

Web Appendix:

Do Arbitrageurs Amplify Economic Shocks?

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We have carried out a number of additional robustness checks of our analysis. This appendix presents tables of these robustness results. First, we present in Supplement Table 1 the main results shown in Tables 2 through 4 (column (2)) also including the coefficients on the control variables we have omitted showing in Tables 2 through 4.

Second, we examine how our main *CAR* and *POSTCAR* results change when we use alternative windows for calculating cumulative abnormal returns around announcement dates. In the first two columns of Supplement Table 2, we present our main *CAR* results (the equivalent of column (2) of Table 2) using two other windows: cumulative abnormal returns from trading days -1 to 0 and cumulative abnormal returns from trading days -5 to +1. In both cases, the sensitivity to unexpected earnings is higher for highly shorted stocks than other stocks. In column (1) using the very short window, the sensitivity of highly shorted stocks to high unexpected earnings is about 12% higher than other stocks; in column (2) using the longer window, the sensitivity is about 13% higher. Both of these results are very similar to the main *CAR* results.

The last two columns of Supplement Table 2 present the *POSTCAR* results using alternative windows: column (3) uses cumulative abnormal returns from trading days +2 to +7 and column (4) uses a window from +2 to +84. As with our main results, we find using both windows that the subsequent return after an expectedly positive earnings announcement is smaller for highly shorted stocks than other stocks. The difference in returns tends to grow as we focus on longer windows.

Third, we examine how sensitive our results are to how we treat stocks with missing short interest information. In our main specifications, we do not include stocks in our sample if we do not have short interest data for them. An alternative treatment of these stocks is to assume that they have low short ratios (below the top 33% of the sample short ratio distribution) and include them in the analysis. Supplement Table 3 shows our main results under this assumption: Column (1) presents the *CAR* estimates and column (2) shows the *POSTCAR* estimates. Adding these stocks with to the analysis under this assumption does not materially change the estimates.

Fourth, there is concern about how to measure the precision of the *POSTCAR* regressions when the dependent variable is the cumulative abnormal return measured from trading day +2 to +126. Our observations are quarterly but the *POSTCAR* window is longer than one quarter; therefore, there is an overlap of return days across observations of the same stock. The standard

errors are clustered by stocks, so we are adjusting for the fact that observations of the same stock can be correlated. But an even more conservative method of dealing with this overlap is to eliminate it by using stock observations only from quarterly earnings announcements during the 1st and 3rd quarters of the calendar year. By eliminating the observations of the other two quarters, no daily returns for a stock are used for more than one observation of *POSTCAR*. Supplement Table 4 shows the results of this estimation using half of the sample. Not surprisingly, the coefficients are very similar to the main estimates. Also, the standard errors are somewhat larger than the main results given that only half the observations are used. However, the standard errors do not blow up; the precision of the *POSTCAR* results do not appear to be driven by the overlap of returns.

Fifth, we examine the sensitivity of the main *CAR* and *POSTCAR* results to alternative ways of parameterizing a stock's short ratio and unexpected earnings. In the main specification, we compare stocks in the top 33% of the short ratio distribution to other stocks and stocks in the top 33% of the unexpected earnings distribution to other firms. We believe comparing stocks at the extremes of these distributions to other stocks is the best way of measuring the amplification mechanism. But one could also use more linear measures of short ratio and unexpected earnings. In Supplement Table 5, we present estimates from two specifications. In Panel A, we use our basic specification except that instead of using a dummy for a firm being at the top of the *UE* distribution we use a measure of the percentile of the firm in the *UE* distribution (*UEPCT*). Panel B uses the basic specification except that instead of using a dummy for a firm being at the top of the short ratio distribution we use a measure of the percentile of the firm in the short ratio distribution (*SRPCT*). For both the *CAR* and *POSTCAR* regressions, we find similar patterns and precision of estimates using these more linear measures compared to our main results.

Supplement Table 6 presents the *CAR* and *POSTCAR* regressions using two alternative measures of cumulative abnormal returns. The first alternative measure is simply calculating the raw returns net of the risk-free rate. The second measure is using abnormal returns relative to a CAPM model. For each month of daily return observations for a stock, we use a rolling window of five years of monthly returns before that month to calculate the stock's β for that month. We find no important differences between the results using these alternative return models.

