME and AMC.

Hu et al. (2021) find that *WSB* is particularly influential among "Robinhood 50" stocks, defined as the 50 stocks that Robinhood imposed a trading restriction on beginning on January 28th, 2021 and ending February 5th, 2021. While we already consider specifications that exclude the two most prominent stocks on the list (GME and AMC), in Panel B we exclude the remaining 48 stocks from the sample. We find that the main results are similar, which alleviates the concern that the results are driven by a small subset of meme stocks.

One concern is that the decline in report informativeness in the post-GME period is simply because different types of stocks performed better in the post-GME period. To explore this possibility, in Panel C, we augment the model by interacting the *Post* indicator with all the control variables, and we continue to find very similar results. We also find similar results if we exclude the five days prior to and after the GME-event (Panel D), which suggests that our results our robust to excluding the period immediately surrounding the GME event.

For the sample of firm-days where *Net DD* is not equal to zero, the majority (~75%) of firm-days have a *Net DD* equal to one (e.g., one buy recommendation). However, roughly 13% of firm-days have multiple buy recommendations (i.e., *Net DD* >1), and 12% of all firm-days have a net sell recommendation (i.e., *Net DD* <0). To examine whether either multiple buy recommendations or sell recommendations contain incremental

information, in Panel E we report the results after replacing *Net DD* with three separate variables: *Heavy Buy,* an indicator equal to one if *Net DD* is greater than or equal to 2, *Light Buy,* an indicator equal to one if *Net DD* is equal to one, and *Sell*, an indicator equal to one if *Net DD* is negative. The point estimates for *Heavy Buy* are always larger than the estimates on *Light Buy*, which is consistent with multiple buy recommendations being a stronger signal than a single buy recommendation in the pre-GME period. Similarly, over the one-month holding period, the decline in informativeness in the post-GME period are larger for *Heavy Buy* than *Light Buy*. However, due to the relatively small sample size of *Heavy Buy* recommendations, the estimates on *Heavy Buy* and *Light Buy,* in both the pre- and post-GME period, are not statistically different from each other (untabulated). We find no evidence that the relatively small sample of *Sell* recommendations are informative in the pre-GME period, nor do we find any evidence that sell recommendations become less informative in the post-GME period. In fact, after excluding GME and AMC there is weak evidence that sell recommendations become more informative. This is a consequence of sell recommendations often being issued in response to a previous buy recommendation, which as we have shown, performed poorly in the post-GME period.

Finally, in Panel F, we examine the relation between *Net DD* and stock returns over longer horizons. Specifically, we construct *Net DD* at the end of each month by averaging *Net DD* across all the days in the calendar month.[1] We find that the magnitudes of the estimates decline (in absolute value) considerably. For example, after excluding GME and AMC, the estimate on *Net DD* falls from 2.33% to 0.71%, while the estimate on *Net DD* × *Post* declines from -3.45% to -1.05%. This decline suggests that the predictability of post-GME reports is stronger over shorter horizons. However, aggregating over longer windows also results in much more precise estimates, and as a result, the statistical significance of the estimates remains similar.

IA.3 Non-Research Posts and Future Returns – Alternative Horizons

In Tables IA.2 we examine the predictive ability of non-research posts for alternative holding periods. Specifically, we repeat Equation (2) for the current day (i.e., Day 0), each of the first five days, weeks 2, 3, and

[1] To avoid mixing pre- and post-GME reports, in computing the monthly *Net DD* for January 2021, we calculate *Net DD* over only the post-GME period.

4, and weeks 5 through 12. Panel A of Table IA.2 reports the estimates on *NonResearch, NonResearch* × *Post,* and *NonResearch* + *NonResearch* × *Post* for the full sample, and Panel B reports the results after excluding GME and AMC. We find that after excluding GME and AMC, the estimate on *NonResearch* + *NonResearch* × *Post* are significantly negative across many holding periods. For example, in the 2nd and 3rd week following the post, returns are -0.26% and -0.51%, both of which are significant at a 1% level. This finding is consistent with *Non-Research* posts either reflecting or causing investor sentiment in the post-GME period.

IA.4 Differences in Risk between WSB and SA Reports

An interesting finding from Table 3 is that *WSB* reports in the pre-GME period are stronger predictors of one-month ahead returns than SA reports (although the difference between the two estimates is only marginally significant after excluding GME and AMC). In this section, we explore whether differences in risk-taking can explain the superior return predictability of *WSB* reports relative to SA reports.

We begin by estimating the baseline results from Table 3 using quantile regressions for the following percentiles: 10%, 25%, 50%, 75%, and 90%. The results, reported in Table IA.3, are consistent with *WSB* reports being associated with more dispersed returns. For example, the coefficient estimates for *Net DD* range from -2.77% (10th percentile) to 13.97% (90th percentile), while the corresponding estimates for *Net SA* range from -0.95% to 2.30%. Thus, while *WSB* reports are a stronger predictor of average future returns, the left-tail of *WSB* reports underperform the left-tail of SA reports.

A related prediction is that *WSB* reports are more strongly associated with future volatility than SA reports. To test this prediction, we repeat Table 3 after changing the dependent variable to one-month ahead volatility (*Vol*), defined as the standard deviation of daily returns over the subsequent 21-trading days. Specifications 1 and 2 of Table IA.4 report the results for the full sample and the sample that excludes GME and AMC, respectively. We find that both *Net DD* and *Net SA* reports are significant predictors of future volatility. However, the estimates are significantly larger for *Net DD*.

We next examine whether *WSB* reports continue to outperform SA reports after accounting for the fact that *WSB* reports are associated with greater volatility. Specifically, for each report we compute the

Information Ratio, defined as the one-month ahead return scaled by the one-month ahead volatility.[2] We then repeat the analysis in Table 3 after replacing the dependent variable with the *Information Ratio*. Specifications 3 and 4 report the results. We find that *Net DD* is a significant predictor of the *Information Ratio* in the pre-GME period. However, the estimates on *Net DD* are no longer reliably greater than the estimates on *Net SA*.

Using volatility as the measure of risk for individual report recommendations is questionable since much of the risk associated with an individual recommendation could be diversified away in a larger portfolio. We next examine whether differences in more systematic forms of risk also contribute to the outperformance of *WSB* investment recommendations.[3] Specifically, we repeat the analysis using characteristic-adjusted abnormal returns, computed as the differences between the raw returns and the returns on firms with similar size, book-to-market ratios, and past returns (Daniel et al., 1997). The results of this analysis, reported in Specifications 5 and 6 of Table IA.4, are qualitatively similar to our main results reported in Table 3. This finding suggests that the superior performance of *WSB* recommendations is not attributable to differences in exposure to size, book-to-market, or momentum.

