Business and Economics Forecasting
Econ 3342

Spring, 2019
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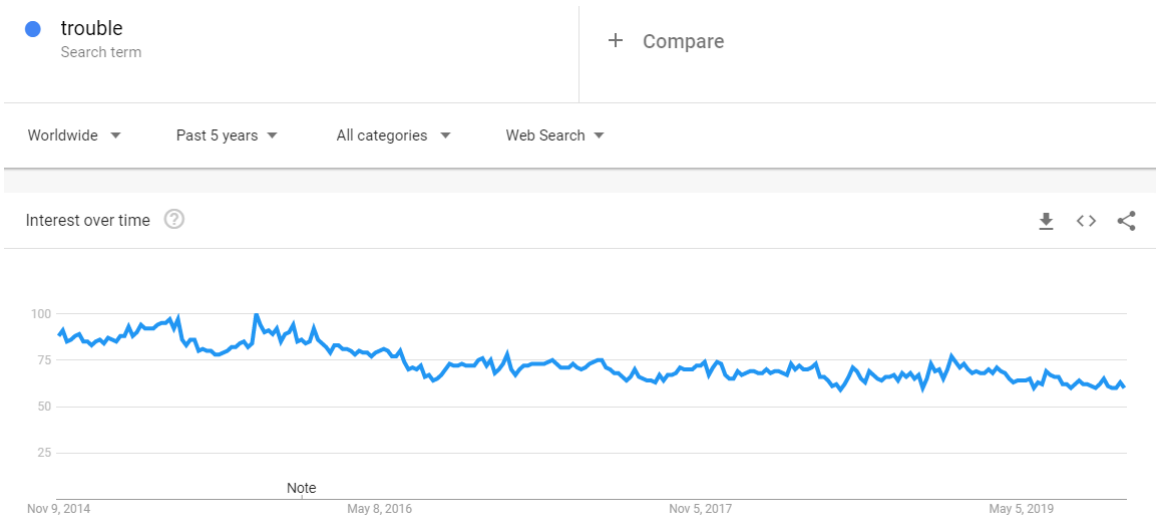
Assignment 3

- Due Thursday November 14 (before the beginning of the class).
- You can work in groups of up to three students.
- Send your PDF responses by email and make sure you copy all members when submitting your PDF file.
- Make sure your PDF file shows your work on EViews.

Go to Google Trends (http://www.google.com/trends) and type any keyword you think is interesting. Google Trends will give you the time series data of an index that captures how much people search for that specific term or keyword.[1] You can search, for example, for "trouble" to get:



In this case, I selected "Worldwide" and "Past 5 years." You can try other keywords, such as "love", "presents", "travel", "vacation", etc. Use your imagination.

1. Select your keyword and download the data. I recommend "Past 5 years", but you can select a smaller sample if your EViews has restrictions. Export your data to EViews and obtain a time series graph.
2. Obtain the correlogram of the series. What can you say from the different autocorrelations and partial autocorrelations?
3. Is your series White Noise? Explain.
4. Estimate the most appropriate moving average model. What is the interpretation of the coefficient on the first lagged error term?

[1] This source of data has been used by a professor in UC Berkeley to forecast unemployment.

5. Estimate the most appropriate autoregressive model. What is the interpretation of the coefficient on the first lagged autoregressive term?
6. Estimate the most appropriate autoregressive moving average model.
7. Are the residuals from your ARMA model White Noise? What would that mean?
8. Provide an out of sample forecast and interpret it.

Note that you need to control for trend and seasonality if your series has them.