

Econ 8200: Topics in Quantitative Macroeconomics, 2025 José Víctor Ríos Rull

STARTS JAN 15 in PCP 510. Continues 6 consecutive Mondays in the same room except Feb 10 which is in 625.

When and where

- M 5:15-8:15PM, PCP 510 (NOTE THAT IT IS NOT THE OFFICIAL SITE) except Feb 10 in 625.
- Off Hours: M 3:30-4:30 516 and by appointment vroj@upenn.edu

Diary of Classes

Sign up for Class Presentation Use this calendar

Course Description

- This course should be thought of as a Macro/Labor course that should be of interest to people that care about both areas. Its main purpose is to link models and data i.e. to answer quantitative questions that we are interested in (in the process of doing so, some interesting theoretical questions arise). We will develop tools by stating general questions, and then discussing how to approach its answer.
- With respect to the material itself, we will start looking at why heterogeneity is now a core part of macro and not only the result of concerns for inequality.
- We will move on from there driven at least in part by students' interests so the content will vary depending on what you care about. Now is the time to raise your concerns.
- This is a Ph.D. course not a Masters course. We are not here to learn about existing work but to learn about how to do work, and, therefore, it requires to do some things.
- I expect you to choose a topic from early on and work on it along the lectures. This will include reading a few papers, writing some code, and presenting some results, perhaps from the literature or hopefully from your own work.
- I will ask the first day what your interests are and I want you to follow on it. If needed we will talk outside class about how to pursue the topic. In the end you will share some of it with us.
- The topics to work on are your choice as long as they have to do somewhat with a question with an applied angle that aggregates.
- I assume that most of you have taken Dirk's course and we will move from there exploring occasionally techniques to solve for equilibria (but not for its own sake). I expect that you are able (by the end of the course) to pose and solve models of the Imrohroglu/Aiyagari/Huggett family including transitions. If somebody has not taken anything like Dirk's course I will accommodate in part.
- Format. Classes will be a combination of lectures with some student presentations towards the end of the term.

Grading Rules and Registration

- Registered students should present once including coded material, and/or answer a homework and write a two page proposal. The homework will be writing code to replicate results or answer a question or something like that. I will propose various during the course. The proposal should describe a clear task associated to a question. While the proposal is not an actual paper it should describe the set of tasks that a paper would include. If computational it should include a version of working code. Students should talk to me about what they want to do. I expect that you should be able to do all things that I propose. The material is due by the end of Spring Break March 16, 2025 at midnight by email.
- For those that do not register but take the course, I recommend that, at least, you also present and do a homework.

A Course Plan

- We start talking about why macro needs heterogeneity.
- We then look at a general household life cycle model of the Aiyagari type and set in there some of the main ingredients of the course.
- Labor choice in the presence of labor shocks (very fast since it is not new)
- human capital accumulation
- Crime possibilities
- What is health?
- why it matters
- How to think of it
- Disability (moral hazard insurance)
- What is a family
- How to think of it: Who chooses what
- How is it formed and destroyed (Marriage and Divorce)
- What about unobserved heterogeneity

Another course plan

Banking

- Banking in Partial Equilibrium
- Banking in Partial Equilibrium Handout
- Additional Slides with Better Results
- Banking in General Equilibrium
- Banking in General Equilibrium Handout

Families

- Modeling Families
- Modeling Families Handout
- What men and women like on each other

Thinking of taxes, cohabitation and fertility

- Optimal Progressive Income Taxation and Endogenous Marriage
- Living Arrangements and Labor Market Volatility of Young Workers
- What Accounts for the Increase in Single Households?

Where are wages coming from and how do they change

- Joint Theory of Wealth and Wages Teaching
- Joint Theory of Wealth and Wages Handout

We revisit how a model with heterogeneity has more power to generate output volatility

- Teaching Slides Intro

Life Cycle Economies

- OLG Economies with an Application to the Great Recession
- OLG Economies with an Application to the Great Recession Handout
- We talk about Credit without Commitment

Credit, default, credit scores and personality types

- Credit Scores Teaching
- Credit Scores Handout

Possible papers to present are (But you are free to present whatever you want.)

