

The Impact of Political Uncertainty and Abnormal Market Conditions on Institutional Trading Behavior

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In this study, we look at the impact of abnormal market conditions and political uncertainty on institutional trading activities. Abnormal market conditions have become more frequent over the last five years. Similarly, political uncertainty also threatens the stability of the financial markets. Political news such as fiscal cliff negotiations, debt ceiling debates, the Greek debt crisis, the health care debate, the stimulus debate, and bailout negotiations have generated great uncertainty about the financial markets. The recent Standard & Poor's downgrading of U.S.'s long-term sovereign rating to AA+ from AAA could be a good example of the impact of political uncertainty. S&P in its press release suggested that "more broadly, the downgrade reflects our view that the effectiveness, stability, and predictability of American policymaking and political institutions have weakened at a time of ongoing fiscal and economic challenges to a degree more than we envisioned when we assigned a negative outlook to the rating on April 18, 2011."¹ Pastor and Veronesi [2012b] suggested that the political news can lead investors to revise their beliefs about the possibility of the different government policy choices. They found that political uncertainty requires a risk premium despite being unrelated to economic shocks. They also found that the political risk premium is larger in weak economic conditions. Given the high frequency of abnormal market conditions and high political uncer-

tainty events, it has become more important to examine institutional investors' trading behavior during unstable markets.²

This article makes several contributions to the literature on institutional trading and political uncertainty. This is the first study to examine institutional trading behavior around the abnormal market conditions. We find that institutional investors are net buyers during the abnormal market decreases and net sellers during the abnormal market increases. We do not find any evidence that institutional investors exacerbate or cause abnormal market movements. To the contrary, they seem to provide liquidity during the abnormal days. Institutional investors also face high price impact during abnormal market conditions. In abnormal market declines, institutional sells face a 2.98% price impact. In abnormal market increases, institutional buys generate a price impact of 3.24%. This is also the first study that looks at the impact of political uncertainty on institutional trading. Institutional investors' net buying activity declines due to political uncertainty aversion. We find that high political uncertainty increases price impact during abnormal market declines by up to 0.10%.

LITERATURE REVIEW

This article contributes to the literature on institutional trading and political uncer-

tainty. Froot, Scharfstein, and Stein [1992] showed that if speculators have short horizons, they may herd on the same information, trying to learn what other informed traders also know. Dennis and Strickland [2002] also examined the relationship between the institutional ownership and returns of companies on days when the absolute value of the market's return is 2% or more. They found that firms with high institutional ownership experience abnormally high turnover on these days. They suggested that there is a positive feedback herding behavior by the institutions.³ Thus, prior literature supports the idea that institutional investors destabilize and trade on the same side of the market during the abnormal market conditions. Our results suggest a different story. In times of abnormal market condition, institutional investors supply liquidity to the market.

The effect of political uncertainty on asset pricing and investment has been widely documented. Boutchkova, Doshi, Durnev, and Molchanov [2012] found that systematic volatility is associated with political uncertainty. Julio and Yook [2012] found that political uncertainty leads firms to reduce investment expenditures until the electoral uncertainty is resolved. Durnev [2011] showed that political uncertainty can affect how corporate investment responds to stock prices. Baker, Bloom, and Davis [2012] found that policy uncertainty decreases real GDP and private investment and increase unemployment rate. Hermes and Lensink [2001] found political uncertainty has a statistically significant positive impact on capital flight. Rodrik [1991] showed even moderate amounts of policy uncertainty can act as a hefty tax on private investment. Pastor and Veronesi [2012a] showed that stock price decline should be large at the announcement of a government policy change if uncertainty about government policy is large. Pantzalis, Stangeland, and Turtle [2000] found a positive abnormal return during the two-week period prior to the election week. Li and Born [2006] also suggested that if the U.S. presidential election does not have a lead candidate with a dominant lead, stock market risk and returns rise. Unlike the prior literature, this is the first study to examine the impact of political uncertainty on institutional trading behavior.