IA.5 The Performance of SA Reports from 2005-2021

As discussed in Section 4.1, one challenge to studying *WSB* DD reports is that the sample period is relatively short (July 2018 – June 2021). Given the short time-series of *WSB* reports, we are unable to assess whether the informativeness of *WSB* reports in the pre-GME period would generalize to other market environments. In contrast to *WSB*, SA reports offer a much longer time-series. Accordingly, in this section we examine whether the informativeness of SA reports in the pre-GME period is similar to the informativeness over other periods.

[2] The return measure used in *Information Ratio* is the return in excess of a benchmark. Since out analysis includes time-fixed effects, we are effectively using the (equally weighted) average return across all stocks as the benchmark.

[3] There is considerable debate about whether the historically higher returns associated with certain stock characteristics (or factors) represents compensation for systematic risk or mispricing. We remain agnostic on this issue. Thus, we interpret our results as the extent to which systematic risk and/or well-known forms of mispricing can explain the superior performance of *WSB* investment recommendations.

We collect Seeking Alpha reports starting in January of 2005, which corresponds to the start date of Chen et al (2014). SA authors' stated recommendations (e.g., "bullish", "neutral", or "bearish) are only available for reports issued after 2018. Accordingly, for the pre-2018 sample period, we classify reports as a buy or sell recommendation using the authors' disclosed positions (e.g., Camplbell, DeAngelis, and Moon, 2019). For the post-2018 period, we consider specifications that classify reports as buys or sells using either the disclosed positions or the bullish/bearish ranking.

To explore how the informativeness of SA varies over time, we partition the sample into four periods. The baseline period is 2005-2012, which corresponds to the sample period of Chen et al. (2014). The 2nd period is 2013 – June of 2018, which captures the period between the end of Chen et al. (2014) and the start of our sample. Finally, periods 3 and 4 are the pre-GME and post-GME period. We then repeat the analysis in Table 3 after omitting *Net DD* and *NonResearch*. Table IA.5 reports the results. We find that the coefficient on *Net SA* for the one-week holding period is 0.25%, which is statistically significant at a 1% level. The estimate for the 21-day horizon estimate is slightly larger (0.28%), but it is no longer reliably different from zero. At a minimum, the one-week horizon results are consistent with SA research being informative in the baseline (2005-2012) sample period. Across all specifications, the coefficient on *Net SA* × *Period 2*, *Net SA* × *Period 3, Net SA* × *Period 4* are always statistically insignificant. Of particular interest, the coefficients on *Net SA* × *Period 3* across the four specifications are economically small ranging from -0.11% to 0.08% with a mean value of -0.03%. This suggests that SA research was not unusually informative during the pre-GME period.

IA.6 WSB Reports and Future Returns – New vs. Existing Contributors

As discussed in Section 5, nearly all (93.5%) reports issued in the post-GME period were authored by contributors who have never issued a DD report in the pre-GME period. If these new entrants are less skilled than existing contributors, then DD reports by existing contributors in the post-GME period may be more informative than DD reports issued by new contributors. To examine this possibility, in Table IA.6 we repeat the main results after including *Net DD* × *Post Existing Contributor*, where *Net DD* × *Post Existing Contributor* is the *Net DD* measure computed over the subset of reports that were issued by contributors who had issued a

report prior to the GME event. We find that the coefficient on *Net DD* × *Post* remains significant, which is consistent with new users contributing to the decline in performance in the post-GME period. The coefficient *Net DD* × *Post Existing Contributor* is positive, consistent with the decline in informativeness being smaller for post-GME reports issued by existing contributors, but statistically insignificant. The insignificant result is perhaps unsurprising given the small sample of post-GME reports by existing contributors.

IA.7 Price Pressure – Robustness

In this section, we examine how each of the individual price pressure words (listed in Appendix B) influences our results. Specifically, we report the frequency of each of the price pressure words in the both the pre-GME and post-GME sample, and we also examine whether the findings from Tables 8 and 9 of the paper are dependent on any specific word.

Columns 1 and 2 of Table IA.7 present the frequency analysis. The three most prevalent price pressure words in the post-GME period are "Squeeze" (26.5% of all price pressure words), "Short Interest" (20.7%) and "Float" (20.7%). We observe sizeable increases in the frequency of price pressure words in the post-GME period for nearly all the price pressure words. Similarly, columns 3 and 4 confirm that the findings from Table 8, which show that the number of price pressure reports increases in the post-GME period, is highly robust to excluding any specific word. Finally, in columns 5 and 6, we examine how excluding any price pressure word influences the findings from Table 9, which show that the informativeness of price pressure reports declines in the post-GME period. We find the estimate on *Net DD PP* × *Post* remains significantly negative in all 12 cases. We conclude that our findings from Tables 8 and 9 are not sensitive to the inclusion of any specific price pressure word.

In Table IA.8, we also examine whether the findings from Table 10 are robust to classifying a report as focusing on price pressure if there is at least one price pressure word in the report (i.e., *PP Report2*). We find that the coefficient on *Net DD PP2* × *Post* remains significantly negative for the full sample of stocks (Specification 1). Specifications 3 through 6 also indicate that our conclusion that the decline in report informativeness in the post-GME period is concentrated in high-attention reports is generally robust to

different measures of attention such as *High Absolute Return* and *High WSB Posts*.

IA.8 Investor Trading Volume following DD Reports

Section 6.1 examines the relation between *Net DD* and the trading direction of institutional and retail investors. We note, however, that DD reports can influence investor welfare even if they do not generate significant order imbalances. For example, DD reports that induce large amounts of both retail buying and selling volume can generate significant trading losses due to increased transaction costs (Barber and Odean, 2000; Barber, Lin, and Odean, 2022). Accordingly, in this section we examine whether DD reports also result in significant increases in unsigned trading volume.

To examine the impact of DD reports on unsigned trading volume, we estimate the following panel regression:

$$\begin{aligned} Y_{it} = {} & \beta_1 DD_{it} + \beta_2 DD_{it} \times Post_t \\ & + \beta_3 NonResearch_{it} + \beta_4 NonResearch_{it} \times Post_t + \beta_5 SA_{it} \\ & + \beta_6 SA_{it} \times Post_t + Controls_{it} + Day_t + \varepsilon_{it}. \end{aligned} \quad \text{(IA.1)}$$

The dependent variable, *Y*, is abnormal trading volume (*Abnormal Volume*). *Abnormal Volume* is calculated as the difference between log trading volume for firm *i* on day *t* and the average log volume from *t-240* to *t-120* trading days. Volume is either institutional share volume, retail share volume (i.e., large retail trading), or retail number of trades (i.e., small retail trading). As in Table 11, we convert all the volume measures to percentile rankings. *DD* is the total number of DD reports issued for firm *i* on day *t*, SA is the total number of SA reports issued for firm *i* on day *t*, and all other variables are defined as in Table 11.