Finally, we examine whether our main results are being driven by values of *CAR*, *ABNTURN* and *POSTCAR* that are outliers. In Supplement Table 7, we present our main results

for these three measures where we winsorize the LHS variable at the 1% and 99% level each quarter. Our estimates are very similar to the results reported in Tables 2 through 4, indicating that outliers are not influencing our results. These robustness checks bolster the conclusion that the bulk of the findings support our model.

Supplemental Table 1: Estimates of the Effect of Unexpected Earnings on Stock Returns, Turnover and Subsequent Stock Returns

	CAR	ABNTURN	POSTCAR
	(1)	(2)	(3)
Indicator for High Unexpected Earnings (UEHIGH)	3.27 (.07)	.104 (.009)	1.57 (.25)
Indicator for High Short Ratio (HISR)	-.27 (.07)	.206 (.012)	-.51 (.31)
High Unexpected Earnings × High Short Ratio (UEHIGH × HISR)	.55 (.12)	.075 (.023)	-2.67 (.50)
Firm Size Group 2	.05 (.21)	.096 (.028)	-1.18 (.88)
Firm Size Group 3	-.26 (.21)	.145 (.028)	-.46 (.90)
Firm Size Group 4	-.37 (.20)	.184 (.030)	-.74 (.91)
Firm Size Group 5	-.17 (.20)	.185 (.031)	-.14 (.94)
Firm Size Group 6	-.08 (.20)	.219 (.034)	-1.06 (.95)
Firm Size Group 7	-.10 (.21)	.221 (.030)	-1.64 (.93)
Firm Size Group 8	-.14 (.20)	.238 (.031)	-.89 (.91)
Firm Size Group 9	-.14 (.20)	.287 (.034)	-.56 (.93)
Firm Size Group 10	-.06 (.20)	.300 (.032)	-1.05 (.92)
Firm Size Group 11	-.19 (.20)	.328 (.031)	-.63 (.92)
Firm Size Group 12	.17 (.20)	.376 (.034)	.63 (.92)
Firm Size Group 13	.27 (.20)	.382 (.034)	1.43 (.93)
Firm Size Group 14	.25 (.21)	.450 (.045)	3.03 (.91)
Firm Size Group 15	.21 (.20)	.440 (.054)	3.85 (.91)
Firm Size Group 16	.13 (.20)	.439 (.037)	3.58 (.90)

Firm Size Group 17	.22 (.20)	.425 (.033)	3.34 (.91)
Firm Size Group 18	.42 (.20)	.430 (.033)	4.19 (.91)
Firm Size Group 19	.52 (.20)	.453 (.033)	4.61 (.91)
Firm Size Group 20	.39 (.19)	.408 (.032)	3.73 (.90)
Firm Size Group 21	.43 (.19)	.431 (.032)	4.61 (.91)
Firm Size Group 22	.28 (.19)	.443 (.032)	3.73 (.91)
Firm Size Group 23	.28 (.19)	.445 (.032)	4.60 (.91)
Firm Size Group 24	.47 (.19)	.395 (.030)	3.23 (.91)
Firm Size Group 25	.38 (.19)	.409 (.031)	3.45 (.90)
Convertible Debt Dummy	-.13 (.08)	.060 (.015)	-1.14 (.41)
P/E Group 1 (negative is omitted)	.27 (.15)	.131 (.032)	3.92 (.83)
P/E Group 2	.39 (.14)	.163 (.027)	2.66 (.70)
P/E Group 3	.33 (.14)	.193 (.031)	1.83 (.70)
P/E Group 4	.42 (.12)	.153 (.021)	1.97 (.65)
P/E Group 5	.55 (.13)	.158 (.023)	1.91 (.64)
P/E Group 6	.59 (.13)	.179 (.025)	1.98 (.66)
P/E Group 7	.44 (.12)	.145 (.022)	2.40 (.61)
P/E Group 8	.79 (.13)	.146 (.023)	3.36 (.62)
P/E Group 9	.67 (.13)	.129 (.021)	2.88 (.64)
P/E Group 10	.68 (.13)	.155 (.024)	2.72 (.62)