DATA

Institutional trading data are from an independent brokerage firm's analytical service, Ancerno. Ancerno's

order-level data provides stock ticker symbol, order direction (buy or sell), execution date, transaction execution price, quantity of shares traded, and commissions. Ancerno's order-level data enable us to track overall institutional trading behavior during those abnormal days. Our sample of institutional trading data consists of orders and trades from 1997 to 2009 from Ancerno. Price impact of institutional trades is calculated as follows:

$$\text{Price Impact \%} = \left[\frac{(\text{Execution Price} - \text{Opening Price})}{\text{Opening Price} * \text{Trade Indicator}} \right] * 100 \quad (1)$$

Trade Indicator is equal to 1 if the trade is a buy and -1 if the trade is a sell. We also calculate daily order imbalance for each firm as follows:

$$\text{Order Imbalance} = \frac{(\text{Buy Shares Volume} - \text{Sell Shares Volume})}{(\text{Buy Shares Volume} + \text{Sell Shares Volume})} \quad (2)$$

Although it is very difficult to measure political uncertainty, some important works try to quantify political uncertainty. One of these is Baker, Bloom, and Davis [2012]. To proxy for daily political uncertainty, we use the daily news-based political uncertainty index of Baker, Bloom, and Davis [2012]. This index is based on newspaper archives from Access World News NewsBank service. Baker, Bloom, and Davis [2012] restricted the coverage to newspapers in the United States. The index is the number of articles that include at least one term from each of three sets of terms. The first term is "economic" or "economy." The second set is "uncertain" or "uncertainty." The third set contains "legislation" or "deficit" or "regulation" or "Congress" or "Federal Reserve" or "White House."⁴ We divide the political uncertainty index by 100. The higher levels of the index indicate a higher political uncertainty.

We also use several control variables—market capitalization, stock price, stock returns, and stock volume—and market returns from CRSP.

RESULTS

Exhibit 1 shows the descriptive statistics of trades from the Ancerno database. The number of trades for our sample during the abnormal market conditions is 15, 185, 841; the total sell trades divided by buy trades is

EXHIBIT 1

Descriptive Statistics of Trades from Ancerno (1997 to 2009)

	All	Abnormal Market Declines	Abnormal Market Increases	Abnormal Market Declines during High Political Uncertainty	Abnormal Market Increases during High Political Uncertainty
Number of Trades	15185841	8020448	7165393	1679852	1730609
Number of Sells/Number of Buys	0.9530141	0.9050687	1.0096263	0.958387592	1.100235799
Average Buy Dollar Volume	3284028.6	4211559.7	2188833	2273436.41	1837161.86
Average Buy Volume (shares)	103222.89	125545.1	76865.62	85565.27	68745.47
Average Sell Dollar Volume	3271091.6	3231615.5	3312876.4	1702402.15	2926296.84
Average Sell Volume (shares)	114590.16	120601.91	108226.83	91771.17	97981.12

0.953. Average buy dollar volume for the entire sample is \$3,284,028. Average sell dollar volume for the sample is \$3,271,091. We define the abnormal market conditions in the following ways: We consider the day as abnormal market decline if the day's CRSP value-weighted market index return is less than two standard deviations below the CRSP value-weighted market index return mean during our sample years, from 1997 to 2009. We consider the day as abnormal market increase if the day's CRSP value-weighted market index return is more than two standard deviations above CRSP value-weighted market index return mean during our sample years. Our results are robust if we use three standard deviations above or below the mean and if we use the CRSP equal-weighted market index or S&P 500 market index return. Average buy dollar volume is higher during abnormal market declines than during abnormal market increases. Average sell dollar volume is higher during abnormal market increases than during abnormal market declines. Number of sells divided by number of buys is much higher during abnormal market increases. This indicates that institutional investors trade on the opposite side of the market during those abnormal days. We also divide our sample between high political uncertainty and low political uncertainty days. We define the day with the high political uncertainty if the day's political uncertainty index is more than two standard deviations above the political index mean during our sample years. The number of sells/number of buys is 0.958 for abnormal market declines during high political uncertainty and 1.10 for abnormal market increases during high political uncertainty. As we can see, during the high political uncertainty events, institutional inves-

tors reduce their overall trade and increase their selling activity relative to their buying activities.

Exhibit 2 describes days with abnormal market conditions and high political uncertainty. The number of days with abnormal market return increases are 78 from 1997 until 2009. The average market return for days with abnormal market return increases is 4.08%. The number of days with abnormal market return declines is 80. The average market return for abnormal market return declines is -3.96%. We do not see any abnormal market conditions in 2004, 2005, and 2006. The number of days with high political uncertainty is 137, and the average market return for abnormal market return declines during high political uncertainty is -5.19%. The average market return for abnormal market declines during high political uncertainty is much lower than average market return for abnormal market declines.