Specification 3 of Table IA.9 indicates that small retail trading volume increases substantially following DD reports. As a benchmark, the estimated magnitude is more than twice as large as the increase following SA reports or non-research WSB posts. This estimate declines in post-GME period; however, the relation between small retail trading and DD reports in the post-GME period remains economically large and statistically significant. We find similar, albeit slightly smaller, increases in trading volume for large retail investors and institutional investors. Comparing Table 11 and Table IA.9 reveals that heterogeneity across

investor groups is much stronger when focusing on signed measures of trading volume relative to unsigned trading volume.

IA.9 Investor Order Imbalances following DD Reports – Price Pressure and Attention Reports

The results from Section 5 indicate that following the GME event, there was a substantial increase in the frequency of reports emphasizing price pressure strategies and reports focusing on attention-grabbing stocks. Further, we show that shifts in strategy contributed to the significant decline in report informativeness. In this section, we examine whether the relation between investor imbalances and DD reports were weaker for price pressure and attention-grabbing reports in the post-GME period. Specifically, we repeat Table 11 after including *Net DD PP* and *Net DD Attention* and interacting both variables with the *Post-GME* indicator.

The results of this analysis are reported in Table IA.10. We find that *Net DD Attention* × *Post GME* is significantly negative for large retail trading imbalances. This finding is consistent with larger retail investors recognizing that DD reports on attention-grabbing stocks in the post-GME period were less informative. We also find that Net *DD PP* × *Post GME* is significantly negative for smaller retail investors which points to the possibility that smaller investors were correctly discounting price pressure reports in the post-GME period. While this finding is consistent with smaller investors exhibiting some sophistication, we note that smaller retail investors still strongly follow DD reports in the post-GME period despite the fact that they are on average uninformative (Table 11), and small retail trade informativeness following DD reports declines significantly in the post-GME period.

IA.10 The Informativeness of Institutional and Large Retail Trading following DD Reports

Table 12 of the paper examines how small retail informativeness changes following DD reports. In Tables IA.11 and IA.12, we report analogous results after replacing small retail trading with large retail trading and institutional trading, respectively. We find no evidence that the trade informativeness for either group of investor varies significantly following DD reports.

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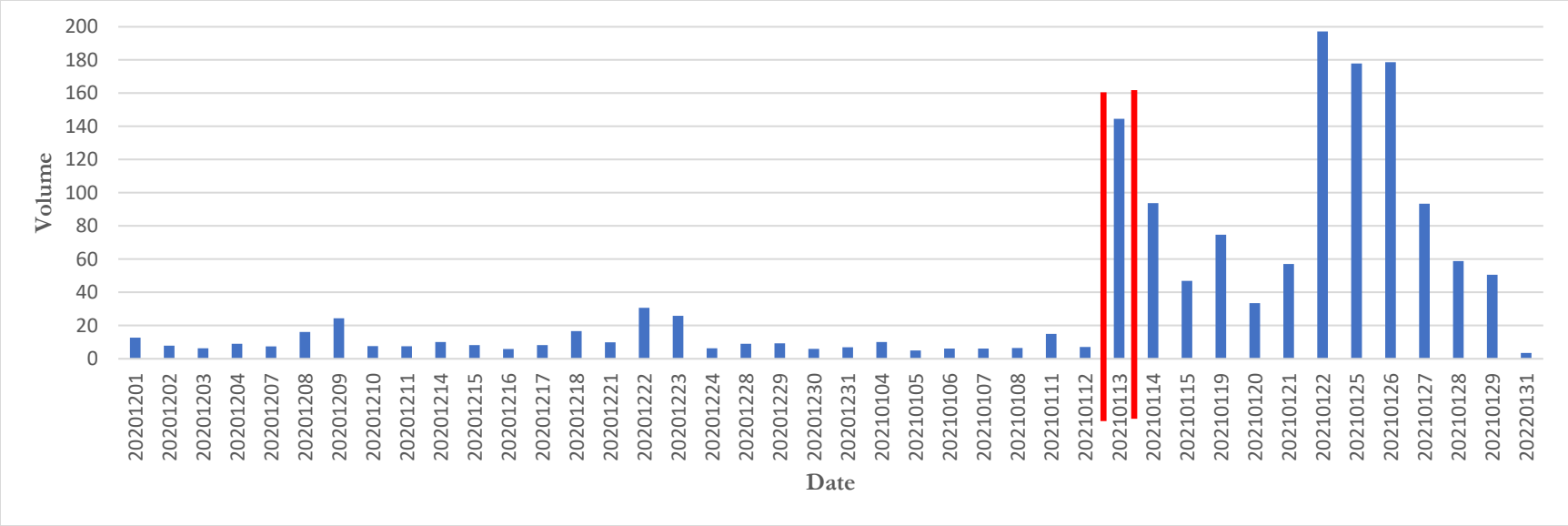

Figure IA.1 GME Trading Volume (December 2020 – January 2021)
This figure plots the daily trading volume in GME from December 1, 2020 through January 31, 2021. The red lines highlight the date of the GME-event which separates the pre-GME and post-GME period.

Table IA.1 WSB Reports and Future Returns – Robustness

This table examines the sensitivity of the baseline estimates in Table 3 (tabulated for convenience in Panel A) to alternative research design choices. In Panel B, we exclude the Robinhood 50 stocks, defined as the 50 stocks that Robinhood imposed a trading restriction on beginning on January 28, 2021, and ending February 5, 2021 (except Specifications 1 and 2 continue to include GME and AMC). In Panel C, we allow the coefficient on the control variables to vary in the pre- and post-GME period by interacting the post-GME indicator with all the control variables. Panel D exclude the five trading days prior to and after the GME-event date. Panel E partitions *Net DD* into three separate variables: *Heavy Buy,* an indicator equal to one if *Net DD* is greater than or equal to 2, *Light Buy,* an indicator equal to one if *Net DD* is equal to one, and *Sell*, an indicator equal to one if *Net DD* is negative. In Panel F we conduct the analysis at the end of each month and define *Net DD* as the average *Net DD* over the calendar month. Standard errors are clustered by firm and month, and *t*-statistics are reported next to each estimate.