- Shocks, Frictions, and Inequality in US Business Cycles (Bayer, Born, Luetticke, Jan 2023)
- Supply chain recessions (Alessandria, Khan, Khederlarian, Mix, Ruhl, Apr 23)
- Job stability, earnings dynamics, and life-cycle savings (Kuhn and Plog 2020)
- Sources of Lifetime Inequality (Huggett, Ventura and Yaron 2011),
- Dynamics of Deterrence (Guler and Michaud 2020) Extended Appendix
- Household Self-Insurance and the Value of Disability Insurance in the United States (Kellogg 2021)
- Lise and Postel-Vinay 2017
- Eeckhout Sepahsalari 2018
- Chaumont and Shi 2018
- Leon-Ledesma and Satchi 2017
- Lise Restud
- Consumption Heterogeneity: Micro Drivers and Macro Implications

(Edmund Crawley and Kuchler) document heterogeneity in the marginal propensity to consume (MPC) across household characteristics relevant to understanding heterogeneous agent models and monetary policy transmission. We find a strong negative relationship between household liquid wealth and MPC. We show that household liquid wealth predicts MPC closely for every other household characteristic we look at. We use a new empirical method that overcomes sources of bias found in the existing literature, along with administrative data from Denmark that allow us to identify heterogeneous behavior. We use our results to analyze monetary policy transmission mechanisms in both Denmark and the United States.

- A Risky Venture: Income Dynamics among Pass-Through Business Owners (DeBacker, Panousi and Ramnath)

employ a large panel of US income tax returns for the period 1987–2018 to extensively characterize and quantify business income risk. Our findings show business income to be much riskier than labor income. Business income is less persistent and is characterized by higher tail risk. Furthermore, when compared to labor income, heterogeneity across households is less important in explaining the cross-sectional variation in business income, and within-household income variation is more important. Our results underscore the

income risks business owners face and provide stylized facts and parameter estimates useful for quantitative macroeconomic models and policy analysis.

- Childcare Subsidies and Child Skill Accumulation in One- and Two-Parent Families (Moschini)

examine the role of family structure and childcare subsidies in child skill accumulation. I establish empirically that skill accumulation is more responsive to childcare price for one-parent families than for two-parent families. I analyze the effects of childcare subsidies in a model featuring endogenous family formation, parental altruism, and a baseline subsidy resembling that of the United States. I find that illuminating this subsidy generates welfare losses of 1.63 percent of lifetime consumption, that equilibrium adjustments act to mitigate these losses, and that increasing uptake among one-parent families yields the highest welfare gains per additional recipient.

- Firm Wages in a Frictional Labor Market (Rudanko)

studies wage setting in a directed search model of multiworker firms facing within-firm equity constraints on wages. The constraints reduce wages, as firms exploit their monopsony power over their existing workers, rendering wages less responsive to productivity in doing so. They also give rise to a time inconsistency in the dynamic firm problem, as firms face a less elastic labor supply in the short run than in the long run, making commitment to future wages valuable. Constrained firms find it profitable to fix wages, and doing so is good for worker welfare and resource allocation in equilibrium. Full-Text Access | Supplementary Materials

Possible Topics (related to my work) are

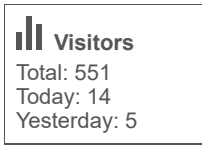
- Health Consumption and Inequality (how to estimate what health is)
- Banking Dynamics and Capital Regulation (Hopenhayn banks in general equilibrium)
- Organizational Equilibrium (What is a good theory of policy)
- The Generalized Euler Equation and the Bankruptcy–Sovereign Default Problem (How to characterize default Problems)
- A Theory of Credit Scoring and Competitive Pricing of Default Risk (how to think of types: another role for extreme value shocks)
- Life Insurance and Household Consumption (How to use choices to measure certain other things)
- Sticky Wages and Slavery in New Keynesian Models (how to avoid the problem that agents or firms can work against their will)
- Directed Search, Nominal Rigidities and Markup Cyclicity (How to get New Keynesian models to have procyclical markups)
- Living Arrangements and Labor market Volatility of Young workers (a model of cyclical movements on the number of households)
- A Theory of Low Interest Rates and Low Investment (how come despite low real interest rates there is no surge in investment)

Other Topics (not necessarily related to my work)

- Human Capital Investment models. This topic will involve a problem with two dimensional endogenous assets and investment. All should do (or be able to do) this. This problem should be posed recursively. I also ask for some people to look at how to solve the problem with two dimensions, assets and a continuous shock, and to propose innovative ways of solving it. A possible place to start is here.
- I can talk about how to extract information from life insurance data. We started discussing endogenous family formation.
- We can talk of new models of migration.

- The Fall of Labor Share

Slides for Classes



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