Exhibit 3 shows price impact and order imbalance during abnormal market conditions and high political uncertainty. When institutional investors move in the same direction of the market in abnormal market conditions, they demand liquidity. We find that when institutional investors buy during abnormal market return increases, institutions face, on average, a price impact of 1.66%. When institutional investors sell during abnormal market return declines, institutions face, on average, a price impact of 1.56%. Average sell price impact for abnormal market return declines during high political uncertainty is 2.86%. As we can see, when institutional investors buy on abnormal market declines with high political uncertainty, price impact is much higher than on abnormal market declines.

EXHIBIT 2

Days with Abnormal Market Conditions and High Political Uncertainty (1997 to 2009)

Years	Abnormal Market Return Increases		Abnormal Market Return Declines		High Political Uncertainty		
	No. of Days	Avg. Market Return	No. of Days	Avg. Market Return	No. of Days	Avg. Return for Abnormal Market Return Declines	Avg. Return for Abnormal Market Return Increases
1997	3	3.58%	2	-4.72%	0	—	—
1998	5	3.89%	6	-3.89%	12	-6.79%	3.37%
1999	2	3.24%	1	-2.79%	1	—	—
2000	9	3.52%	6	-3.55%	5	—	—
2001	6	3.81%	5	-3.71%	26	-3.97%	2.87%
2002	13	3.91%	12	-3.19%	16	-3.24%	3.61%
2003	3	3.44%	2	-3.21%	19	—	3.32%
2004	0	—	0	—	2	—	—
2005	0	—	0	—	0	—	—
2006	0	—	0	—	0	—	—
2007	3	2.92%	3	-3.07%	0	—	—
2008	21	5.05%	29	-4.66%	39	-5.46%	5.23%
2009	13	3.93%	14	-3.75%	17	—	4.22%
All	78	4.08%	80	-3.96%	137	-5.19%	4.36%

EXHIBIT 3

Price Impact and Order Imbalance During Abnormal Market Conditions and High Political Uncertainty (1997 to 2009)

Years	Abnormal Market Conditions				Avg. Order Imbalance			
	Avg. Buy Price Impact	Avg. Sell Price Impact	Avg. Sell Price Impact	Avg. Buy Price Impact	High Political Uncertainty			
	Return Increases	Return Declines	Return Declines	Return Increases	Return Increases	Return Declines	Return Declines	Return Increases
1997	1.45%	1.99%	—	—	0.137	-0.176	—	—
1998	1.66%	2.04%	3.16%	0.75%	0.052	0.104	0.113	-0.052
1999	0.79%	-0.11%	—	—	0.065	0.153	—	—
2000	2.02%	1.31%	—	—	0.063	0.090	—	—
2001	2.71%	2.07%	0.95%	1.99%	0.057	0.125	0.074	0.102
2002	1.59%	1.38%	0.62%	1.34%	-0.028	0.026	0.039	-0.041
2003	2.02%	2.40%	—	1.71%	-0.001	0.161	—	0.023
2004	—	—	—	—	—	—	—	—
2005	—	—	—	—	—	—	—	—
2006	—	—	—	—	—	—	—	—
2007	0.92%	-0.03%	—	—	-0.071	0.122	—	—
2008	0.95%	2.03%	3.05%	0.22%	-0.072	0.047	-0.014	-0.105
2009	3.03%	0.88%	—	0.78%	0.052	0.102	—	0.023
All	1.66%	1.56%	2.86%	0.47%	-0.011	0.071	-0.001	-0.067

We also look at the order imbalance during those abnormal market conditions. We define daily order imbalance for each firm as buy shares volume minus sell shares volume divided by buy shares volume plus sell

shares volume. Average order imbalance for abnormal market return declines is 0.071. Average order imbalance for abnormal market return increases is -0.011. Thus, we see that institutional investors supply liquidity

and stabilize the market during those abnormal market conditions. The results also indicate that institutions are net sellers during days with high political uncertainty for both abnormal market increases and declines.