	Ret [1,21] - All Stocks		Ret [1,21] - Exclude GME/AMC	
	Estimate	t-stat	Estimate	t-stat
Panel A: Baseline Results				
Net DD	5.17%	(2.77)	2.33%	(2.46)
Net DD × *Post*	-5.30%	(-3.27)	-3.45%	(-2.52)
Panel B: Drop "Robinhood 50" stocks				
Net DD	5.03%	(2.62)	2.00%	(1.97)
Net DD × *Post*	-4.64%	(-2.84)	-2.91%	(-2.02)
Panel C: Interact Controls with Post-GME Indicator				
Net DD	5.12%	(2.74)	2.28%	(2.46)
Net DD × *Post*	-5.04%	(-2.81)	-3.15%	(-2.16)
Panel D: Exclude [-5,5] window around GME-event				
Net DD	4.95%	(2.79)	2.26%	(2.41)
Net DD × *Post*	-5.04%	(-3.16)	-3.40%	(-2.45)
Panel E: Partition Net DD into Sells, Light Buys, and Heavy Buys				
Heavy Buy	21.90%	(2.69)	4.71%	(1.24)
Light Buy	4.28%	(3.33)	3.64%	(3.01)
Sell	0.60%	(0.30)	1.78%	(1.12)
Heavy Buy × *Post*	-19.95%	(-2.70)	-8.30%	(-1.65)
Light Buy × *Post*	-3.73%	(-1.45)	-5.34%	(-2.58)
Sell × *Post*	5.64%	(0.66)	-6.78%	(-1.85)
Panel F: Monthly Measure of Net DD				
NET_DD [1,21]	1.47%	(2.69)	0.71%	(2.00)
NET_DD [1,21] × *Post*	-1.67%	(-2.90)	-1.05%	(-2.24)

Table IA.2 WSB Non-Research Posts and Future Returns - Alternative Horizons

This table repeats the analysis in Table 3 after replacing the dependent variable with the return on the current day (i.e., Day 0), each of the subsequent five days, the subsequent 2, 3, and 4 weeks, and the subsequent 5 through 12 weeks. We report the estimate on *NonResearch, NonResearch × Post*, and the sum of the two estimates. Panel A reports the results for the full sample, and Panel B reports analogous results after excluding GME and AMC. Standard errors are clustered by firm and month, and *t*-statistics are reported next to each estimate.

Panel A: Include GME &AMC

	NonResearch		*NonResearch × Post*		*NonResearch + NonResearch × Post*	
Ret. Period	*Coefficient*	*t-stat*	*Coefficient*	*t-stat*	*Coefficient*	*t-stat*
0	0.15%	(1.96)	0.53%	(1.28)	0.68%	(1.72)
1	0.00%	(-0.02)	0.13%	(0.61)	0.13%	(0.59)
2	0.01%	(0.18)	0.35%	(1.86)	0.36%	(1.77)
3	0.07%	(2.29)	0.11%	(0.96)	0.18%	(1.58)
4	0.06%	(1.90)	0.04%	(0.41)	0.10%	(1.16)
5	0.06%	(1.24)	0.02%	(0.17)	0.08%	(0.75)
[6-10]	0.67%	(1.84)	-0.68%	(-1.18)	-0.02%	(-0.06)
[11-15]	1.09%	(1.68)	-0.81%	(-0.65)	0.28%	(0.37)
[16-20]	0.93%	(0.99)	-0.28%	(-0.26)	0.65%	(1.74)
[21-60]	3.52%	(3.20)	-1.71%	(-1.20)	1.81%	(2.13)

Panel B: Exclude GME &AMC

	NonResearch		*NonResearch × Post*		*NonResearch + NonResearch × Post*	
Ret. Period	*Coefficient*	*t-stat*	*Coefficient*	*t-stat*	*Coefficient*	*t-stat*
0	0.19%	(2.39)	0.22%	(1.84)	0.42%	(4.60)
1	0.01%	(0.18)	-0.16%	(-1.59)	-0.15%	(-1.60)
2	-0.02%	(-0.32)	0.02%	(0.27)	0.00%	(0.02)
3	0.09%	(2.73)	-0.14%	(-1.39)	-0.06%	(-0.61)
4	0.06%	(2.27)	-0.11%	(-3.40)	-0.05%	(-2.06)
5	0.04%	(1.03)	-0.10%	(-2.16)	-0.05%	(-3.02)
[6-10]	0.18%	(2.05)	-0.44%	(-3.72)	-0.26%	(-3.66)
[11-15]	0.13%	(1.03)	-0.65%	(-4.15)	-0.51%	(-5.18)
[16-20]	0.02%	(0.18)	-0.22%	(-1.11)	-0.20%	(-1.39)
[21-60]	0.85%	(1.49)	-0.75%	(-1.11)	0.10%	(0.35)

Table IA.3: WSB Reports and Future Returns - Quantile Regressions

This table repeats the analysis in Table 3 but estimates the results using quantile regressions for the following quantiles: 10%, 25%, 50%, 75%, and 90% respectively. Standard errors are bootstrapped and clustered by month, and t-statistics are reported in parentheses.