P/E Group 11	.73 (.13)	.144 (.024)	2.54 (.64)
P/E Group 12	.57 (.13)	.122 (.022)	2.53 (.64)
P/E Group 13	.92 (.14)	.147 (.023)	2.11 (.64)
P/E Group 14	.72 (.14)	.159 (.027)	1.81 (.67)
P/E Group 15	.81 (.13)	.136 (.024)	2.00 (.66)
P/E Group 16	.74 (.14)	.149 (.023)	1.43 (.68)
P/E Group 17	.83 (.15)	.153 (.023)	2.85 (.67)
P/E Group 18	.91 (.15)	.164 (.024)	1.55 (.68)
P/E Group 19	.61 (.16)	.225 (.031)	2.04 (.76)
P/E Group 20	.76 (.16)	.157 (.029)	1.06 (.73)
P/E Group 21	.91 (.16)	.154 (.036)	2.55 (.71)
P/E Group 22	.61 (.17)	.144 (.031)	2.00 (.75)
P/E Group 23	.53 (.18)	.163 (.031)	.35 (.80)
P/E Group 24	.55 (.18)	.192 (.080)	1.51 (.83)
P/E Group 25	.57 (.18)	.105 (.050)	.82 (.82)
Analyst Disagreement Group 2	.52 (.32)	.094 (.064)	-2.05 (1.14)
Analyst Disagreement Group 3	-.12 (.23)	.043 (.052)	-3.99 (.83)
Analyst Disagreement Group 4	-.01 (.19)	.057 (.046)	-4.07 (.66)
Analyst Disagreement Group 5	.11 (.17)	.072 (.027)	-2.89 (.63)
Analyst Disagreement Group 6	-.10 (.14)	.113 (.029)	-1.78 (.53)

Analyst Disagreement Group 7	.01 (.12)	.100 (.021)	-2.44 (.52)
Analyst Disagreement Group 8	-.15 (.13)	.102 (.021)	-2.35 (.52)
Analyst Disagreement Group 9	-.11 (.13)	.084 (.020)	-1.80 (.55)
Analyst Disagreement Group 10	-.01 (.14)	.092 (.020)	-2.29 (.57)
Analyst Disagreement Group 11	.11 (.13)	.069 (.021)	-2.24 (.57)
Analyst Disagreement Group 12	-.46 (.15)	.077 (.021)	-1.97 (.58)
Analyst Disagreement Group 13	-.00 (.14)	.043 (.031)	-2.87 (.60)
Analyst Disagreement Group 14	-.15 (.14)	.051 (.022)	-2.04 (.59)
Analyst Disagreement Group 15	-.14 (.15)	.026 (.022)	-1.93 (.58)
Analyst Disagreement Group 16	-.24 (.15)	.030 (.025)	-1.02 (.60)
Analyst Disagreement Group 17	-.30 (.16)	-.008 (.024)	-.83 (.62)
Analyst Disagreement Group 18	-.24 (.15)	-.015 (.024)	-.68 (.62)
Analyst Disagreement Group 19	.15 (.15)	-.014 (.023)	-.56 (.62)
Analyst Disagreement Group 20	-.02 (.16)	-.035 (.026)	-.42 (.68)
Analyst Disagreement Group 21	.00 (.16)	-.048 (.021)	-.32 (.68)
Analyst Disagreement Group 22	-.10 (.16)	-.045 (.026)	-.82 (.67)
Analyst Disagreement Group 23	.04 (.17)	-.083 (.027)	.03 (.70)
Analyst Disagreement Group 24	.06 (.15)	-.103 (.026)	-.08 (.70)
Analyst Disagreement Group 25	.38 (.17)	-.102 (.023)	.42 (.79)
Volatility Group 2	-.84 (2.75)	-.114 (.248)	-7.89 (11.12)

