The Effect of the Trump 2016 Election Victory on Share Price of China-Sensitive Companies

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Motivation/Background

- Individual firm's share price is information-sensitive*
- Changes in the political environment can impact the balance sheet of firms and expected future revenue, which likely will reflect in their share price
  - Favorable/unfavorable regulatory action can impact entire industries and open/close new markets
- Knight (2005) analyzed the Bush/Gore 2000 presidential election and found that “under a Bush administration, relative to a counterfactual Gore administration, Bush-favored firms are worth 3% more and Gore-favored firms are worth 6% less, implying a statistically significant differential return of 9%”
Motivation/Background

- Then candidate Trump heavily criticized China in his 2016 campaign for its regulatory practices towards American businesses and trade surplus with the United States.
- Trump also targeted U.S. firms that based most of its manufacturing in China, blaming them for the loss of American jobs.
- Trump campaigned on highly inflammatory messaging on China, escalating tensions in U.S.-China relations and inciting potential retaliation from China on U.S. businesses.
- These factors create uncertainty and risk for China-sensitive U.S. firms.
Data

- List of S&P 500 companies in May 2015 (source: historical S&P 500 data)
  - The S&P 500 company list changes over time
  - May 2015 is the start of data analysis
- China-sensitivity data (source: Factset)
  - China sensitivity is represented by percentage of total revenue from China
  - Factset’s GeoRev feature displays total revenue exposure by region based on public and private data
    - Unfortunately, only the most up-to-date information is available
- Historical share price data (source: Investing.com)
  - Downloadable .csv files for each firm
  - Dates: 05/06/2015 through 11/07/2016
    - 05/06/2015 through 05/06/2016 is only used for the market model
- Probability of Trump 2016 victory (source: Iowa Electronic Market)
  - Price history for PRES16_VS
  - Dates: 05/07/2016 through 11/07/2016 (six months preceding the 2016 election day)
Data Analysis Approach

- Gather and clean data from each data source
  - Scrape Factset for firms' revenue exposure to China
  - Merge with daily share prices for each firm
  - Merge with IEM data for corresponding dates
- Market model: \( r_{it} = \alpha_i + \beta_i \cdot r_{mt} + \epsilon_{it} \)
  - Analyzed using data from 05/06/2015 through 05/06/2016
  - Regression of firms' daily return on the daily market return (S&P 500 index)
  - Purpose: estimate \( \alpha_i \) and \( \beta_i \) values for each firm to use in calculating the abnormal rate of return
- Daily abnormal return rate (net of market returns): \( R_{it} = r_{it} - [\hat{\alpha}_i + (\hat{\beta}_i \cdot r_{mt})] \)
  - Calculated using estimated parameters from above and data from 05/07/2016 through 11/07/2016
  - Used in the main regression model
Final Regression Model

\[ R_{it} = \alpha + \beta_1 \Delta \Pr(\text{Trump}) + \beta_2 \text{China} + \beta_3 \Delta \Pr(\text{Trump}) \times \text{China} + u_{it} \]

- \( R_{it} \) = daily abnormal return rate
- \( \Delta \Pr(\text{Trump}) \) is the change in the probability of Trump winning the 2016 election
- China
  - (1) % of total revenue from Mainland China
  - (2) 0 or 1 indicator variable
    - 0 = bottom 25 firms in terms of % of total revenue from Mainland China
    - 1 = top 25 firms in terms of % of total revenue from Mainland China
- Interested in \( \beta_3 \)
Current Results

China-sensitive variable = % of total revenue generated from mainland China

Coefficients:

|                      | Estimate | Std. Error | t value | Pr(>|t|) |
|----------------------|----------|------------|---------|----------|
| (Intercept)          | -0.0107809 | 0.0218168 | -0.494  | 0.621    |
| prob_change          | 0.0003405  | 0.0047798 | 0.071   | 0.943    |
| Rev_Exp            | 0.0041720  | 0.0009782 | 4.265   | 2.03e-05 *** |
| prob_change:Rev_Exp | 0.0002778  | 0.0002143 | 1.296   | 0.195    |

Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.301 on 6346 degrees of freedom  
Multiple R-squared: 0.003469, Adjusted R-squared: 0.002998  
F-statistic: 7.364 on 3 and 6346 DF,  p-value: 6.357e-05

China-sensitive variable = indicator variable (1 if firm is in the top 25 by revenue exposure to China; 0 if firm is in the bottom 25*)

Coefficients:

|                      | Estimate | Std. Error | t value | Pr(>|t|) |
|----------------------|----------|------------|---------|----------|
| (Intercept)          | -0.0259784 | 0.0231106 | -1.124  | 0.261    |
| prob_change          | 0.0007099  | 0.0050633 | 0.140   | 0.889    |
| indicator            | 0.1536528  | 0.0326826 | 4.701   | 2.64e-06 *** |
| prob_change:indicator| 0.0074678  | 0.0071605 | 1.043   | 0.297    |

Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.3 on 6346 degrees of freedom  
Multiple R-squared: 0.003979, Adjusted R-squared: 0.003508  
F-statistic: 8.45 on 3 and 6346 DF,  p-value: 1.336e-05
Next Steps

● Expand the firm sample and rerun same data analysis on top 50 and bottom 50 firms by revenue exposure to China
● Investigate industry breakdown of the most and least China-sensitive companies
  ○ Explanations for why $\beta_3$ is not showing statistically significant results
● Rerun similar data analysis on weekly data instead of daily