	10th Percentile	*25th Percentile*	*50th Percentile*	*75th Percentile*	*90th Percentile*
	[1]	[2]	[3]	[4]	[5]
Net DD	-2.77%	1.05%	4.59%	8.61%	13.97%
	(-2.59)	(1.33)	(3.34)	(3.76)	(3.46)
Net DD × Post	-1.69%	-3.43%	-5.04%	-6.86%	-2.98%
	(-1.27)	(-4.07)	(-2.73)	(-2.14)	(-1.79)
WSB NonResearch	-5.50%	-1.11%	2.95%	7.56%	13.69%
	(-2.39)	(-3.83)	(1.77)	(1.91)	(1.82)
WSB NonResearch × Post	3.56%	0.47%	-2.38%	-5.61%	-9.92%
	(1.32)	(0.88)	(-1.11)	(-1.31)	(-1.06)
Net SA	-0.95%	-0.21%	0.48%	1.26%	2.30%
	(-4.28)	(-0.59)	(2.00)	(4.88)	(5.82)
Net SA × Post	-0.89%	-0.28%	0.29%	0.94%	1.80%
	(-1.39)	(-0.59)	(0.72)	(1.59)	(2.82)
Log (Size)	2.36%	1.09%	-0.08%	-1.41%	-3.19%
	(15.94)	(6.95)	(-0.45)	(-5.92)	(-8.33)
Log (BM)	1.58%	0.70%	-0.11%	-1.03%	-2.25%
	(4.92)	(2.44)	(-0.43)	(-3.20)	(-5.74)
Ret [0]	-14.98%	-12.36%	-9.93%	-7.18%	-3.52%
	(-12.65)	(-11.92)	(-5.55)	(-22.25)	(-0.77)
Ret [-5, -1]	-7.65%	-5.94%	-4.36%	-2.56%	-0.18%
	(-6.49)	(-6.78)	(-3.26)	(-1.07)	(-0.05)
Ret [-26, -6]	-3.79%	-2.22%	-0.79%	0.85%	3.03%
	(-3.49)	(-3.22)	(-0.82)	(0.46)	(1.08)
News Sentiment [0]	0.32%	0.20%	0.01%	-0.03%	-0.19%
	(2.59)	(2.37)	(1.04)	(-0.26)	(-1.08)
News Sentiment [-5, -1]	0.43%	0.24%	0.06%	-0.14%	-0.40%
	(4.00)	(3.47)	(0.70)	(-1.35)	(-2.30)
News Sentiment [-26, -6]	0.18%	0.12%	0.06%	-0.01%	-0.10%
	(2.98)	(2.03)	(1.07)	(-0.12)	(-0.91)
Obs. (Firm-Days)	2,772,053	2,772,053	2,772,053	2,772,053	2,772,053
Day FE	Yes	Yes	Yes	Yes	Yes
Include GME & AMC	Yes	Yes	Yes	Yes	Yes

Table IA.4: WSB Reports, Future Volatility, and Risk-Adjusted Returns

This table repeats the analysis in Table 3 after replacing the dependent variable with either one-month ahead volatility (*Vol*), one-month ahead information ratio (*IR*), or the one-month ahead DGTW (1997) returns. *Vol* is measured as the standard deviation of daily returns over the 21-day holding period. *IR* is the one-month ahead return scaled by *Vol*. *DGTW* is the one-month ahead return on the stock less the value-weighted average return of a portfolio matched on size, book-to-market, and momentum. The regression includes the full set of controls from Table 3, but in the interest of brevity, the estimates on controls are unreported.

	Vol [1,21]	Vol [1,21]	IR [1,21]	IR [1,21]	DGTW [1,21]	DGTW [1,21]
	[1]	[2]	[3]	[4]	[5]	[6]
Net DD	1.02%	0.73%	33.69%	28.82%	5.05%	2.39%
	(4.54)	(8.53)	(2.38)	(2.10)	(2.58)	(2.86)
Net DD × Post	0.18%	0.33%	-67.03%	-79.23%	-4.95%	-3.24%
	(0.64)	(1.66)	(-1.89)	(-2.34)	(-2.75)	(-2.63)
WSB NonResearch	0.75%	0.57%	9.24%	2.50%	3.33%	0.41%
	(4.18)	(6.14)	(0.96)	(0.26)	(1.33)	(1.06)
WSB NonResearch × Post	-0.22%	(-0.00)	-7.15%	(-0.28)	-2.45%	-1.37%
	(-2.96)	(-4.27)	(-0.85)	(-2.20)	(-1.16)	(-2.95)
Net SA	0.34%	0.34%	15.20%	15.27%	0.42%	0.48%
	(7.97)	(7.75)	(2.55)	(2.55)	(2.36)	(2.73)
Net SA × Post	0.19%	0.21%	13.47%	14.85%	0.32%	0.29%
	(2.16)	(2.71)	(0.66)	(0.73)	(0.74)	(0.68)
Net DD - Net SA	0.68%	0.39%	18.50%	13.55%	4.63%	1.91%
	(3.01)	(4.10)	(1.29)	(0.97)	(2.34)	(2.25)
Net DD Post - Net SA Post	-0.01%	0.12%	-80.50%	-94.08%	-5.27%	-3.53%
	(-0.01)	(0.51)	(-2.01)	(-2.81)	(-2.93)	(-3.46)
Obs. (Firm-Days)	2,772,053	2,770,545	2,772,053	2,770,545	2,772,053	2,770,545
Day FE	Yes	Yes	Yes	Yes	Yes	Yes
Table 3 Controls	Yes	Yes	Yes	Yes	Yes	Yes
Include GME & AMC	Yes	No	Yes	No	Yes	No

Table IA.5 SA Reports and Future Returns (2005-2021)

This table repeats the analysis in Table 3 after 1) excluding DD reports and non-research posts and 2) extending the time-series from January 2005 – June 2021. We examine the informativeness of SA reports over four periods: the 2005-2012 period studied in Chen et al. (2014), the 2013-June 2018 period, the *Pre-GME* period (July 2018 – January 2021), and the *Post-GME* period (January 14, 2021-June 2021). In Specifications 1 and 2, we sign SA reports as a buy or sell using the position disclosure for the full sample period. In Specifications 3 and 4, we sign SA reports as a buy or sell using the position disclosure for the pre-2018 period and the bullish/bearish indicator for the post-2018 period.

	Ret [1,5]	Ret [1,21]	Ret [1,5]	Ret [1,21]
	[1]	[2]	[1]	[2]
Net SA	0.25%	0.28%	0.25%	0.28%
	(3.17)	(1.35)	(3.17)	(1.35)
NET SA × Period 2 (2013- June 2018)	0.03%	-0.01%	0.03%	-0.01%
	(0.25)	(-0.02)	(0.25)	(-0.02)
NET SA × Period 3 (Pre-GME)	-0.09%	-0.11%	0.01%	0.08%
	(-0.78)	(-0.35)	(0.11)	(0.31)
NET SA × Period 4 (Post-GME)	0.26%	0.27%	0.10%	0.43%
	(0.73)	(0.41)	(0.68)	(0.99)
Log (Size)	-0.08%	0.02%	-0.08%	0.02%
	(-0.68)	(0.39)	(-0.68)	(0.39)
Log (BM)	0.04%	0.16%	0.04%	0.16%
	(1.38)	(1.45)	(1.38)	(1.45)
Ret [0]	-9.94%	-12.30%	-9.94%	-12.30%
	(-13.75)	(-12.61)	(-13.75)	(-12.61)
Ret [-5, -1]	-2.19%	-4.73%	-2.19%	-4.73%
	(-3.73)	(-4.51)	(-3.73)	(-4.51)
Ret [-26, -6]	-0.52%	-1.06%	-0.52%	-1.06%
	(-2.67)	(-1.47)	(-2.67)	(-1.47)
News Sentiment [0]	15.00%	0.31%	15.00%	0.31%
	(6.92)	(4.27)	(6.92)	(4.27)
News Sentiment [-5, -1]	0.07%	0.20%	0.07%	0.20%
	(3.20)	(2.89)	(3.20)	(2.89)
News Sentiment [-26, -6]	0.01%	-0.01%	0.01%	-0.01%
	(1.71)	(-0.61)	(1.71)	(-0.61)
Orbs (Firm-Days)	15,362,242	15,362,242	15,362,242	15,362,242
Day FE	Yes	Yes	Yes	Yes
Include GME & AMC	Yes	Yes	Yes	Yes
Approach to singing SA Reports (2018-2021)	*Position Disclosure*		*Bullish/Bearish*	