Volatility Group 3	-.77 (2.75)	-.120 (.248)	-7.30 (11.12)
Volatility Group 4	-.85 (2.75)	-.104 (.248)	-7.34 (11.12)
Volatility Group 5	-.90 (2.75)	-.104 (.248)	-7.36 (11.13)
Volatility Group 6	-.88 (2.75)	-.097 (.248)	-7.15 (11.13)
Volatility Group 7	-.77 (2.75)	-.098 (.248)	-7.20 (11.12)
Volatility Group 8	-.76 (2.75)	-.078 (.248)	-7.53 (11.12)
Volatility Group 9	-.90 (2.75)	-.080 (.248)	-7.37 (11.13)
Volatility Group 10	-.62 (2.75)	-.053 (.248)	-8.26 (11.14)
Volatility Group 11	-.91 (2.75)	-.063 (.248)	-7.40 (11.13)
Volatility Group 12	-.84 (2.75)	-.069 (.248)	-6.96 (11.12)
Volatility Group 13	-.83 (2.76)	-.051 (.248)	-8.04 (11.13)
Volatility Group 14	-.74 (2.75)	-.026 (.248)	-6.91 (11.13)
Volatility Group 15	-1.08 (2.75)	-.001 (.248)	-8.47 (11.13)
Volatility Group 16	-.88 (2.75)	.012 (.248)	-7.04 (11.13)
Volatility Group 17	-1.02 (2.75)	-.010 (.248)	-7.65 (11.13)
Volatility Group 18	-.88 (2.76)	.026 (.248)	-8.30 (11.13)
Volatility Group 19	-1.07 (2.76)	.075 (.248)	-7.91 (11.14)
Volatility Group 20	-1.24 (2.76)	.077 (.248)	-8.38 (11.14)
Volatility Group 21	-.93 (2.75)	.055 (.249)	-9.81 (11.14)
Volatility Group 22	-1.20 (2.76)	.068 (.249)	-7.97 (11.12)

Volatility Group 23	-1.51 (2.76)	.118 (.250)	-7.52 (11.13)
Volatility Group 24	-1.82 (2.76)	.176 (.248)	-9.49 (11.15)
Volatility Group 25	-1.50 (2.76)	.385 (.251)	-9.59 (11.17)
AMEX-Listed Firm Dummy	-.18 (.14)	.024 (.026)	-.81 (.80)
NASDAQ-Listed Firm Dummy	-.11 (.07)	.006 (.009)	.86 (.32)
R^2	.043	.065	.022

The dependent variable is CAR (cumulative abnormal return (%) from trading day -1 to +1) in column (1). The dependent variable is ABNTURN (mean abnormal turnover (%) from trading day -1 to +1) in column (2), and the dependent variable is POSTCAR (cumulative abnormal return (%) from trading day +2 to +126) in column (3). The sample includes all stocks in the top and bottom 33% of the sample short ratio distribution for the quarter and exchange and the top and bottom 33% of the unexpected earnings sample distribution for the quarter and exchange. The independent variables include UEHIGH (indicator that a stock's earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), ABSUEHIGH (indicator that a stock's absolute earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), HISR (a dummy equal to one if the stock is in the top 33% of the sample short ratio distribution for the quarter and exchange of the observation and zero otherwise), NASDAQ (a dummy equal to one if the stock is in NASDAQ), SIZE (25 dummy variables measuring where a stock's relative market cap is each quarter), P/E (price-to-earnings divided into 25 dummies calculated each quarter and one additional dummy variable for negative earnings stocks), DISAGREEMENT (analyst disagreement divided into 25 dummies calculated each quarter), IO (institutional ownership divided into 25 dummies calculated each quarter), CONVDEBT (a dummy for the firm having positive convertible debt), VOLATILITY (past volatility divided into 25 dummies calculated each quarter), INDUSTRY dummies (SIC at the 2 digit level) and QUARTER dummies. The standard errors (in parentheses) are adjusted by allowing for the errors to be correlated across observations of the same stock; *i.e.* the standard errors are clustered by stock. There are 119,785 observations.

