# Welcome to EC221!

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# Who I am

- Tom Glinnan, 2nd year MRes/PhD student in Economics
- BSc and MSc both from LSE
- I took EC221 as an undergrad (many) years ago
- Research interests
  - Primary: Econometric Theory
  - Secondary: Micro Theory, Development
- So my day-to-day job is doing proofs on the whiteboard in the PhD office like a crazy person

# Course Admin I

- Classes are Monday 15:00 - 16:00, or Monday 16:00-17:00
- This week and next week on zoom, after that in person
- Office Hours are **Thursday 11:30-12:30**
  - Zoom for MT3 and MT4
  - In LSE Life after that
  - But you can come to any of the office hours in LSE life for any class teacher (in the MT)
  - Come to chat about metrics: happy to speak about the course but also ML, PhDs, doing theory, etc

# Course Admin II

- **Email:** t.m.glinnan@lse.ac.uk
- The request for EC220/EC221 is that you post questions in *Piazza* rather than email - in case it's useful for others
- **Covid policy:** the school has been very explicit - when you're in class you *must* wear masks (unless exempt). We have specific instructions to stop teaching if people aren't doing it (so please do :D)

# Piazza

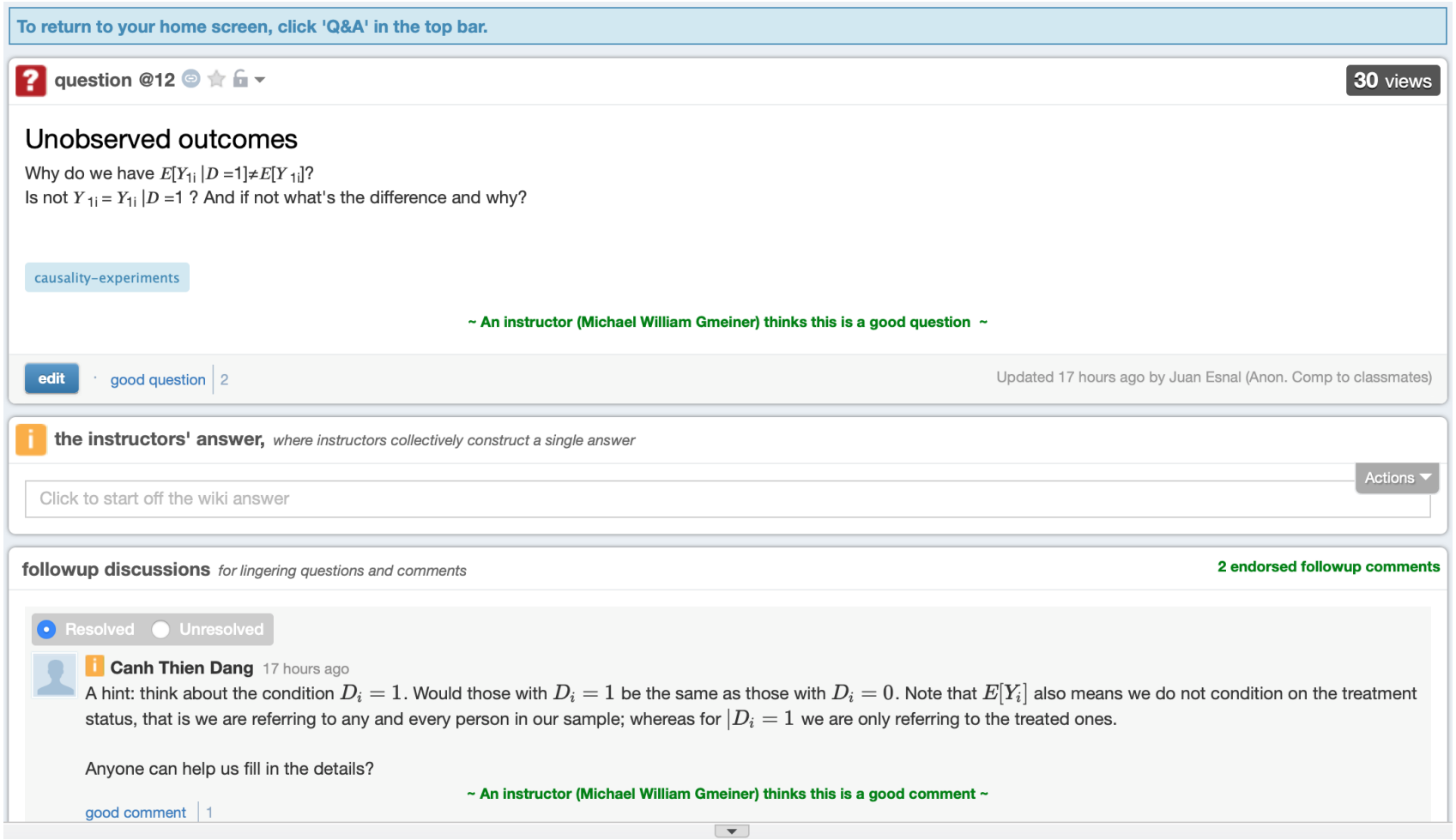


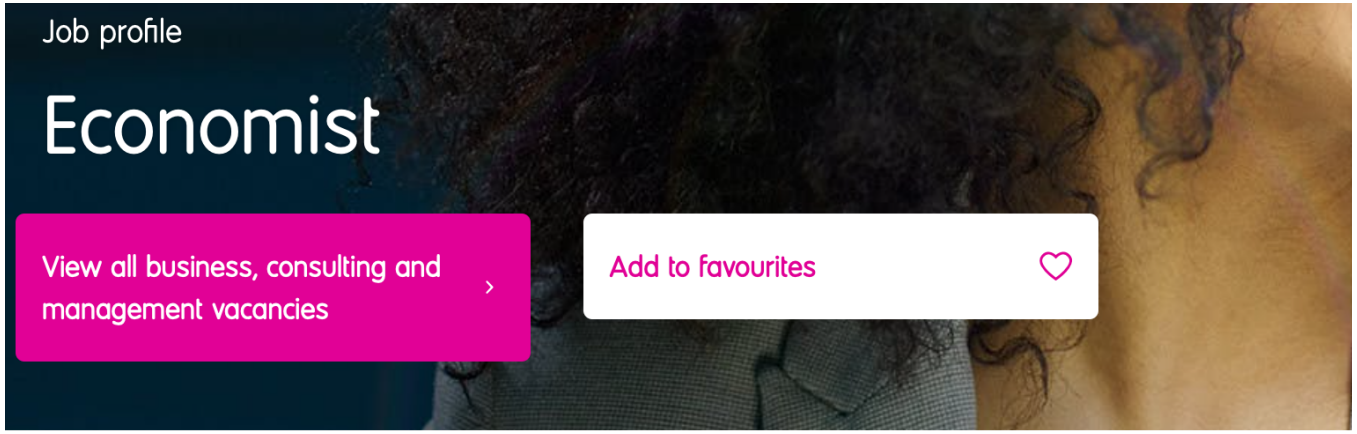

Figure: A screenshot of Piazza. A bit like stack overflow

Your turn!

# Why Study Econometrics?

- By this point you've done a tonne of Economics - especially if you did in school too - but did you always think it was realistic?
- Why don't we teach you about Marx's labour theory of value? Why is Behavioural Economics a thing? Why did the Economy deal (relatively) ok with Covid, but the Great Depression led to a world war?
- Also, 95% of jobs titled 'Economist' want **metrics**, not micro or macro
- And 95% of the research time of most Econ professors / PhD students

# The job of an Economist I




**Economists collect, study and analyse data in order to provide specialist economic advice to a wide range of organisations**

As an economist, you'll carry out research and collect large amounts of information that can cover any aspect of economic and social policy, ranging from interest rates, taxation and employment levels to energy, health, transport and international development.

