**Project 1 Summary – Team 2 T TH – Amrit, Ahmeda & Greg**

Our Original Hypothesis:

Does the level of unification of the US government act as a predictor of the likelihood of a government shutdown? And is this moderated by the constituent’s approval ratings of the president & congress? Unification is defined as how closely the House & Senate are aligned with the political party of the current president.

The Questions to be answered:

1. Does government unification have an impact on the possibility of a government shutdown?
2. What is the impact of a government shutdown on the stock market?
3. What is the impact of a government shutdown on business/the economy in general? Plot some interesting shutdown stats relative to crime level, airport traffic, impact to employment across the country and the areas of the US that are affected, etc.

Analysis of the Politics & General Economic Impact of the Government Shutdown:

While we intended to show the impact of the government shutdown on various aspects of the economy, we quickly found out that, for the most part, life goes on as usual and the economy is not greatly impacted for most Americans. We found this fact to be the subject of much content & studies on the internet whether it involved crime levels, airport traffic or some other measure of economic impact. Therefore, we quickly dismissed studying or investigating these aspects of the government shutdown. However, one interesting economic aspect of the shutdown remained for us, namely its impact to or reaction by the stock market. This will be discussed separately in the section following this one.

Regarding the question as to whether the level of unification of the US government acts as a predictor of the likelihood of a government shutdown, it appears to be obvious by an initial bar plot of the number of shutdowns that occurred when the government was unified versus when it was divided that a shutdown is twice as likely to occur when the government is divided. Divided is defined as when either the House or Senate is controlled by a majority party other than the party of the current president. Unified Is defined as when the president, House & Senate are of the same political party.

We noticed several things upon plotting the shutdown data. There was a total of 21 shutdowns occurring from 1976 (when the shutdown era started) to the present; this includes the current shutdown under the Trump administration which has not yet ended as of this writing. Thirteen shutdowns occurred with a Republican president while 8 occurred with a Democratic president. The majority of the shutdowns (15 of them or 71%) occurred between 1976 and 1990 while there was a significant period from 1995 till 2013 when no shutdowns occurred under both Democratic & Republican presidents. We also noticed a spike downward of the president’s approval ratings just before a shutdown. President Reagan was the all-time leader in shutdowns with 8 of the 21 occurring during his presidency.

Analysis of the Stock Market’s Reaction to the Government Shutdown:

I began my analysis of the S&P500 by first looking at the volatility of the market during the dates of the shutdown. By dividing each shutdowns’ standard deviation by the mean, I was left with a means to compare each of the shutdowns to one another. For further comparison, I gathered data from one month prior to each shutdown, hoping to see some sort of trend.

From the data we can see that the markets in general do show increases in volatility during periods of a government shutdown in comparison to a month prior. These increases average about a 1% increase in volatility, which can only be commented on after testing for statistical significance. In addition to this, there seems to be no noticeable effect of the presidential party having any effect on how the market performs during these shutdowns.

I then investigated how much the market increased or decreased as a whole during the shutdown. There were more shutdowns where the market improved overall (12), than where the market decreased overall (8) not counting the current shutdown which has not yet ended. From here we can conclude that a period of shutdown alone cannot accurately predict how the markets will perform. Similarly, when comparing across parties, no obvious difference separates a Republican shutdown’s performance from that of a Democratic one.

Lastly, I took the data from these last two graphs and plotted them on a scatter plot, hoping to see if there was a trend between the length of a shutdown on the market performance. From the graph one can conclude that there may be a small correlation between longer shutdowns causing more volatility in the market, as well as causing an overall decrease in market performance.