**Supplement Table 2: OLS Estimates of the Sensitivity of Stock Returns to Unexpected Earnings:
Alternative Windows for CARs and POSTCARs**

	Alternative CARs		Alternative POSTCARs	
	CAR -1 to 0	CAR -5 to +1	POSTCAR +2 to +7	POSTCAR +2 to +84
	(1)	(2)	(3)	(4)
High Unexpected Earnings (UEHIGH)	1.79 (.05)	3.81 (.08)	.60 (.05)	1.66 (.19)
Indicator for High Short Ratio (HISR)	-.07 (.05)	-.24 (.09)	-.04 (.06)	-.34 (.22)
High Unexpected Earnings × High Short Ratio (UEHIGH × HISR)	.21 (.09)	.49 (.15)	-.29 (.10)	-2.20 (.38)
R^2	.025	.042	.008	.019

The dependent variable in column (1) is CAR -1 to 0 (cumulative abnormal return (%) from trading day -1 to 0). The dependent variable in column (2) is CAR -5 to +1 (cumulative abnormal return (%) from trading day -5 to +1). The dependent variable in column (3) is POSTCAR +2 to +7 (cumulative abnormal return (%) from trading day +2 to +7). The dependent variable in column (4) is POSTCAR +2 to +84 (cumulative abnormal return (%) from trading day +2 to +84). The independent variables include UEHIGH (indicator that a stock's earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), HISR (a dummy equal to one if the stock is in the top 33% of the sample short ratio distribution for the quarter of the observation and zero otherwise), SIZE (25 dummy variables measuring where a stock's relative market cap is each quarter), P/E (price-to-earnings divided into 25 dummies calculated each quarter and one additional dummy variable for negative earnings stocks), DISAGREEMENT (analyst disagreement divided into 25 dummies calculated each quarter), CONVDEBT (a dummy for the firm having positive convertible debt), VOLATILITY (past volatility divided into 25 dummies calculated each quarter), INDUSTRY dummies (SIC at the 2 digit level), EXCHANGE dummies and QUARTER dummies. The standard errors (in parentheses) are adjusted by allowing for the errors to be correlated across observations of the same stock; *i.e.* the standard errors are clustered by stock. There are 119,785 observations.

Supplement Table 3: OLS Estimates of the Sensitivity of Stock Returns to Unexpected Earnings: Including Firms with Missing Short Interest Data

	CAR	POSTCAR
	(1)	(2)
Indicator for High Unexpected Earnings (UEHIGH)	3.26 (.07)	1.62 (.25)
Indicator for High Short Ratio (HISR)	-.25 (.07)	-.37 (.30)
High Unexpected Earnings × High Short Ratio (UEHIGH × HISR)	.53 (.12)	-2.67 (.50)
R^2	.043	.022

The dependent variable in column (1) is CAR (cumulative abnormal return (%) from trading day -1 to +1). The dependent variable in column (2) is POSTCAR (cumulative abnormal return (%) from trading day +2 to +126). The sample includes firms with missing short interest data. Such firms are assumed to have low short interest. The independent variables include UEHIGH (indicator that a stock's earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), HISR (a dummy equal to one if the stock is in the top 33% of the sample short ratio distribution for the quarter of the observation and zero otherwise), SIZE (25 dummy variables measuring where a stock's relative market cap is each quarter), P/E (price-to-earnings divided into 25 dummies calculated each quarter and one additional dummy variable for negative earnings stocks), DISAGREEMENT (analyst disagreement divided into 25 dummies calculated each quarter), CONVDEBT (a dummy for the firm having positive convertible debt), VOLATILITY (past volatility divided into 25 dummies calculated each quarter), INDUSTRY dummies (SIC at the 2 digit level), EXCHANGE dummies and QUARTER dummies. The standard errors (in parentheses) are adjusted by allowing for the errors to be correlated across observations of the same stock; *i.e.* the standard errors are clustered by stock. There are 131,022 observations.

