How to Give an Applied Micro Talk
Unauthoritative Notes

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Motivation

- Your audience does not care about your topic
- You have 1-2 slides to change their minds
- Make them count
  - anecdotes
  - facts
  - policy questions

Question

- State a research question
  - Policy/counterfactual question: what would happen if...?
  - Estimate of an important "deep" parameter: how forward-looking are consumers?
  - Test of an important theoretical prediction: does revenue equivalence hold in...
  - Or, better yet, all three!

Not Research Questions

- Applied research questions are motivated by economics and not the economics literature.

- Applied research questions are not

  - What happens if we apply the X model to industry Y?
  - What happens if we change assumption Z of the X model?
  - What happens when I re-estimate so-and-so's model on some other data?

- Outline what your paper does and why
- Convey why you have something to add
  - "Revisit the consumption CAPM using new high-quality consumption data."
  - NOT "Revisit the consumption CAPM because no one has estimated it in a few years."

Preview of Findings

- Assume the audience is about to leave
- Make sure they walk out with something
- Be tangible but terse
  - Just enough of your methodology so results don't feel like magic
  - Not so much that you crowd out the findings

Good Level of Detail

- State adoption of mandatory maternity leave reduces women's wages by 5%

  - No effect for women past fertile age
  - No effect for men

- Implies approximately $0.75 of every $1 spent on maternity benefits are "paid" by mother

Not Enough Detail

- Incidence of maternity leave policies mostly on wages

Too Much Detail

- Across state-years
  - Number of observations ranges from 543 (Delaware in 1976) to 17,645 (New York in 2005)
  - Mean wage for women is $17.49/hour (2008 dollars); median is $15.12/hour
  - Mean wage for men is $25.16/hour (2008 dollars), median is $22.99/hour
  - Average annual change in women's wages is 1.34%

- Regression model with state and year fixed effects
  - Weighted by number of observations in state-year
  - Exclude outliers using Tukey's method
  - Cluster standard errors (Bertrand Duflo Mullainathan 2003)

- Effect of maternity leave adoption is estimated to be
  - -$1.70 per hour (SE = $0.30) for women
  - $-0.21 per hour (SE = $0.20) for men

- Compare to cost of $2.25 per hour of providing leave

Data

Goals

- State clearly the source of each variable
- Prevent confusion later: no one should be wondering
  - "Where did that come from?"
  - "Is that measured at the state level or the county level?"
- Anticipate concerns over pure measurement and address them now
  - Are data sources reliable?
  - Do the concepts you measure approximate those in your model?

Credit

- Be sure to get credit for
  - Novel data
  - New ways of measuring something
  - New sources of variation

- But no one cares that
  - This dataset took a long time to download
  - There are a lot of different ways to weight the data and I had to read a manual

Your Underwear

- No one wants to see your underwear
- And no one wants to know how you processed the data
  - First I collapse by state, county, year, and gender to make the dataset easier to look at
  - Then I divide all variables by the 2008 CPI
  - Then I remove observations with missing wages
  - Then I remove observations with wages that are greater than $100/hour...
  - Then I collapse by state, year and gender
- Try this:
  - Average wage by state, year and gender, excluding outliers (>$100/hour in 2008 dollars)

Model

Be Explicit

- Panel data model with year and state fixed effects
- Identification comes from exogenous law changes

Be More Explicit

- Panel data model with year and state fixed effects

$$y_{it} = \alpha_i + \delta_t + \beta x_{it} + \varepsilon_{it}$$

with

- y_{it} = average wage in state i, year t
- α_i = state fixed effect
- δ_t = year fixed effect
- ε_{it} = error term

- Identification comes from exogenous law changes

Be Even More Explicit

- Panel data model with year and state fixed effects

$$y_{it} = \alpha_i + \delta_t + \beta x_{it} + \varepsilon_{it}$$

  with

  - y_{it} = average wage in state i, year t
  - α_i = state fixed effect
  - δ_t = year fixed effect
  - ε_{it} = error term

- Identification:

$$\mathsf{E}\left(\varepsilon_{it}|x_{it}, \alpha_i, \delta_t\right) = 0,$$

  i.e. law changes are exogenous conditional on fixed effects

Define Your Bottom Line

- Let γ be the average cost (per hour) of providing maternity leave
- Define β/γ as the fraction of maternity leave costs paid by the worker

Even Better If

- You can lay out explicit economic assumptions that justify your econometric assumptions
- Your model connects directly to well-defined policy or welfare questions

Pause To

- Discuss the most important vulnerabilities of your modeling approach
  - Why you think your model is a good approximation
  - What you will do to assess plausibility of your assumptions / sensitivity

Do Not Pause To

- Try to anticipate every possible criticism
- Talk about the other models you have tried
- Discuss fine points that no one will think of anyway

By Now

- The audience
  - believes in your question
  - understands what you measure and how
  - understands what you will do with your data and why

- Otherwise
  - the audience is lost
  - no one will be able to appreciate your findings
  - the talk is already over, you just don't know it

- No pressure though

Interlude: Slides

Principles for Slide Design

- Unlike reader of paper, audience can't skip or browse
- So every word is precious
- Slides should be clear
- Slides should be sparse: no extraneous detail

Content

- While you are talking, some people are not listening
- Instead they are looking at your slides
- Make the slides tell the story with your voice
- (Can you hear me now?)
- Don't put anything on a slide you don't plan to talk about
- Amount of space you devote should correspond to the emphasis you intend

- No pauses

Pacing

- No pauses
- Unless

Pacing

- No pauses
- Unless
- You

Pacing

- No pauses
- Unless
- You
- Really

Pacing

- No pauses
- Unless
- You
- Really
- Want

Pacing

- No pauses
- Unless
- You
- Really
- Want
- to

Pacing

- No pauses
- Unless
- You
- Really
- Want
- to
- Stress

Pacing

- No pauses
- Unless
- You
- Really
- Want
- to
- Stress
- Something

Documentation

- Your paper is a complete description of what you did and what you learned
- Slides cannot be complete—there is not enough time
- Leave documentation to the paper
- Use your talk to tell your story

Scaling

- A 30 minute talk is not a 90 minute talk where you talk three times faster
  - (Hat-tip to Matthew Rabin for teaching me this one.)
- Choose emphasis and detail for the amount of time you have

Results

Figures

- Use figures wherever possible to tell the story of what is in the data
  - More honest
  - More complete
  - More interesting
  - More persuasive

Tables

- Use tables to summarize key magnitudes
- Not to
    - Show coefficient on every control variable (unless these tell an important story)
    - Show every robustness check you did (can summarize these in bullets)
- Always be telling your story

Bottom Line

- Have a bottom line
- A single qualitative or (ideally) quantitative take-away
  - Measurement error in consumption data explains 27% of equity premium puzzle
- Not just another description of what you did
  - Estimated the consumption CAPM with high-quality data

Conclusion

- You worked hard on your research
- Work hard on communicating it
- Make sure the audience
  - Cares about your research question
  - Understands how you answer it
  - Knows why they should believe you
  - Walks out of the room knowing what you learned

And One More Thing

- Practice

And One More Thing

- Practice
- A lot

- Practice
- A lot
- Give talks whenever you can