## Philip’s questions:

* quantifiable measure that explains why both presidency's approval ratings are higher at the beginning (and end, for Obama).
  + By using the same wording over time, pollsters have been able to notice some trends. According to Lydia Saad, Director of U.S. Social Research at Gallup, “Usually presidents start off with high ratings, for obvious reasons: the goodwill brought about by their inauguration, benefit of the doubt and leeway at beginning. Then as things start happening, it will go down over next three years.” Trump, Saad says, was an exception: “He came in with little to no honeymoon.” (Gallup’s latest polling, which was conducted about two weeks into the shutdown, gives Trump a [37](https://news.gallup.com/poll/245990/trump-congress-job-approval-mostly-steady-amid-shutdown.aspx)% approval rating.) --- [History of presidential approval ratings](http://time.com/5511118/presidential-approval-ratings-history/)

## Other Works

### Historical

* [The Economy and Presidential Approval - Tamkang University](http://www.kleykampintaiwan.com/files/DavidWP1.pdf)
  + First, for the period 1961:02 ~ 2003:12, both monthly observations on US presidential approval ratings and end-of-period quarterly observations are remarkably well explained by a pure autoregressive process of order one.
    - The process is extremely stable over decades of data.
      * The best explanation for this is that approval ratings are probably governed in large measure by party affiliation and people typically change such affiliations quite infrequently
  + Second, if we consider approval ratings of the US Presidency over the whole period, we find that such a generic president is apparently affected by certain aspects of the economy.
    - The effects are statistically significant, but they are not of practical significance.
    - Data shows that the non-zero measured effects... but the effects are nevertheless relatively small in magnitude
    - The economic variables do not explain much of the variation in approval rates that are not already explained by lagged values of approval rates themselves.
  + Third, the two economic variables which show greatest importance, regardless of whether one considers monthly or quarterly observations on approval ratings, are the unemployment rate and the inflation rate.
    - Both affect approval rating by interacting with a lagged (exponentiated) approval rating
    - A higher unemployment will typically reduce the current approval rating by a small amount
  + Fourth, trade deficits, business cycles, oil prices, and interest rates do not appear to have statistically significant (nor practical significant) effects on the approval ratings
  + Fifth, the response of the approval ratings of each president over the period 1961:2 ~ 2003:12 to changes in economic conditions shows considerable qualitative uniformity and quantitative variability.
    - Approval rates clearly are negatively related to unemployment for all nine presidents studied
* [Fundamental Models for Forecasting Elections: President, Senate, and Governor](http://www.aapor.org/AAPOR_Main/media/AnnualMeetingProceedings/2012/04_Rothschild_D6_PowerPointShow_2003.pdf)
  + Significant but 1/3 impact on Senate/Governor as President. **David Rothschild,Microsoft**
* [Assessing Trump’s Chances: Forecasting the 2020 Presidential Election](http://www.rasmussenreports.com/public_content/political_commentary/commentary_by_alan_i_abramowitz/assessing_trump_s_chances_forecasting_the_2020_presidential_election)
  + 18 presidential elections since World War II indicates that elections with a running incumbent are different — their outcomes are much more predictable based on the incumbent’s approval rating in the middle of the election year and the growth rate of the economy during the second quarter of the year.
* [538 - How we are tracking Donald Trump's Approval Rating](https://fivethirtyeight.com/features/how-were-tracking-donald-trumps-approval-ratings/)
  + Polls are adjusted for house effects, which are persistent differences between the poll and the trend line. [Rasmussen Reports](http://www.rasmussenreports.com/public_content/politics/trump_administration/trump_approval_index_history), for example, has consistently shown much better approval ratings for Trump than other pollsters have, while [Gallup’s have been slightly worse](http://www.gallup.com/poll/201617/gallup-daily-trump-job-approval.aspx). The house effects adjustment counteracts these tendencies.

## Time series

* Is it stationary
  + fUnitRoots package
    - **Dickey-Fuller test**
      * unitrootTest(obama$Approval)
      * unitrootTest(obama$Right.Track)
      * unitrootTest(obama$Wrong.Track)
      * unitrootTest(obama$Unemployment)
      * unitrootTest(obama$Stocks)
      * unitrootTest(obama$Tweets)
      * unitrootTest(trump$Approval)
      * unitrootTest(trump$Right.Track)
      * unitrootTest(trump$Wrong.Track)
      * unitrootTest(trump$Unemployment)
      * unitrootTest(trump$Stocks)
      * unitrootTest(trump$Tweets)

## First 3 sections

1-11, 17, 132, 196-198, 269, 376, 390, 404, 405, 406, 410, 417-418

1, 2, 7, 48, 49, 53

### References

[Assessing Trump’s Chances: Forecasting the 2020 Presidential Election](http://www.rasmussenreports.com/public_content/political_commentary/commentary_by_alan_i_abramowitz/assessing_trump_s_chances_forecasting_the_2020_presidential_election)

[RealClearPolitics Job Approval](https://www.realclearpolitics.com/epolls/other/president_trump_job_approval-6179.html)

### Other Reading

* [538 - How popular is Donald Trump](https://projects.fivethirtyeight.com/trump-approval-ratings/)
* [Approval Ratings and re-election odds](https://fivethirtyeight.com/features/approval-ratings-and-re-election-odds/)
* [538 - How we are tracking Donald Trump's Approval Rating](https://fivethirtyeight.com/features/how-were-tracking-donald-trumps-approval-ratings/)
* [Modeling and forecasting US presidential election using learning algorithms](https://link.springer.com/content/pdf/10.1007%2Fs40092-017-0238-2.pdf)
* [History of presidential approval ratings](http://time.com/5511118/presidential-approval-ratings-history/)
* [Politics Subreddits - Election Themed & General Interest](https://www.reddit.com/r/politics/wiki/relatedsubs)
* [The Economy and Presidential Approval - Tamkang University](http://www.kleykampintaiwan.com/files/DavidWP1.pdf)
* [Fundamental Models for Forecasting Elections: President, Senate, and Governor](http://www.aapor.org/AAPOR_Main/media/AnnualMeetingProceedings/2012/04_Rothschild_D6_PowerPointShow_2003.pdf)
* [Multiple Regression on the Example of the Presidential Elections in the United States during the Period from 1916 to 200](https://paperqa.com/wp-content/uploads/2019/04/multiple-regression-on-the-example-of-the-presidential-elections-in-theunited-states-during-the-period-from-1916-to-2000-2168-9679-1000274.pdf)
* [An Investigation into the Correlation between a President’s Approval Rating and the Performance of His Party in the Midterm Elections](https://arxiv.org/ftp/arxiv/papers/1503/1503.07545.pdf)
* [Forecasting 2016 US Presidential Elections Using Factor Analysis and Regression Model](http://bjll.org/index.php/jpm/article/view/1264)
* [US presidential election forecasting: An introduction](http://www.acsu.buffalo.edu/~jcampbel/documents/IJF1Intro.pdf)