

Macroeconomic Theory III Spring 2023

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Course Description and Objectives

There are three goals for this course. First, to get a solid understanding of how the research frontier in macroeconomics understands labor markets and consumption/saving decisions and what some of the open questions are. Second, to understand how a good quantitative/empirical macro paper is crafted. We will look at a small subset of macroeconomics, which are the questions that interest us the most. However, many of the concepts and principles apply to other areas of economics as well. And finally, as a byproduct, the students will hopefully find questions they may want to answer in their dissertations. In either event, student have to present a project to pass the course (it is OK if it does not work out, all of us have work on ideas that did not pan out). Bent and German will lecture about the first 6 weeks after which we expect mainly to have student presentations (likely with some professor lectures to fill in about tools/methods).

Course Requirements and Grading

The course is in person although some of the lectures by Prof. Sorensen may be by Zoom.

Course grades will be determined by students' presentations of several papers during the course, homeworks and a final project. The grade will be determined from your homeworks, presentations and a final project. Homeworks (including independent data search and analysis) are worth 30%, presentations (including your participation in other students presentations) 30%, and final project (40%).

We will provide a guide to prepare an effective presentation. How well the presenter understood the paper and how well she/he answers the questions from me and other students in the audience will form the basis for the grade.

The HWs are a combination of problems to practice the concepts presented in the lectures and work that require the use of data. We will introduce you with the most common data sets used in empirical macro and we may require you to get familiarized with a data set of your choice and then make progress using it in subsequent homeworks and hopefully using it in your final project.

The final project needs to be submitted by the end of the course. It will consist of a replication of a paper or a working paper on your own. The idea is that the replication of the paper you

choose serves as a seed for your own future project. We highly encourage students to combine theory with data using different methodologies. Students will present at least twice (depending a bit on enrollment) and the final presentation is supposed to be based on the final project.

This kind of courses have served as the beginning of working papers sometimes coauthored with faculty. (We are happy to write with students, but it is by no means a requirement. If you aim for a job market paper, you do not want that co-authored with faculty.) We think this is a great opportunity to show your interests in the topics and your abilities as researchers. For these reasons, we hope you can go beyond the replication of a paper and extend a paper in the direction you think is best.

Communication

You can reach us anytime by email, walking in, or by appointment. We will have a web site in which we upload all the course content and updates (including HWs).

Tentative List of Topics

1. Consumer theory
2. Risk sharing
3. Empirical work on productivity spillovers with a focus on FDI
4. Econometrics tools as needed
5. Review of Heterogeneous Agents Models: Theory and Computation
6. The use of micro data sets in empirical macroeconomics.
7. Heterogeneous firms and firm dynamics
8. Facts on labor market, income and wealth.
9. Recent Work on Occupational Choice Models.

Basic Readings

1. Module on consumer theory with a focus on empiric. (Basic models; mainly partial equilibrium, heterogeneity; MPCs). We plan to go over most of the papers mentioned in detail, for further readings (maybe in GE context, see reading list).
 - (a) benchmark: Quadratic utility. Role of impatience. (notes.)
 - (b) CRRA, Buffer-stock model. Role of risk and precautionary saving. (Carroll (1997).)
 - (c) Models with durables (consumption commitments), aggregation, mobility. (Luego-Prado and Sorensen (2008); Chetty and Szeidl (2007); Demyanyk, Hryshko, Luengo-Prado, and Sorensen (2017).)
 - (d) Recent focus on MPCs. (Jappelli and Pistaferri (2020); Fagereng, Holm, and Gisle (2021); Nygaard, Sørensen, and Wang (2022).)
 - (e) Heterogenous consumers including hand-to-mouth (“rule-of-thumb”) consumers. (Kaplan, Violante, and Weidner (2014); Aguiar, Bilal, and Boar (2022).)
2. Risk sharing (general equilibrium, empirical: how close to GE allocation)
 - (a) Channels of risk sharing (Asdruali, Sorensen, and Yosha (1996); Hoffman, Maslov, Sorensen, and Stewen (2019)).
 - (b) Risk sharing, permanent versus transitory shocks (Blundell, Pistaferri, and Preston (2008); Kaplan and Violante (2010))
3. Productivity Spillovers (empirical, microdata)
 - (a) Nicholas Bloom and Mark Schankerman and Van Reenen, John (2013): “Identifying Technology Spillovers and Product Market Rivalry,” *Econometrica*, 81, no. 4, pp. 1347-1393,
 - (b) Christian Fons-Rosen, Sebnem Kalemli-Ozcan, Carolina Villegas-Sanchez, and Vadym Volosovych (2021): “Quantifying Productivity Gains from Foreign Investment.” *Journal of International Economics*, 131, July 2021, no. 103456.
 - (c) Christian Fons-Rosen, Sebnem Kalemli-Ozcan, Carolina Villegas-Sanchez, and Vadym Volosovych (2022): “Foreign Investment and Domestic Productivity: Identifying Knowledge Spillovers and Competition Effects. WP in progress.
4. Econometric tools
 - (a) Structural VARs (notes), local projections (Montiel Olea and Mikkel Plagborg-Møller (2021); Plagborg-Møller and Christian K Wolf(2018))
 - (b) New tools that we encounter (if needed)
5. Heterogeneous Agents Models: Theory and Computation
 - (a) Bewley, T. (1977): “The permanent income hypothesis: A theoretical formulation,” *Journal of Economic Theory*, 16(2), 252-92.
 - (b) Aiyagari, Rao “Uninsured Idiosyncratic Risk and Aggregate Saving”. *Quarterly Journal of Economics*, 109(3): 659-684.