Table IA.6 WSB Reports and Future Returns - New vs. Existing Contributors

This table repeats Table 3 after including *Net DD × Post Existing Contributor,* where *Net DD × Post Existing Contributor* is the *Net DD × Post* measure computed for the subset of contributors who also issued a DD report in the pre-GME period.

	Ret [1,21]	*Ret [1,21]*
	[1]	[2]
Net DD	4.95%	2.26%
	(2.79)	(2.41)
Net DD × Post	-5.38%	-3.41%
	(-2.64)	(-2.35)
Net DD × Post Existing Contributor	4.99%	0.13%
	(0.94)	(0.08)
WSB NonResearch	3.73%	0.43%
	(1.33)	(0.94)
WSB NonResearch × Post	-2.91%	-1.72%
	(-1.23)	(-3.50)
Net SA	0.53%	0.60%
	(2.44)	(2.70)
Net SA × Post	0.49%	0.45%
	(1.25)	(1.20)
Log (Size)	-0.24%	-0.23%
	(-1.17)	(-1.15)
Log (BM)	-0.22%	-0.23%
	(-0.71)	(-0.74)
Ret [0]	-9.90%	-9.79%
	(-4.99)	(-4.87)
Ret [-5, -1]	-4.55%	-4.43%
	(-3.27)	(-3.21)
Ret [-26, -6]	-0.77%	-0.92%
	(-0.70)	(-0.80)
News Sentiment [0]	0.11%	0.10%
	(1.28)	(1.17)
News Sentiment [-5, -1]	0.04%	0.03%
	(0.44)	(0.39)
News Sentiment [-26, -6]	0.05%	0.06%
	(0.80)	(1.05)
Day FE	Yes	Yes
Include GME & AMC	Yes	No

Table IA.7: Sensitivity of Results to Price Pressure Words

This table explores how each price pressure word influences the results. Columns 1 and 2 report the number of times the word is used across all DD reports in both the pre-GME and post-GME period. Columns 3 and 4 report how the results in Specification 1 of Table 8 (Panel A) change if we exclude the specific price-pressure word from the analysis, and Columns 5 and 6 report how the results in Specification 1 of Table 9 change if we exclude the specific price-pressure word from the analysis.

	Frequency of Word Use		*Change in PP after excluding word*		*Change in PP1 Informativeness after excluding word*	
			Specification 1 of Table 8 (Panel A)		Specification 1 of Table 9	
	Pre-GME Total	*Post-GME Total*	*Post GME*	*t (Post GME)*	*Net DD PP × Post*	*t (Net DD PP × Post)*
	[1]	[2]	[3]	[4]	[5]	[6]
Squeeze	686	1437	17.64%	(6.63)	-18.43%	(-2.11)
Short Interest	611	1125	16.68%	(6.32)	-33.88%	(-2.09)
Short Seller	64	142	19.01%	(7.24)	-32.79%	(-2.04)
Short Volume	19	121	19.26%	(7.43)	-32.64%	(-2.04)
Gamma	80	416	18.90%	(7.22)	-33.59%	(-2.02)
Float	401	1122	16.53%	(6.49)	-35.86%	(-2.01)
Hedge	252	617	18.24%	(7.68)	-35.92%	(-2.28)
Melvin	121	96	19.62%	(7.29)	-28.50%	(-2.20)
Citadel	31	89	19.07%	(7.51)	-33.08%	(-2.07)
Robinhood	147	163	19.76%	(7.60)	-33.87%	(-1.98)
Dealers	34	42	19.32%	(7.46)	-33.42%	(-2.09)
HODL	1	59	19.13%	(7.47)	-32.85%	(-2.04)

Table IA.8 WSB Reports and Future Returns - Price Pressure and Attention Reports (Robustness)

This table repeats Table 9 using alternative measures of price pressure and attention reports. In Specifications 1 and 2, we classify a report as price pressure using *PP2,* which is an indicator equal to one if the number of price pressure words is greater than zero. In Specifications 3 and 4, we classify a report an attention report using *High Absolute Return* which is an indicator equal to one if the absolute return on the day prior to the DD report was in the top decile, and in Specifications 5 and 6 we classify a report as an attention report using *High WSB Posts* which is an indicator equal to one if the firm had more than one non-research post issued on WSB over the previous five trading days.

	Ret [1,21]	*Ret [1,21]*	*Ret [1,21]*	*Ret [1,21]*	*Ret [1,21]*	*Ret [1,21]*
	[1]	[2]	[3]	[4]	[5]	[6]
Net DD	1.18%	2.06%	5.31%	1.73%	1.99%	1.78%
	(0.76)	(1.78)	(2.13)	(2.97)	(1.91)	(1.90)
Net DD × Post	0.93%	-2.71%	-4.01%	-2.04%	-2.00%	-2.29%
	(0.42)	(-1.38)	(-2.85)	(-1.63)	(-1.07)	(-1.38)
Net DD PP2	19.57%	1.51%				
	(1.93)	(1.17)				
Net DD PP2 × Post	-22.87%	-2.17%				
	(-2.20)	(-1.30)				
Net DD High Abs. Ret			-0.61%	2.54%		
			(-0.18)	(1.19)		
Net DD High Abs. Ret × Post			-3.37%	-4.93%		
			(-1.04)	(-2.15)		
Net DD High WSB Posts					13.48%	2.70%
					(1.83)	(1.81)
Net DD High WSB Posts × Post					-14.28%	-3.79%
					(-2.15)	(-2.46)
WSB NonResearch	3.47%	0.40%	3.62%	0.35%	2.25%	-0.17%
	(1.41)	(1.04)	(1.32)	(0.95)	(0.86)	(-0.08)
WSB NonResearch × Post	-2.76%	-1.67%	-2.63%	-1.53%	2.96%	0.32%
	(-1.30)	(-3.78)	(-1.18)	(-3.65)	(1.27)	(0.91)
Net SA	1.18%	2.06%	5.31%	1.73%	1.99%	1.78%
	(0.76)	(1.78)	(2.13)	(2.97)	(1.91)	(1.90)
Net SA × Post GME	0.93%	-2.71%	-4.01%	-2.04%	-2.00%	-2.29%
	(0.42)	(-1.38)	(-2.85)	(-1.63)	(-1.07)	(-1.38)
Obs. (Firm-Days)	2,772,053	2,770,545	2,772,053	2,770,545	2,772,053	2,770,545
Day FE	Yes	Yes	Yes	Yes	Yes	Yes
Table 3 Controls	Yes	Yes	Yes	Yes	Yes	Yes
Include GME & AMC	Yes	No	Yes	No	Yes	No