In Exhibit 4, we break down price impact and order imbalance by abnormal market conditions, high political uncertainty, and trade side. As seen in Panel A of Exhibit 4, we find that during abnormal market decreases, the difference between sell price impact in conditions of high political uncertainty and in low political uncertainty is 1.66% and statistically significant at 1%. In other words, when institutions demand liquidity during high political uncertainty on the abnormal market declines, they face higher price impact. In Panel B of Exhibit 4, we break down order imbalance between high political uncertainty and low political uncertainty. Interestingly, we find that institutional investors are net buyers during low political uncertainty on abnormal market decreases and they are net sellers during high political uncertainty on abnormal market increases.

Price Impact During Abnormal Market Conditions and Political Uncertainty

To examine the effect of abnormal market conditions and high political uncertainty on the price impact, we run the following regression equation:

$$\begin{aligned} \text{Price Impact \%} = & \alpha + \beta_1 \text{Trade Side} + \beta_2 \text{High Political} \\ & \text{Uncertainty} + \beta_3 1/\text{Price} + \beta_4 \text{Market Cap} \\ & + \beta_5 \text{Volume} + \beta_6 \text{Volatility} + \epsilon \end{aligned} \quad (3)$$

where *Price Impact* is defined as in Equation (1); the indicator for a buy trade takes the value 1 for buy trades, and the indicator for a sell trade takes the value 1 for sell trades; *High Political Uncertainty* is a dummy variable that takes the value 1 for days with high political uncertainty; *1/Price* is the inverse of stock price; *Market Cap* refers to the natural logarithm of market capitalization of the firm; *Volatility* is the standard deviation of a firm's stock returns.

Chiyachantana, Jain, Jiang, and Wood [2004] found that institutional investors pay for consuming liquidity when buying in rising markets and selling in falling markets. However, Chiyachantana, Jain, Jiang, and Wood [2004] have not examined the magnitude of price impact due to consuming liquidity during the abnormal market conditions. Column 1 of Exhibit 5 shows the price impact during abnormal market declines. The indicator for a sell trade variable is 2.982 and statistically significant at 1%. In other words, when institutions sell during abnormal market declines, they face extraordinarily high price impact of 2.982%. Column 2 of Exhibit 5 shows the price impact of consuming liquidity during abnormal market increases. The indicator for a buy order is 3.241 and statistically signifi-

EXHIBIT 4

Breakdown of Price Impact and Order Imbalance by Abnormal Market Conditions and High Political Uncertainty

	Trade Side	All	High Political Uncertainty	Low Political Uncertainty	Difference (High minus Low)
A. Price Impact					
Abnormal Market Decreases	Buy	-1.45%	-2.51%	-1.18%	-1.33%***
	Sell	1.56%	2.86%	1.20%	1.66%***
Abnormal Market Increases	Buy	1.66%	0.47%	2.02%	-1.55%
	Sell	-1.56%	-0.07%	-2.06%	1.98%
B. Order Imbalance					
Abnormal Market Decreases		0.071	-0.001	0.086	-0.087***
Abnormal Market Increases		-0.011	-0.067	0.005	-0.072***

Notes: We define daily order imbalance for each firm as buy shares volume minus sell shares volume divided by buy shares volume plus sell shares volume. ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

EXHIBIT 5

Price Impact During Abnormal Market Conditions and High Political Uncertainty Periods

	Price Impact	
	Abnormal Market Declines	Abnormal Market Increases
	Column 1	Column 2
Intercept	-2.173***	-1.017
Indicator for a Buy Trade		3.241**
Indicator for a Sell Trade	2.982***	
High Political Uncertainty	0.104**	0.282
Inverse of Stock Price	0.706***	1.359**
Log (Market Cap)	0.006	-0.17**
Log (Volume)	0.035	0.243
Volatility	0.191	-14.357
R ²	0.01833	0.00003
Number	8,016,922	7,163,009

Note: ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

EXHIBIT 6

Order Imbalance During Abnormal Market Conditions and High Political Uncertainty Periods

	Order Imbalance
Intercept	0.015
Market condition	0.075***
High political uncertainty	-0.062***
Marketwide return _{t-1}	0.409**
Marketwide return _{t-2}	0.279
Marketwide return _{t-3}	0.722**
Marketwide return _{t-4}	0.867***
Marketwide return _{t-5}	1.091***
R ²	0.0060
Number	566,530

Note: ***, **, and * represent 1%, 5%, and 10% significance levels, respectively.

cant at 1%. When institutions demand liquidity during abnormal market increases, they seem to face a higher price impact than during abnormal market declines.