- (c) Huggett, Mark “The risk-free rate in heterogeneous-agent incomplete-insurance economies” *Journal of Economic Dynamics and Control*, 17(5-6): 953-959.
 - (d) Huggett, Mark “Wealth distribution in life-cycle economies” *Journal of Monetary Economics*, 38(3): 469-494.
 - (e) Krusell, P. and J. Smith, Anthony A. (1998): “Income and Wealth Heterogeneity in the Macroeconomy,” *The Journal of Political Economy*, 106, 867–896.
 - (f) Acemoglu (2009), ch. 17.4
6. Heterogeneous firms and firm dynamics
- (a) Lucas, Robert Jr. (1978). “On the Size Distribution of Firms”. *The Bell Journal of Economics*, 9(2): 508-523.
 - (b) Hopenhayn, Hugo (1992). “Entry, Exit, and firm Dynamics in Long Run Equilibrium”. *Econometrica*, 60(5): 1127-1150.
 - (c) Hopenhayn, Hugo and Richard Rogerson (1993). “Job Turnover and Policy Evaluation: A General Equilibrium Analysis”. *Journal of Political Economy*, 101(5): 915-938
 - (d) Jovanovic, Boyan (1982). “Selection and the Evolution of Industry”. *Econometrica*, 50(3): 649-670.
7. Facts on labor market, income and wealth.
- (a) Moritz Khun. “On the persistence of income shocks over the life cycle: Evidence, theory, and implications”. *Review of Economic Dynamics*, 101(3): 471-75.
 - (b) Castaneda, A., J. Diaz-Giménez, and J.-V. Rios-Rull (1998): “Exploring the income distribution business cycle dynamics,” *Journal of Monetary Economics*, 42, 93–130.
 - (c) Moritz, Victor “Wage Risk and Employment Risk over the Life Cycle.” *American Economic Review*, 100(4): 1432-67.
8. Estimation of Income Processes
- (a) Karahan, Fatih and Serdar Ozkan (2013). “On the persistence of income shocks over the life cycle: Evidence, theory, and implications”. *Review of Economic Dynamics*, 101(3): 471-75.
 - (b) Cubas, G., and P. Silos (2017). “Career Choice and the Risk Premium in the Labor Market”. *Review of Economic Dynamics*, 26, 1–18
 - (c) Low, Hamish, Costas Meghir, and Luigi Pistaferri (2010). “Wage Risk and Employment Risk over the Life Cycle.” *American Economic Review*, 100(4): 1432-67.
 - (d) K. Storesletten, C.I. Telmer, A. Yaron (2004). “Cyclical dynamics in idiosyncratic labor market risk.” *Journal of Political Economy*, 112 (3) (2004), pp. 695-717.
 - (e) Guvenen, F. (2007). “Learning your earning: Are labor income shocks really very persistent?”. *American Economic Review*, 97 (3), 687–712.
 - (f) F. Guvenen (2009). “An empirical investigation of labor income processes.” *Review of Economic Dynamics*, 12 (1) (2009), pp. 58-79.
 - (g) Dmytro Hryshko (2012). “Labor income profiles are not heterogeneous: Evidence from income growth rates.” *Quantitative Economics* 3 (2012), 177–209.