Table IA.9: WSB Reports and Investor Trading Volume

This table reports estimates from panel regressions where the dependent variable is one of three trading volume measures. *Abnormal Volume* is calculated as the difference between log trading volume for firm *i* on day *t* and the average log volume from *t-240* to *t-120* trading days. Volume is either institutional share volume, retail share volume, or retail number of trades. All the volume measures are converted to a percentile ranking. *Total DD* and *Total SA* are the total number of DD Reports and SA Reports issued for firm *i* on day *t*. All other variables are defined as in Table 11.

	[1] *Abnormal Inst. Volume*	*[2]* *Abnormal Retail Vol*	*[3]* *Abnormal Retail # Trades*
Total DD	2.76	2.82	3.56
	(9.32)	(9.36)	(11.52)
Total DD × Post	-0.88	-1.05	-1.87
	(-2.15)	(-2.72)	(-4.77)
WSB NonResearch	1.54	1.53	1.20
	(9.13)	(9.53)	(7.61)
WSB NonResearch × Post	-1.61	-1.55	-1.32
	(-8.26)	(-8.90)	(-7.27)
Total SA	1.21	1.68	1.54
	(11.59)	(16.59)	(13.66)
Total SA × Post	-0.54	-0.77	-1.89
	(-1.88)	(-2.90)	(-6.56)
Log (Size)	-0.04	-0.49	0.06
	(-1.58)	(-24.90)	(2.57)
Log (BM)	0.05	0.84	0.19
	(1.77)	(28.45)	(6.81)
Ret [-1]	8.81	6.61	7.22
	(13.09)	(9.44)	(10.34)
Ret [-5, -2]	-2.50	-3.09	-1.58
	(-7.83)	(-9.62)	(-5.18)
Ret [-26, -6]	-1.29	-3.34	-1.15
	(-9.02)	(-22.01)	(-7.53)
News Sentiment [-1]	0.26	0.23	0.26
	(3.17)	(2.69)	(3.14)
News Sentiment [-5, -2]	-0.30	-0.24	-0.09
	(-9.32)	(-7.36)	(-2.68)
News Sentiment [-26, -6]	-0.14	-0.13	0.08
	(-13.96)	(-12.28)	(7.44)
Abs. Ret [-1]	-21.36	-15.18	-14.81
	(-24.19)	(-16.62)	(-16.55)
Abs. Ret [-5, -2]	8.91	7.56	8.54
	(22.21)	(20.53)	(21.06)
Abs. Ret [-26, -6]	4.90	5.43	5.45
	(26.99)	(29.40)	(27.56)
Abs. News Sentiment [-1]	-1.20	-1.35	-1.51
	(-12.14)	(-13.44)	(-15.69)
Abs. News Sentiment [-5, -2]	0.15	0.12	0.10
	(3.76)	(3.01)	(2.41)
Abs. News Sentiment [-26, -6]	0.02	0.14	0.17
	(1.71)	(11.09)	(11.65)
Heavy News	0.62	3.67	3.41
	(36.91)	(35.79)	(34.37)
News Rank	0.01	0.04	0.04

	(4.80)	(44.52)	(40.46)
Abn. Inst Vol [-1]	0.14	0.20	0.16
	(83.88)	(78.28)	(59.74)
Abn. Retail Vol [-1]	1.09	0.28	-0.02
	(10.53)	(116.47)	(-9.54)
Abn # Retail Trades [-1]	-4.52	0.25	0.62
	(-8.33)	(95.21)	(181.72)
	(-4.52)	(0.25)	(0.62)
Total DD + Total DD ×Post	1.88	1.77	1.68
	(6.60)	(7.47)	(7.00)
Total DD − Non-Research	1.22	1.29	2.36
	(3.53)	(3.77)	(6.86)
(Total DD − Non-Research) × Post	0.73	0.50	-0.55
	(1.51)	(1.15)	(-1.25)
Total DD − Total SA	1.55	1.13	2.02
	(9.13)	(3.61)	(6.11)
(Total DD 21 − Total SA) × Post	-0.34	-0.28	0.02
	(-0.67)	(-0.61)	(-0.03)
Obs. (Firm-Days)	2,523,578	2,523,578	2,523,578
Day FE	Yes	Yes	Yes
Include GME & AMC	Yes	Yes	Yes

Table IA.10: WSB Reports and Investor Order Imbalances - Price Pressure and Attention Reports

This table repeats Table 11 after including *Net DD PP* and *Net DD Attention*, where both measures are defined as in Table 9. The regression includes all the controls from Table 11, but in the interest of brevity, the estimates for controls are unreported.

	[1] *Institutional* *% Imbalance*	*[2]* *Large Retail* *% Imbalance*	*[3]* *Small Retail* *% Imbalance*	*[4]* *Institutional* *Std. Abn. Imb.*	*[5]* *Large Retail* *Std. Abn. Imb.*	*[6]* *Small Retail* *Std. Abn. Imb.*
Net DD	-0.24	1.40	4.76	-0.70	1.40	5.55
	(-0.52)	(3.88)	(10.06)	(-0.81)	(1.89)	(7.54)
Net DD × *Post GME*	-0.17	0.29	4.04	0.25	-0.22	0.70
	(-0.21)	(0.45)	(4.60)	(0.18)	(-0.18)	(0.61)
Net DD PP	-0.25	0.42	1.02	0.54	-1.05	1.48
	(-0.24)	(0.50)	(1.00)	(0.22)	(-0.56)	(1.02)
Net DD PP × *Post GME*	0.53	-0.43	-4.96	1.83	1.55	-5.76
	(0.44)	(-0.47)	(-3.88)	(0.62)	(0.64)	(-3.15)
Net DD Attention	0.26	0.50	-0.43	-0.28	3.59	0.93
	(0.37)	(0.92)	(-0.56)	(-0.17)	(2.72)	(0.78)
Net DD Attention × *Post GME*	-0.18	-2.08	-2.25	-1.51	-4.87	-1.06
	(-0.18)	(-2.68)	(-2.00)	(-0.66)	(-2.53)	(-0.65)
Obs. (Firm-Days)	2,494,475	2,494,475	2,494,475	2,523,578	2,523,578	2,523,578
Day FE	Yes	Yes	Yes	Yes	Yes	Yes
Table 11 Controls	Yes	Yes	Yes	Yes	Yes	Yes
Include GME & AMC	Yes	Yes	Yes	Yes	Yes	Yes

Table IA.11: Informativeness of Large Retail Trading Following WSB DD Reports

This table repeats the analysis in Table 12 after replacing *Small Retail Imbalance* with *Large Retail Imbalance* (i.e., *Std Abnormal Large Retail Imbalance*, as defined in Table 11).

