Measuring Economic Effects of Presidential Elections

Sponsor: The Center for Responsive Politics

Team:

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Outline

Introduction

Our Sponsor:

Center for Responsive Politics
OpenSecrets.org

- Nonpartisan, independent and nonprofit research group tracking money in U.S. politics. It's mission is to:
    1. Inform citizens about how money in politics affects their lives
    2. Empower voters and activists by providing unbiased information
    3. Advocate for a transparent and responsive government

Problem

- Economy's effect on the presidential election is clear
- A healthy economy boosts the chances of the incumbent candidate/party, while a weak economy lowers its chances

Problem

However, the effect of the presidential elections on the economy is not as clear.

Direct factors that affect the economy:

- Progressively more elaborate and expensive presidential campaigns

Indirect factors that affect the economy:

- Policy deferment
- Political indecision

Objective

To quantify the economic effects of presidential elections/campaigns

- To investigate if, during the period before and after historical presidential elections, there exists statiscally significant fluctuations that can be tied to events related to the presidential election (i.e. announcement of election results)

Approach

- 2004 Presidential Election
- Two economic indicators:
  1. S&P 500 index
  2. Price of U.S. 1-year Treasury Bill
- Data running from 1999 (5 years prior) to 2009 (5 years after)

Economic Indicators

Numerous other indicators that can measure effects on the economy:

- Gross Domestic Product (GDP)
- Unemployment Rate
- Consumer Price Index (CPI)
- Crude Oil Prices
- Gold Prices

The S&P 500 Index

- Stock market index based on the common stock prices of 500 top publicly traded American companies, as determined by Standard & Poor's
- Index is updated every 15 seconds
- Commonly regarded as a good representation of the market and an indicator for the U.S. economy

United States Treasury Bills

- U.S. 1-year Treasury Bills ('T-Bills') are short term loans issued to, and backed by the full faith and credit of, the United States Government
- Regarded as the least risky investment available to U.S. investors
- Price of these actively traded bills are also a good indicator of the confidence in the U.S. lending market, and the economy as a whole

Analyzing economic indicators

The S&P 500 Index over 10 years:

To test the effect of the conclusion of a presidential election against these economic indicators

1. Analyze daily fluctuations in the both indicators 5 years before and after the presidential election
2. Analyze the change in both indicators the day before election day, and the day after
3. Compare normalized historical fluctuations with fluctuations on election day

Method: Change-point detection

- The time series of these two indicators are analyzed using change-point detection
- Change-points are times of discontinuities in a time series that can be induced from changes in observation
- To what extent the presidential elections affect the economy.

Deliverables

The following outputs are expected from this project:

- List of economic indicators
- Statistical algorithm
- R package with a complete set of documentations along with some test codes that can be used to reproduce our statistical test results
- Technical report and presentations summarizing the work

Deadlines and Progress

We have the following major deadlines:

- Work Statement due date, Sep 28, 2012
- Data Acquisition due date, Oct 12, 2012
- Algorithm Design due date, Oct 26, 2012
- Midterm Presentation due date, Oct 26, 2012
- Progress Report due date, Nov 6, 2012
- Final Presentation due date, Nov 20, 2012
- Final Report due date, Nov 30, 2012

Future Research

- Analysis on other economic indicators previously discussed
- Analysis/research on the reliability of the stock market as an indicator (e.g. flash crash?)
- Localize analysis of political campaign's effects on an economy (by State / County)