You'll analyse the information using specialist software and advanced methods in statistical analysis in order to produce forecasts of economic trends and make recommendations of ways to improve efficiency.

Figure: Micro or Macro, it's all **data** in the end[1]

[1] From `https://www.truity.com/career-profile/economist`

# The job of an Economist II

**Why** do Economists do so much of this?

- Theory is amazing, but you've got to know when it works
- Very little 'pure' theory in modern Economics - everything is (rightly!) backed up with data from the real world
- My job: designing tools to attack data for other Economists

I genuinely believe that studying metrics changes how you think (for example, you will never trust a politician again)

# EC220 vs EC221

- You're doing EC221 now. Same in the MT, different in LT
- If you're motivated I would **highly** recommend EC221
  - By the end of LT, you'll be at a higher level than some masters students
  - The only math required is MA100 and ST102 - they're designed pretty much for EC221!
- Remember they're the same in MT - so even if you're worried about jobs / internships it's the same work for the application season
- Happy to talk more if people are still deciding

# Stata and coding

- Stata is a program used for Econometrics
- If you've ever coded before, you'll find it simple to pick up the grammar. If not, you'll probably pick it up faster than you think
- But we have to understand some computer concepts first
- Best way to learn: *practice*
  - There are a lot of commands
  - Every single person who codes regularly in their job looks up commands on Google all the time
  - Eventually you'll learn the commands that you use all the time - it's very organic

# Computer Concepts I

- Data is usually stored in *.dta* or *.csv* files - you can easily convert between them
- A computer's graphical interface is just that - a way to implicitly write code. Writing your own gives more precision and allows you to do more
- Files are stored in folders (= directories)
  - To work with stata, best practise is to put all of your relevant things (eg data, graphs, etc) in one folder
  - Then you set this as your 'current working directory' with stata's *cd* command