- (h) K. Storesletten, C.I. Telmer, A. Yaron (2001). "The welfare cost of business cycles revisited: Finite lives and cyclical variation in idiosyncratic risk". *European Economic Review*, 45, pp. 1311-1339
- (i) Fatih Guvenen, Serdar Ozkan and Jae Song (2014). "The Nature of Countercyclical Income Risk," *Journal of Political Economy*, University of Chicago Press, vol. 122(3), pages 621-660.
- (j) Fatih Guvenen, Fatih Karahan, Serdar Ozkan and Jae Song (2015). "What Do Data on Millions of U.S. Workers Reveal about Life-Cycle Earnings Risk?," *NBER Working Papers 20913*, National Bureau of Economic Research, Inc.

Reasonable Academic Adjustments/Auxiliary Aids

The University of Houston complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for disabled students. In accordance with Section 504 and ADA guidelines, UH strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. If you believe that you have a disability requiring an academic adjustments/auxiliary aid, please contact the Justin Dart Jr. Student Accessibility Center (formerly the Justin Dart, Jr. Center for Students with DisABILITIES).

Academic Honesty

High ethical standards are critical to the integrity of any institution, and bear directly on the ultimate value of conferred degrees. All UH community members are expected to contribute to an atmosphere of the highest possible ethical standards. Maintaining such an atmosphere requires that any instances of academic dishonesty be recognized and addressed. The UH Academic Honesty Policy is designed to handle those instances with fairness to all parties involved: the students, the instructors, and the University itself. All students and faculty of the University of Houston are responsible for being familiar with this policy.

Counseling and Psychological Services

Counseling and Psychological Services (CAPS)–www.uh.edu/caps–are available for students having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS by calling 713-743-5454 during and after business hours for routine appointments or if you or somebody you know is in crisis. The "Let's Talk" program provides a drop-in consultation service at convenient locations and hours around campus.

[http : //www.uh.edu/caps/outreach/lets_talk.html](http://www.uh.edu/caps/outreach/lets_talk.html)

Excused Absence Policy

Regular class attendance, participation, and engagement in coursework are important contributors to student success. Absences may be excused as provided in the University of Houston Undergraduate Excused Absence Policy and Graduate Excused Absence Policy for reasons including: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition. Under these policies, students with excused absences will be provided with an opportunity to make up any quiz, exam or other work that contributes to the course grade or

a satisfactory alternative. Please read the full policy for details regarding reasons for excused absences, the approval process, and extended absences. Additional policies address absences related to military service, religious holy days, pregnancy and related conditions, and disability.

Student Conduct Policy

CLASS students are expected to abide by the University of Houston's Code of Student Conduct: http://www.uh.edu/dos/programs_and_services/behavior_and_conduct.html

Although I do not take attendance I require students to be on time for class, we want to avoid distortions in the dynamic of the class. The same idea applies for the use of mobile devices, you should silence them before entering class.

Title IX/Sexual Misconduct

Per the UHS Sexual Misconduct Policy, your instructor is a "responsible employee" for reporting purposes under Title IX regulations and state law and must report incidents of sexual misconduct (sexual harassment, non-consensual sexual contact, sexual assault, sexual exploitation, sexual intimidation, intimate partner violence, or stalking) about which they become aware to the Title IX office. Please know there are places on campus where you can make a report in confidence. You can find more information about resources on the Title IX website at <https://uh.edu/equal-opportunity/title-ix-sexual-misconduct/resources/>.

Security Escorts and Cougar Ride

UHPD continually works with the University community to make the campus a safe place to learn, work, and live. Our Security escort service is designed for the community members who have safety concerns and would like to have a Security Officer walk with them, for their safety, as they make their way across campus. Based on availability either a UHPD Security Officer or Police Officer will escort students, faculty, and staff to locations beginning and ending on campus. If you feel that you need a Security Officer to walk with you for your safety please call 713-743-3333. Arrangements may be made for special needs.

Parking and Transportation Services also offers a late-night, on-demand shuttle service called Cougar Ride that provides rides to and from all on-campus shuttle stops, as well as the MD Anderson Library, Cougar Village/Moody Towers and the UH Technology Bridge. Rides can be requested through the UH Go app. Days and hours of operation can be found at <https://uh.edu/af-university-services/parking/cougar-ride/>.