	[1]	[2]	[3]	[4]
Large Retail Imbalance	0.02%	0.02%	0.02%	0.02%
	(0.77)	(0.72)	(0.77)	(0.71)
Large Retail Imbalance × *Post*	0.03%	0.02%	0.03%	0.02%
	(0.89)	(0.68)	(0.90)	(0.68)
Large Retail Imbalance × *DD*	0.54%	0.14%	0.35%	0.14%
	(1.26)	(0.41)	(1.12)	(0.42)
Large Retail Imbalance × *DD* × *Post*	0.14%	-0.07%	0.30%	-0.06%
	(0.25)	(-0.20)	(0.65)	(-0.17)
Large Retail Imbalance × *NR Indicator*	-0.22%	0.04%	-0.10%	0.06%
	(-0.81)	(0.29)	(-0.41)	(0.41)
Large Retail Imbalance × *NR Indicator* × *Post*	0.63%	-0.13%	0.53%	-0.17%
	(0.82)	(-0.44)	(0.68)	(-0.61)
Large Retail Imbalance × *SA*	-0.01%	-0.02%	0.00%	-0.02%
	(-0.20)	(-0.48)	(-0.00)	(-0.54)
Large Retail Imbalance × *SA* × *Post*	0.00%	0.07%	-0.02%	0.05%
	(0.03)	(0.77)	(-0.28)	(0.62)
Net DD			5.47%	2.17%
			(2.56)	(2.15)
Net DD × *Post*			-5.21%	-3.12%
			(-2.63)	(-2.04)
NonResearch			5.02%	0.58%
			(1.25)	(1.11)
NonResearch × *Post*			-4.23%	-1.90%
			(-1.16)	(-2.99)
Net SA			0.58%	0.66%
			(2.28)	(2.65)
Net SA × *Post*			0.54%	0.45%
			(1.33)	(1.14)
Imb. × *DD* + *Imb.* × *DD* × *Post*	0.68%	0.07%	0.65%	0.08%
	(1.22)	(0.55)	(1.20)	(0.64)
Imb. × *NR Indicator* + *Imb.* × *NR Indicator* × *Post*	-0.01%	0.05%	-0.02%	0.03%
	(-0.20)	(0.61)	(-0.31)	(0.41)
Imb. × *SA* + *Imb.* × *SA* × *Post*	0.41%	-0.09%	0.43%	-0.11%
	(0.51)	(-0.37)	(0.57)	(-0.51)
Obs. (Firm-Days)	2,587,391	2,585,885	2,585,885	2,585,885
Day FE	Yes	Yes	Yes	Yes
Table 3 Controls	Yes	Yes	Yes	Yes
Include GME & AMC	Yes	No	Yes	No

Table IA.12: Informativeness of Institutional Retail Trading Following WSB DD Reports

This table repeats the analysis in Table 12 after replacing *Small Retail Imbalance* with *Institutional Imbalance* (i.e., *Std Abnormal Institutional Imbalance*, as defined in Table 11).

	[1]	[2]	[3]	[4]
Institutional Imbalance	-0.02%	-0.02%	-0.02%	-0.02%
	(-0.88)	(-0.92)	(-0.87)	(-0.92)
Institutional Imbalance × *Post*	0.01%	0.01%	0.01%	0.01%
	(0.42)	(0.39)	(0.42)	(0.39)
Institutional Imbalance × *DD*	-0.44%	0.08%	-0.44%	0.08%
	(-0.90)	(0.49)	(-1.04)	(0.46)
Institutional Imbalance × *DD* × *Post*	0.56%	-0.27%	0.51%	-0.27%
	(1.00)	(-1.02)	(1.05)	(-1.02)
Institutional Imbalance × NR *Indicator*	-0.32%	0.00%	-0.32%	0.00%
	(-0.97)	(0.02)	(-1.15)	(-0.02)
Institutional Imbalance × NR *Indicator* × *Post*	0.81%	0.20%	0.84%	0.09%
	(1.40)	(0.44)	(1.55)	(0.21)
Institutional Imbalance × *SA*	0.10%	0.11%	0.11%	0.11%
	(1.91)	(1.82)	(1.91)	(1.82)
Institutional Imbalance × *SA* × *Post*	-0.08%	-0.10%	-0.08%	-0.09%
	(-0.83)	(-1.12)	(-0.81)	(-0.98)
Net DD			5.52%	2.22%
			(2.57)	(2.06)
Net DD × *Post*			-5.18%	-3.23%
			(-2.57)	(-2.08)
NonResearch			5.02%	0.57%
			(1.25)	(1.09)
NonResearch × *Post*			-4.23%	-1.89%
			(-1.17)	(-2.97)
Net SA			0.58%	0.65%
			(2.26)	(2.63)
Net SA × *Post*			0.56%	0.47%
			(1.37)	(1.16)
Imb. × *DD* + *Imb.* × *DD* × *Post*	0.12%	-0.19%	0.07%	-0.19%
	(0.93)	(-1.02)	(0.49)	(-1.04)
Imb. × NR *Indicator* + *Imb.* × NR *Indicator* × *Post*	0.49%	0.20%	0.03%	0.02%
	(0.77)	(0.45)	(0.84)	(0.22)
Imb. × *SA* + *Imb.* × *SA* × *Post*	0.03%	0.01%	0.51%	0.09%
	(0.41)	(0.23)	(0.53)	(0.32)
Obs. (Firm-Days)	2,587,391	2,585,885	2,585,885	2,585,885
Day FE	Yes	Yes	Yes	Yes
Table 3 Controls	Yes	Yes	Yes	Yes
Include GME & AMC	Yes	No	Yes	No