Supplement Table 4: OLS Estimates of the Effect of Unexpected Earnings on Subsequent Stock Returns: Using Earnings Announcements from the 1st and 3rd Quarter

Indicator for High Unexpected Earnings (UEHIGH)	1.02 (.33)
Indicator for High Short Ratio (HISR)	-.53 (.37)
High Unexpected Earnings × High Short Ratio (UEHIGH × HISR)	-2.37 (.65)
R^2	.023

The dependent variable is POSTCAR (cumulative abnormal return (%) from trading day +2 to +126). The sample includes earnings announcements during the 1st and 3rd quarters of the calendar year. The independent variables include UEHIGH (indicator that a stock's earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), HISR (a dummy equal to one if the stock is in the top 33% of the sample short ratio distribution for the quarter of the observation and zero otherwise), SIZE (25 dummy variables measuring where a stock's relative market cap is each quarter), P/E (price-to-earnings divided into 25 dummies calculated each quarter and one additional dummy variable for negative earnings stocks), DISAGREEMENT (analyst disagreement divided into 25 dummies calculated each quarter), CONVDEBT (a dummy for the firm having positive convertible debt), VOLATILITY (past volatility divided into 25 dummies calculated each quarter), INDUSTRY dummies (SIC at the 2 digit level), EXCHANGE dummies and QUARTER dummies. The standard errors (in parentheses) are adjusted by allowing for the errors to be correlated across observations of the same stock; *i.e.* the standard errors are clustered by stock. There are 60,886 observations for this model.

Supplemental Table 5: OLS Estimates of the Sensitivity of Stock Returns to Unexpected Earnings: Alternative Specification of Unexpected Earnings and Short Ratio

<u>Panel A: Alternative Specification of Unexpected Earnings</u>		
	CAR	POSTCAR
	(1)	(2)
Percentile in Unexpected Earnings Distribution (UEPCT)	.063 (.001)	.040 (.005)
Indicator for High Short Ratio (HISR)	-.549 (.125)	.597 (.508)
Percentile of Unexpected Earnings× High Short Ratio (UEPCT× HISR)	.010 (.002)	-.039 (.009)
R^2	.059	.022

<u>Panel B: Alternative Specification of Short Ratio</u>		
	CAR	POSTCAR
	(1)	(2)
Indicator for High Unexpected Earnings (UEHIGH)	2.607 (.161)	5.871 (.648)
Percentile in Short Ratio Distribution (SRPCT)	-.008 (.002)	-.010 (.007)
High Unexpected Earnings× Percentile of Short Ratio (UEHIGH× SRPCT)	.013 (.003)	-.082 (.010)
R^2	.043	.022

The dependent variable in column (1) of both panels is CAR (cumulative abnormal return (%) from trading day -1 to +1). The dependent variable in column (2) of both panels is POSTCAR (cumulative abnormal return (%) from trading day +2 to +126). The independent variables include UEHIGH (indicator that a stock's earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), UEPCT (the percentile of the stock's earnings surprise for the quarter), HISR (a dummy equal to one if the stock is in the top 33% of the sample short ratio distribution for the quarter of the observation and zero otherwise), SRPCT (the percentile of the stock's short ratio for the quarter), SIZE (25 dummy variables measuring where a stock's relative market cap is each quarter), P/E (price-to-earnings divided into 25 dummies calculated each quarter and one additional dummy variable for negative earnings stocks), DISAGREEMENT (analyst disagreement divided into 25 dummies calculated each quarter), CONVDEBT (a dummy for the firm having positive convertible debt), VOLATILITY (past volatility divided into 25 dummies calculated each quarter), INDUSTRY dummies (SIC at the 2 digit level), EXCHANGE dummies and QUARTER dummies. The standard errors (in parentheses) are adjusted by allowing for the errors to be correlated across observations of the same stock; *i.e.* the standard errors are clustered by stock. There are 119,785 observations.