COVID-19 Information

Students are encouraged to visit the University's COVID-19 website for important information including diagnosis and symptom protocols, testing, vaccine information, and post-exposure guidance. Please check the website throughout the semester for updates. Consult the (select: Undergraduate Excused Absence Policy or Graduate Excused Absence Policy) for information regarding excused absences due to medical reasons.

Recording of Class

Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the Justin Dart, Jr. Student Accessibility Center. If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this

course or not, or with any other person or on any other platform. Classes may be recorded by the instructor. Students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with anyone without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

Resources for Online Learning

The University of Houston is committed to student success, and provides information to optimize the online learning experience through our Power-On website. Please visit this website for a comprehensive set of resources, tools, and tips including: obtaining access to the internet, AccessUH, Blackboard, and Canvas; using your smartphone as a webcam; and downloading Microsoft Office 365 at no cost. For questions or assistance contact UHOnline@uh.edu.

Webcams

Access to a webcam is required for students participating remotely in this course. Webcams must be turned on (state when webcams are required to be on and the academic basis for requiring them to be on). (Example: Webcams must be turned on during exams to ensure the academic integrity of exam administration.)

Syllabus Changes

Please note that the instructor may need to make modifications to the course syllabus. Notice of such changes will be announced as quickly as possible through (specify how students will be notified of changes).

Helpful Information

Coogs Care: <https://uh.edu/dsa/coogscare/> Student Health Center: <https://www.uh.edu/healthcenter/>

Extra Readings

1. Heterogeneous firms and firm dynamics

- (a) Atkeson, Andrew and Patrick Kehoe (2007). "Modeling the Transition to a New Economy: Lessons from Two Technological Revolutions". *American Economic Review*, 97(1): 64-88.
- (b) Buera, Francisco and Yongseok Shin (2013). "Financial frictions and the persistence of history: A quantitative exploration". *Journal of Political Economy*, 121(2): 221-272.
- (c) Jovanovic, Boyan (1982). "Selection and the Evolution of Industry". *Econometrica*, 50(3): 649-670.
- (d) Restuccia, Diego and Richard Rogerson (2008). "Policy distortions and aggregate productivity with heterogeneous establishments". *Review of Economic Dynamics*, 11(4): 707-720.
- (e) Hsieh, Chang-Tsai and Peter Klenow (2009). "Misallocation and manufacturing TFP in China and India". *Quarterly Journal of Economics*, 124(4): 1403-1448.
- (f) Melitz

2. Estimation of Income Processes

- (a) Dmytro Hryshko (2012). "Labor income profiles are not heterogeneous: Evidence from income growth rates." *Quantitative Economics* 3 (2012), 177–209.
- (b) F. Guvenen and Antohny A. Smith (2014). "Inferring Labor Income Risk and Partial Insurance From Economic Choices." *Econometrica*, 82 (6), pp. 2085-2129.
- (c) Sam Schulhofer-Wohl (2018). "The Age-Time-Cohort Problem and the Identification of Structural Parameters in Life-Cycle Models." *Quantitative Economics* 9(2), 643-658, July 2018.
- (d) Fatih Guvenen, Sam Schulhofer-Wohl, Jae Song, and Motohiro Yogo (2017). "Worker Betas: Five Facts About Systematic Earnings Risk." *American Economic Review Papers and Proceedings* 107(5), 398–403, May 2017.
- (e) K. Storesletten, C.I. Telmer, A. Yaron (2001). "The welfare cost of business cycles revisited: Finite lives and cyclical variation in idiosyncratic risk". *European Economic Review*, 45, pp. 1311-1339

3. Consumption models/MPC estimation.

- (a) Christopher D. Carroll (1997): "Buffer-Stock Saving and the Life Cycle/Permanent Income Hypothesis, *Quarterly Journal of Economics* 112, pp. 1–55
- (b) Richard Blundell, Luigi Pistaferri, and Ian Preston, (2008): "Consumption Inequality and Partial Insurance," *American Economic Review* 98(5), pp. 1887–1921. (GMM type estimation.)
- (c) Greg Kaplan and Giovanni Violante, Giovanni L. (2010): "How Much Consumption Insurance beyond Self-Insurance?" *American Economic Journal: Macroeconomics*, 2(4), pp. 53–87. (Structural model related to previous paper.)
- (d) Hamish Low, Costas Meghir, and Luigi Pistaferri (2010): "Wage Risk and Employment Risk over the Life Cycle" *American Economic Review*, 100(4): pp. 1432–67.

