

Libor's OH

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2/24/2021

1. Stick to one dependent variable

- Choose unemployment (for instance)
- Come up with a narrative that explains why unemployment is an important measure (e.g., allows the government to: budget for unemployment benefit and predict the future economic performances)
- *My thoughts: we can cite Emmanuel's macroeconomics bible here*

2. Focus on the *state* level difference

- Look at state level unemployment (or change in unemployment)
- Visualization suggestion: (y: unemployment, x: time, color: state)

3. Potential question

- Is it mobility or stringency that is a better indicator of unemployment?
- *Libor hinted that looking just at mobility might be sufficient since stringency affects mobility which affects unemp*

4. See if the sectoral component of a state matters

- Visualization suggestion: (y:unemployment, x: mobility, grid: tourism, financial services,...)
- You might see:
 - for tourism: a graph that shows a inverse relationship btwn unemp and mobility
 - for financial services: a graph that shows a flat relationship btwn unemp and mobility

5. Suggested Mathematical Model

$$unemp_i = \alpha + \beta * state_i + \gamma * sector_i + \delta * mobility_i + ...$$

* Adjust the model as you go (introduce polynomials, interactions, ...)

6. Presentation next week

- 10 slides
- Contents:
 - 1. Objective/Question
 - 2. Literature Review
 - 3. Niche of our project
 - 4. Data used & Visualization - interesting patterns? Validity of data?
 - 5. Mathematical model
 - 6. Highly recommended: visualization by sectors (tourism, financial services,...)

7. Going forward... how to check our model is correct?

1. Analyze ε . Is it heterosked? Does it violate OLS assumptions?
2. Look at the shape of the curves - scale the axis if necessary.
3. See the t-stat of Beta coefficients.
4. Graph: (y:unemp_predicted using our model, x:unemp_real). Try different models and find out which model gives you the 45 degree line!