

ECO481  
University of Toronto

Marlène Koffi

November 4, 2022

## 1 Exercise 1: Baker, Bloom, Davis (QJE 2016) (20 points)

1. In Baker, Bloom, Davis (QJE 2016), to measure the economic policy uncertainty, the authors proceed to a monthly count of articles that contains at least one of the term “uncertainty”; “uncertain”; “economic”; “economy”; “Congress”; “deficit”; “Federal Reserve”; “legislation”; “regulation”; “White House” (including variants like “uncertainties”; “regulatory”; “the Fed”). True or False? Explain. (3 points)
2. In Baker, Bloom, Davis (QJE 2016), discuss why it is useful to scale raw counts and how the authors do the scaling. (4 points)
3. Describe how the authors validate the measure of economic policy uncertainty obtained from counting newspaper articles. (10 points)
4. From your perspective, discuss the use of the index of economic policy uncertainty measured by the number of newspaper articles versus an index constructed using a method based on Google trends. (3 points)

## 2 Exercise 2: Build a Covid uncertainty index (50 points)

You work at the Federal Reserve in the US.<sup>1</sup> You are in charge of building a Covid uncertainty index and analysing the impact of Covid on the stock market. You also want to assess the general feeling using the news for this period.

---

<sup>1</sup>Unfortunately, it was difficult to find historical news on Canada.

Your boss gives you the database of headlines from the New York Times that I constructed by webscrapping the information on the archives page of The New York Times. The data is contained in the csv file called NYT\_headline.csv. There are two columns. The first one is related to the headline. The second one is related to the date (the date of publication of the article with the corresponding headline). I restrict the collection on articles about the US. The period covered is: February 1, 2021 to March 12, 2021.

1. Read the file NYT\_headline.csv on python and drop the duplicates. (2 points)
2. Build a vocabulary of Covid-19 related words. (5 points)
3. Using the vocabulary constructed, build a daily covid related index (that we will call the covid uncertainty index) by estimating the relative fraction of headlines related to covid to the total number of articles per day. (5 points)
4. Use the following words “uncertainty”, “uncertain”, “economic”, “economy”, “Congress,” “deficit,” “federal reserve”, “legislation”, “regulation,” or “white house”, “uncertainties,” “regulatory,” or “the fed” to construct a daily economic policy uncertainty index. In the same manner as for the covid uncertainty index, build the current index by estimating the relative fraction of articles that use any of those words. We will call it a *coarse economic policy uncertainty index*. (5 points)
5. Use the variable “Adj Close” to compute the return on S&P500 ( $\hat{GSPC}$ ). (5 points)
6. Using a plot and simple correlations, exhibit the link between the Covid uncertainty index, the coarse economic policy index and the returns. (5 points)
7. Comment on your findings in question (6).(4 points)
8. Splitting periods of positive returns from those of negative returns, **carefully** show the words from the headlines that tend to be related to each category. (14 points)
9. Explain your findings from question (8) based on your knowledge of the field. (5 points)

### 3 Exercise 3: Visual summary of a text (30 points)

You are given the attached long text (US7809633).

You want to answer the question: What is the text about? Produce a wordcloud that will be able to answer this question.

NB: You can ignore pages 1 to 10 of the pdf. Think about a good preprocessing of your text; consider n-grams. The best summary will be the one as close as possible to what this text is about.

## References:

Baker, Scott R., Nicholas Bloom, and Steven J. Davis. Measuring economic policy uncertainty. *The quarterly journal of economics* 131.4 (2016): 1593-1636.

Baker, S. R., Bloom, N., Davis, S. J., Kost, K. J., Sammon, M. C., & Viratyosin, T. (2020). The unprecedented stock market impact of COVID-19 (No. w26945). National Bureau of Economic Research.

Baker, S. R., Bloom, N., Davis, S. J., & Terry, S. J. (2020). Covid-induced economic uncertainty (No. w26983). National Bureau of Economic Research.