- (e)
- (f) J. Heathcote, Storesletten K., and G.L. Violante (2009). "Quantitative macroeconomics with heterogeneous households." *Annual Review of Economics*, 1(1): 319-354.
- (g) J. Heathcote, Storesletten K., and G.L. Violante (2009). "Insurance and opportunities: a welfare analysis of labor market risk." *Journal of Monetary Economics*, 55 (3) (2008), pp. 501-525.
- (h) D. Krueger and Jesus Fernandez-Villaverde (2006). "Consumption over the Life Cycle: Facts from the Consumer Expenditure Survey." *Review of Economics and Statistics*, Vol. 89(3), pp. 552-565. item D. Krueger and Fabrizio Perri (2011). "How Do Households Respond to Income Shocks." *manuscript*.
- (i) Greg Kaplan (2012). "Inequality and the life cycle." *Quantitative Economics* 3 (2012), 471-525.
- (j) Greg Kaplan and Giovanni L. Violante (2018). "MICROECONOMIC HETEROGENEITY AND MACROECONOMIC SHOCKS." *NBER Working Paper* 24734.
- (k) Andreas Fuster, Greg Kaplan and Basit Zafar (2018). "What Would You Do with \$500? Spending Responses to Gains, Losses, News and Loans." *NBER Working Paper* 24734.
- (l) Sam Schulhofer-Wohl (2011). "Heterogeneity and Tests of Risk Sharing." *Journal of Political Economy* 119(5), 925-58, October 2011.
- (m) Mariacristina De Nardi, Giulio Fella and Gonzalo Paz Pardo, 2016. "The Implications of Richer Earnings Dynamics for Consumption and Wealth," NBER Working Papers 21917, National Bureau of Economic Research, Inc.
- (n) Mariacristina De Nardi, Giulio Fella and Gonzalo Paz Pardo, 2018. "Nonlinear Household Earnings Dynamics, Self-insurance, and Welfare," NBER Working Papers 24326, National Bureau of Economic Research, Inc.
- (o) Mark Aguiar, Erik Hurst, 2008. "The Increase in Leisure Inequality," NBER Working Papers 13837, National Bureau of Economic Research, Inc.
- (p) Mark Aguiar and Erik Hurst, 2013. "Deconstructing Life Cycle Expenditure," *Journal of Political Economy*, University of Chicago Press, vol. 121(3), pages 437-492.
- (q) Orazio Attanasio, Erik Hurst and Luigi Pistaferri, 2012. "The Evolution of Income, Consumption, and Leisure Inequality in The US, 1980-2010," NBER Working Papers 17982, National Bureau of Economic Research, Inc.
- (r) Standard Search and Matching models for understanding aggregate labor markets.
- (s) Tullio Jappelli and Luigi Pistaferri (2020) "Reported MPC and Unobserved Heterogeneity," *American Economic Journal: Economic Policy* 12, pp. 275-297.
- (t) Vegard M. Nygaard, Bent E. Sørensen, and Fan Wang, 2020: "Optimal Allocation of the COVID-19 Stimulus Checks." *Journal of Economic Dynamics & Control* 138, May 2022, 104352.
- (u) Fagereng, Andreas, Martin B. Holm, and Gisle J. Natvik. 2021. "MPC Heterogeneity and Household Balance Sheets." *American Economic Journal: Macroeconomics*, 13 (4): 1-54.
- (v) Aguiar, Mark, Mark Bilal and Corina Boar (2020): "Who are the Hand-to-Mouth?" Princeton WP.