**Supplemental Table 6: OLS Estimates of the Effect of Unexpected Earnings on Stock Returns:
Alternative Benchmarks**

	Net of Risk Free		CAPM	
	CAR	POSTCAR	CAR	POSTCAR
	(1)	(2)	(3)	(4)
High Unexpected Earnings (UEHIGH)	3.29 (.08)	2.24 (.30)	3.27 (.07)	2.02 (.29)
Indicator for High Short Ratio (HISR)	-.26 (.08)	-.72 (.35)	-.30 (.07)	-.88 (.33)
High Unexpected Earnings \times High Short Ratio (UEHIGH \times HISR)	.55 (.13)	-2.81 (.58)	.53 (.13)	-2.70 (.55)
R^2	.051	.123	.045	.050

The dependent variable in column (1) is CAR (cumulative abnormal return (%) from trading day -1 to +1) net of the risk free rate. The dependent variable in column (2) is POSTCAR (cumulative abnormal return (%) from trading day +2 to +126) net of the risk free rate. The dependent variable in column (3) is CAR (cumulative abnormal return (%) from trading day -1 to +1) net of a CAPM adjustment. The dependent variable in column (4) is POSTCAR (cumulative abnormal return (%) from trading day +2 to +126) net of a CAPM adjustment. The independent variables include UEHIGH (indicator that a stock's earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), HISR (a dummy equal to one if the stock is in the top 33% of the sample short ratio distribution for the quarter of the observation and zero otherwise), SIZE (25 dummy variables measuring where a stock's relative market cap is each quarter), P/E (price-to-earnings divided into 25 dummies calculated each quarter and one additional dummy variable for negative earnings stocks), DISAGREEMENT (analyst disagreement divided into 25 dummies calculated each quarter), CONVDEBT (a dummy for the firm having positive convertible debt), VOLATILITY (past volatility divided into 25 dummies calculated each quarter), INDUSTRY dummies (SIC at the 2 digit level), EXCHANGE dummies and QUARTER dummies. The standard errors (in parentheses) are adjusted by allowing for the errors to be correlated across observations of the same stock; *i.e.* the standard errors are clustered by stock. There are 119,785 observations.

Supplemental Table 7: OLS Estimates of the Sensitivity of Stock Returns to Unexpected Earnings: Winsorized Returns and Turnover

	CAR	ABNTURN	POSTCAR
	(1)	(2)	(3)
High Unexpected Earnings (UEHIGH or ABSUEHIGH for column 2)	3.16 (.06)	.091 (.008)	1.44 (.24)
Indicator for High Short Ratio(HISR)	-.19 (.07)	.176 (.011)	-.40 (.29)
High Unexpected Earnings× High Short Ratio (UEHIGH× HISR)	.42 (.11)	.053 (.017)	-2.52 (.46)
R^2	.046	.123	.023

All the dependent variables are winsorized at the 1st and 99th percent level by quarter. The dependent variable is CAR (cumulative abnormal return (%) from trading day -1 to +1) in column (1). The dependent variable is ABNTURN (mean abnormal turnover (%) from trading day -1 to +1) in column (2), and the dependent variable is POSTCAR (cumulative abnormal return (%) from trading day +2 to +126) in column (3). The sample includes all stocks in the top and bottom 33% of the sample short ratio distribution for the quarter and exchange and the top and bottom 33% of the unexpected earnings distribution for the quarter and exchange. The independent variables include UEHIGH (indicator that a stock's earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), ABSUEHIGH (indicator that a stock's absolute earnings surprise for the quarter is in the top 33% of the sample distribution that quarter), HISR (a dummy equal to one if the stock is in the top 33% of the sample short ratio distribution for the quarter and exchange of the observation and zero otherwise), NASDAQ (a dummy equal to one if the stock is in NASDAQ), SIZE (25 dummy variables measuring where a stock's relative market cap is each quarter), P/E (price-to-earnings divided into 25 dummies calculated each quarter and one additional dummy variable for negative earnings stocks), DISAGREEMENT (analyst disagreement divided into 25 dummies calculated each quarter), IO (institutional ownership divided into 25 dummies calculated each quarter), CONVDEBT (a dummy for the firm having positive convertible debt), VOLATILITY (past volatility divided into 25 dummies by quarter), INDUSTRY dummies (SIC at the 2 digit level) and QUARTER dummies. The standard errors (in parentheses) are adjusted by allowing for the errors to be correlated across observations of the same stock; *i.e.* the standard errors are clustered by stock. There are 119,785 observations.