Capstone Outline Assignments

ECON 490

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Project Proposals

Everyone should have an email with capstone proposal feedback

- Please confirm you've received email before leaving class today
- Proposals **must** be approved via email before continuing with project

Grades for future assignments depend on fully responding to prior feedback

KEY POINT: If I asked for specific updates/gave you a conditional approval…

- You must include (preliminary) updates for outline presentations next week
- This includes *finding and using* an external data set if needed/requested

Several Important Notes

For all capstone-related questions, ***please use email***

- Canvas is buggy and unreliable → email ensures I'll see your questions

I will not adjust or change proposal or outline grades

- At this stage of the class, setting expectations is the priority
- The point of resubmissions is to ensure you pass the class

Proposal/outline grades are ***signal*** about future grades in the absence of improvement

- If they're low, it's a sign you need to shift gears…
- But you can still do well overall in the course with improvement going forwards

Capstone Outlines

Assignments page has a detailed description of outline requirements

Two Word documents posted to the Outline Canvas page:

- A blank outline template for you to use for your own submission
- An outline template with detailed instructions for each section of your outline

Outline submission and presentation must clearly meet basic capstone guidelines

- ***KEY POINT:*** Every project needs either 1) external data or 2) advanced analysis
- 50% grade penalty for failing to demonstrate you've met these requirements

Outline Presentation

5-to-10-minute presentation during class next Wednesday

- You must email me slides/post to Canvas before class
- There is a sample template online – I'll go through a sample presentation

Key goal is to 1) state research question and 2) show working data/output

- Remember that results at this stage are likely tentative/preliminary
- It's okay if things change – just make sure you can describe results clearly

Keep it Simple: Put together a clean working data set then run a simple regression

Data Analysis Strategies

For the Outline, you'll provide updated description of your data analysis strategy

- Regression equations from proposal become 1st and 2nd stages of your analysis
- For each stage, you likely will/should have more than 1 regression

Slides from prior weeks and this week offer possible analysis strategies

Final presentations are 15 minutes long, final papers are 10+ pages long

- Do you have enough to talk about?
- Common proposal feedback–projects should be larger in scale/scope than 340

Advanced Analysis Strategies

Specifically includes things like machine learning/GIS/causal inference techniques

- I.e., approaches that are outside the scope of this class that you know how to use
- Added this option for students with extensive programming/stats background

Key point—this is ***not*** an easier option than finding external data

- Not very comfortable working with R?
- It will ultimately be much easier to gather external data (even if its slower now)

In general, techniques covered in our metrics review will ***not*** be sufficient

- Importantly, you can't just "paint by numbers" – analysis needs to fit 1st/2nd stage narrative flow and overall research question

Formatting Your Tables and Figures

A useful general rule of thumb: *"Would I be comfortable sharing this table, figure, entire paper, etc. as part of a job or grad school application?"*

Tables & figures in outline submission/slides should be organized and professional

- Pay attention to requirements in detailed Outline instructions file
- I have provided sample table templates on Canvas
- You have R code and strategies available for producing regression tables

KEY RULE: *Do not use screenshots of R code, regression summaries, graphs, etc.!*

Interpreting Your Data Analysis Output

For your 1st stage regression output (and all output for final paper), you should:

- Be able to interpret key coefficients
- Assess the ***statistical significance*** (i.e., is this just noise in the data?)
- Assess the ***practical significance*** (i.e., is that a large change in Y or not?)

The goal is to be conversational with your regression output

- Use `predict()`, transform your estimates, etc. to improve interpretability
- ***Key Question:*** What does your estimate tell us about your research question?

General Suggestions

Rounding up several recurring suggestions over the past month:

- Start by reviewing proposal feedback
- Work iteratively – update your research question as you refine your analysis
- Ask yourself: “Do I have enough to write 2-3 pages about these results?”

Projects generally tend to be 1) easy then hard or 2) hard then easy

- Gathering/cleaning a bunch of new data now is time-consuming, but it will make your analysis much easier/more flexible
- Using data exclusively from Canvas seems easy today, but minimum requirements for sufficient analysis are much higher = project is harder to complete