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**Essay 2**  
**The Tweets of our Leader**

Our current president of the United States has certainly been one of great controversy. It is safe to say he has caused a divide against the majority of America on various foreign and domestic decisions. One of the more interesting sources of divide I have heard through the media is the president's use of twitter. Social media has risen in popularity enormously in the past 5 to 10 years and it is starting to catch hold of institutions that we never would have dreamed it would infiltrate. Gone are the days where we have to rely on a presidential press conference or wait for the press secretary to make a statement, instead we are able to see the president's thoughts in 160 characters or less on numerous topics. From major political decisions all the way to bullying celebrities who have spoken ill of him, everything comes out in tweet form from president Trump. Somewhere in that wide range of possible tweets comes commentary on companies. Trump has participated in multiple twitter wars with companies across various industries that have lead many to use that information as leverage in stock trading. An NPR podcast recently came up with a Trump Twitter Bot that would trade stocks based off the presidents comments about a particular company and the sentiment behind them. This leads me to my ultimate question, we know Trump's tweets can impact trades from large financial institutions, but what about at the individual investor level. Based off recent tweets from the president about a specific company, are individual investors likely to purchase less of that stock if the president's tweets are negative?

I think this question is particularly interesting as we have never had direct access to the thoughts of someone with so much influence on companies. The president of the United States is one of the most powerful people in the world and is able to create policy that could make life very easy or very difficult for a company. Take for example, Boeing and the relationship Trump has with them (disclaimer: I work for Boeing). At the beginning of Trump's presidency, he attacked Boeing on Twitter claiming they were vastly overcharging the government for the two Air Force One 747 airplanes Boeing was building. This caused our CEO to immediately reach out to Trump to talk things over as he knew this could negatively impact Boeing if left untreated. Through multiple talks, they were able to strike a deal and Trump has been on Boeing's side ever since tweeting out positive news for them. Not saying there is a direct causal relationship as that cannot be proven, but Boeing stock has been one of the best performers in the S&P 500 since Trump became president. He has removed numerous road blocks for

them such as the Import Export Tax which allows the US government to provide loans for poor countries to buy airplanes, a massive win for Boeing.

Next I will discuss the experiment itself and how I plan to vary the treatment groups. For starters, we will be using mechanical turk for our subjects, 100 in total. The plan for the experiment will be to provide all subjects with the same 3 companies and ask them to provide a dollar amount for how much they would like to invest in that company capped at a maximum amount they can invest. To select the companies, we can take a look at the 10 most tweeted about (both positive and negative) companies by Trump and do a random selection of 3 of those companies. Subjects will be broken out into four groups, a control group and three treatment groups. All of the groups will have the same number of subjects, 25. This will mean in total we have 100 subjects who will participate in the study. The control group will be provided the name of these 3 companies along with a description and a few facts about their current performance, all of this information will be standard for every subject. For treatment group 1 we will provide the same 3 companies and basic performance information but on top of that we will now provide one negative/positive tweet from President Trump about that company. For treatment group 2 we will provide all the same information as in treatment group 1 but will provide one additional negative/positive tweet from President Trump. Finally, treatment group 3 will have all the same information as treatment group 2 but with one additional negative/positive tweet from Trump for a total of 3 negative/positive tweets (to be clear it will be all negative or all positive tweets, not a mixture). In order to ensure we do not have bias in this experiment, we will randomize which subjects are a part of which of the four groups.

An additional tactic we could apply to this experiment is blocking. Blocking could be used as two different groups are likely to be biased when observing this, democrats and republicans. Democrats could be more likely to ignore Trump's comments as ridiculous while Republicans may pay more attention to his warnings. However, since Trump is such a controversial president in his own party, it might be better to break the subjects up by Trump supporters versus non Trump supporters. We could setup an initial question to determine which party the subject is affiliated with in order to ensure we have equal counts republican and democrat (or Trump supporter vs. non Trump supporter) in all of the different groups. This will reduce the sample variation as these groups are likely to have very different potential outcomes.

Ultimately we want to answer the question of do Trump's tweets have an impact on individual investor decisions? So the outcome we want to measure is how much money is each group willing to invest in the companies Trump has been tweeting about. With

the control just looking at the facts of the company and the treatment groups receiving various numbers of tweets from Trump. We can then get distributions of money invested and compare them across groups to determine if they are statistically different by performing random interference.

A secondary outcome we could also look at is are republicans or democrats more frugal with their money? This can be done because we may choose to block on political party and will have this data. Maybe overall democrats are more conservative with their money and do not invest as much overall as the republicans. This could be an interesting second outcome to look at.

The greatest risk is I believe not getting a large enough sample size to offset the variability that people have in investing money. Some people may be much more willing to spend money than others and that could skew the data. It might be a good idea to cap the amount of money they could invest but we also do not want to cap it so low that we skew the data in the opposite direction by forcing people to not invest as much as they would have.