# Directories

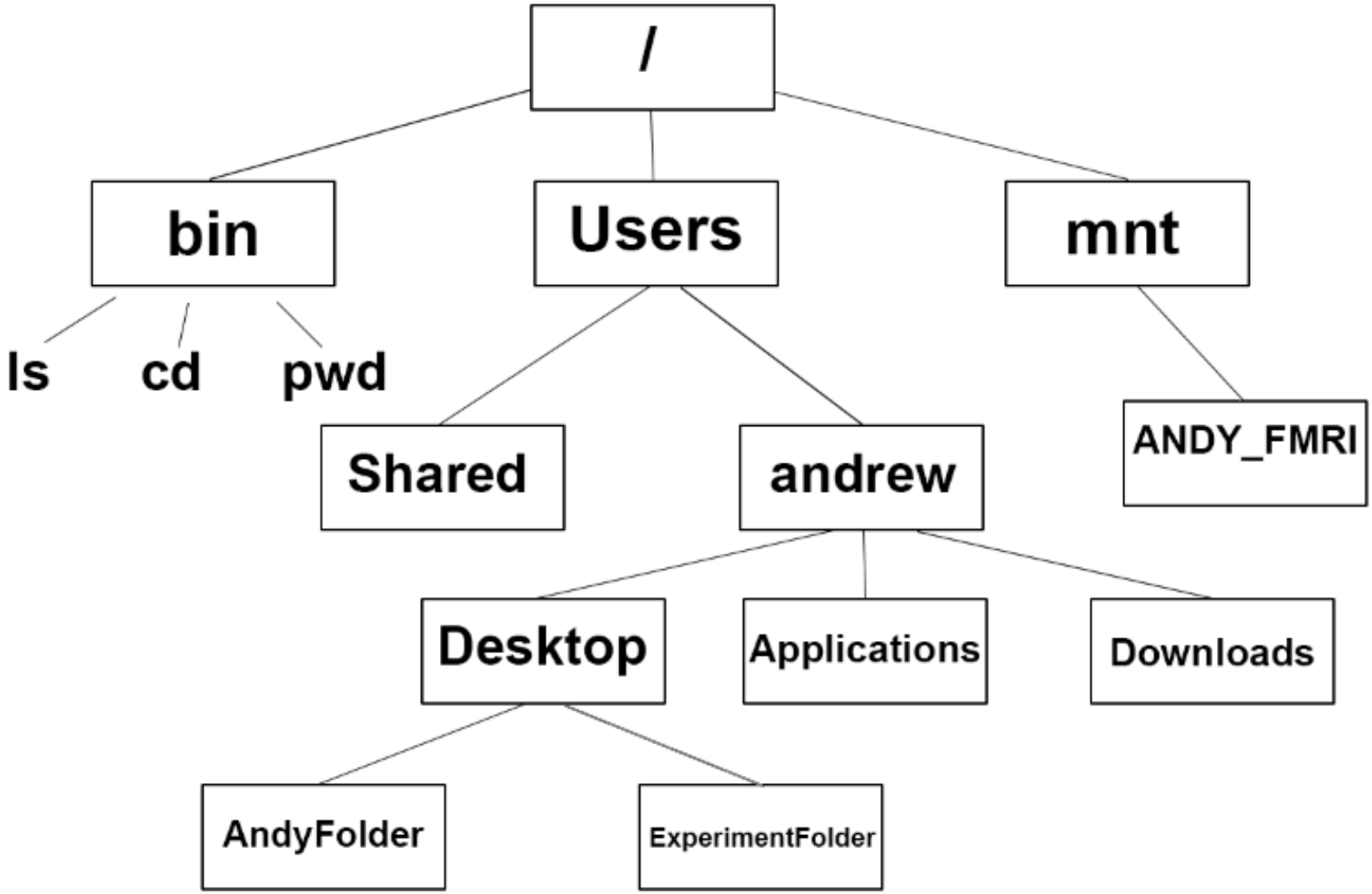



Figure: How folders might be organised on a Mac

# Computer Concepts II

- **Two ways to code:** either tell the computer what to do right now, or send it a list of instructions in one go (like an email)
  - Right now: *interacting with the console*
  - A list: *running a script*. Stata name: *running a do file*
- A do file is a file on your computer with a *.do* extension. *Running* it makes the computer do all of the instructions
- Workflow: try out things in the console, then add your commands to a do file. That way, someone can replicate everything you did[2]

[2] Academic papers have to submit their do files / scripts. So do problem sets!

# Stata Grammar (Syntax)

To run a command:

*command object(s), option(s)*

The options are optional (of course!)

For example if we have data (price, quantity) of cars sold by a dealership:

*summarize price*

*regress price quantity, robust*

We'll see what this all means later. Now to Stata