We also examine the effect of political uncertainty on the price impact during those abnormal market conditions. In Column 1 of Exhibit 5, we see that the high political uncertainty variable is 0.104 and statistically

significant at 5%. In other words, when institutions trade during high political uncertainty on abnormal market declines, they face an extra 0.104% price impact. When institutional investors trade during high political uncertainty on abnormal market increases, however, they do not seem to face additional costs for trading during those politically uncertain times. Our results are not surprising. Pastor and Veronesi [2012a, 2012b] also found that political uncertainty has larger effect on asset prices if the economy is in a recession. They suggest that uncertain policy changes are expected to take place during those downturns. Thus, investors require higher risk premium. We cluster standard errors by firm and year, as recommended in Petersen [2009].⁵

Order Imbalance During Abnormal Market Conditions and Political Uncertainty

In this subsection, we examine institutional trading behavior during abnormal market conditions and political uncertainty. We run the following regression equation:

$$\begin{aligned}
 \text{Order Imbalance} = & \alpha + \beta_1 \text{Market Condition} \\
 & + \beta_2 \text{High Political Uncertainty} \\
 & + \beta_3 \text{Marketwide Return}_{t-1} \\
 & + \beta_4 \text{Marketwide Return}_{t-2} \\
 & + \beta_5 \text{Marketwide Return}_{t-3} \\
 & + \beta_6 \text{Marketwide Return}_{t-4} \\
 & + \beta_7 \text{Marketwide Return}_{t-5} + \epsilon \quad (4)
 \end{aligned}$$

The dependent variable is the daily order imbalance for each firm. *Order Imbalance* is daily buy shares volume minus daily sell shares volume divided by daily buy shares volume plus daily sell shares volume. The *Market Condition* dummy variable is equal to 1 if the day is identified as abnormal market decrease; it is zero if the day is identified as abnormal market increase. The *High Political Uncertainty* variable is equal to one if the day is identified as high political uncertainty; else it is equal to zero. As control variables, we also include past five days marketwide returns.

In Exhibit 6, we see that *Market Condition* is 0.075 and statistically significant at 1%. We find that institutional investors are net buyers during the abnormal market decreases and net sellers during the abnormal market increases. We do not find any evidence that institutional investors exacerbate or cause abnormal market movements. Prior literature suggests that institutional invest-

tors destabilize and trade on the same side of the market during abnormal market conditions. Our results suggest a different story. In times of abnormal market conditions, institutional investors supply liquidity to the market. We also find that high political uncertainty is -0.062 and statistically significant at 1%. This suggests that institutional investors' net buying activity declines due to political uncertainty aversion. We cluster standard errors by firm and year, as recommended in Petersen [2009].

CONCLUSION

In this article, we examined the impact of abnormal market conditions and political uncertainty on institutional trading activities. We found that institutional investors are net buyers during the abnormal market decreases and net sellers during the abnormal market increases. We did not find any evidence that institutional investors exacerbate or cause abnormal market movements. To the contrary, they seem to provide liquidity during the abnormal days.

Institutional investors also face high price impact during abnormal market conditions. In abnormal market declines, institutional sell orders face a 2.98% price impact. In abnormal market increases, institutional buys generate a price impact of 3.24%.

This is also the first study that looks at the impact of political uncertainty on institutional trading. We found that institutional investors' net buying activity declines due to political uncertainty aversion. High political uncertainty increases price impact during abnormal market declines by up to 0.10%.

ENDNOTES

¹See "United States of America Long-Term Rating Lowered To 'AA+' Due to Political Risks, Rising Debt Burden; Outlook Negative," Press release, Standard and Poor's, August 5, 2011. Available at <http://www.standardandpoors.com/ratings/articles/en/us/?assetID=1245316529563>.

²Boehmer and Kelley [2009] find that institutional trades account for over 96% of all trade on the New York Stock Exchange. Clearly, institutional trading activity has been dominating the stock markets.

³Unlike Dennis and Strickland [2002], we examine daily institutional trading rather than quarterly institutional holdings. Quarterly institutional holdings data do not give a full picture of institutional trading behavior on those daily abnormal market movements.

⁴Please refer to www.policyuncertainty.com to access the data and for more information.

⁵We thank John McInnis for sharing his SAS code to cluster in two dimensions.

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