- (w) Mathias Hoffmann, Egor Maslov, Bent Sørensen, and Iryna Stewen (2019) “Channels of Risk Sharing in the Eurozone: What Can Banking and Capital Market Union Achieve?” *IMF Economic Review* Vol. 67(3), September, 443–495.
- (x) Adrien Auclert, Bence Bardóczy, and Matthew Rognlie “MPCs, MPEs, and Multipliers: A Trilemma for New Keynesian Models” *Review of Economics and Statistics*, forthcoming
- (y) Adrien Auclert: “Monetary Policy and the Redistribution Channel”. *American Economic Review* 109(6), pp. 2333–2367, June 2019
- (z) Ludwig Straub: “Consumption, Savings, and the Distribution of Permanent Income”

4. Consumption with Durables (Housing)

- (a) D. Krueger and Jesus Fernandez-Villaverde (2006). “Consumption and Saving over the Life Cycle: How Important are Consumer Durables?.” *Macroeconomic Dynamics*, Vol 15, pp. 725–770.
item María José Luengo-Prado and Bent E. Sørensen: “What Can Explain Excess Smoothness and Sensitivity of State-Level Consumption?” *Review of Economics & Statistics*, Vol. 90, February 2008, 65–80.
- (b) Raj Chetty and Adam Szeidl (2007): “Consumption Commitments and Risk Preferences,” *The Quarterly Journal of Economics*, 122(2), pp. 831–877.
- (c) Greg Kaplan, Giovanni L. Violante, Justin Weidner (2014). “The Wealthy Hand-to-Mouth.” *Brookings Papers on Economic Activity* (2014).
- (d) Yuliya Demyanyk, Dmytro Hryshko, María José Luengo-Prado and Bent E. Sørensen (2017): “Moving to a Job: The Role of Home Equity, Debt, and Access to Credit.” *American Economic Journal: Macroeconomics*

5. Facts on labor market, income and wealth.

- (a) Davis, Steven J., R. Jason Faberman and John Haltiwanger, (2006). “The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Linkages,” *Journal of Economic Perspectives*.
- (b) Gallipoli, Giovanni and Gianluigi Pelloni, (2013). “Macroeconomic Effects of Job Reallocations: A Survey,” *Review of Economic Analysis*, 5, 127-176.
- (c) Petrongolo, Barbara, and Pissarides, Christopher A., 2001. “Looking into the Black Box: A Survey of the Matching Function,” *Journal of Economic Literature*, 39(3): 390-431.
- (d) Elsby, Michael, Ryan Michaels and Gary Solon (2009). “The Ins and Out of Cyclical Unemployment,” *American Economic Journal: Macroeconomics*, 1(1), 84-110.
- (e) Paul Gomme, Richard Rogerson, Peter Rupert and Randall Wright, 2005. “The Business Cycle and the Life Cycle,” NBER Chapters, in: *NBER Macroeconomics Annual 2004, Volume 19, pages 415-592 National Bureau of Economic Research, Inc.*
- (f) Dirk Krueger, Perri F., Pistaferri L., and G.L. Violante (2005). “Cross-Sectional Facts for Macroeconomists”. *Review of Economic Dynamics*, Vol 13(1), pp. 1-14
- (g) Fatih Guvenen, Greg Kaplan, Jae Song, Justin Weidner (2017). “LIFETIME INCOMES IN THE UNITED STATES OVER SIX DECADES”. *NBER Working Paper 23371*
- (h) Moritz Khun and José Víctor Ríos-Rull (2016). “2013 Update on the U.S. Earnings, Income, and Wealth Distributional Facts: A View from Macroeconomics.” *FEDERAL RESERVE BANK OF MINNEAPOLIS QUARTERLY REVIEW* April 2016

6. Labor Supply: From Individual to Aggregate.

- (a) Chetty, Raj, Adam Guren, Day Manoli, and Andrea Weber (2011). "Are Micro and Macro Labor Supply Elasticities Consistent? A Review of Evidence on the Intensive and Extensive Margins." *American Economic Review*, 101(3): 471-75.
- (b) Chang, Y. and S.-B. Kim (2006). "From individual to aggregate labor supply: A quantitative analysis based on a heterogeneous agent macroeconomy." *International Economic Review* 47 (1), 127.
- (c) Domeij, D. and M. Floden (2006). "The labor-supply elasticity and borrowing constraints: Why estimates are biased?" *Review of Economic Dynamics* 9, 242262.
- (d) Imai, Susumu and Michael Keane, "Intertemporal Labor Supply and Human Capital Accumulation," *International Economic Review*, May 2004, 45 (2), 601 641.
- (e) Rogerson, Richard and Johanna Wallenius, "Micro and macro elasticities in a life cycle model with taxes," *Journal of Economic Theory*, 2009, 144 (6), 2277 2292.
- (f) Sebastian Dyrda, Greg Kaplan, José-Víctor Ríos-Rull, "Business Cycles vs Household Formation: the Micro vs the Macro Elasticity of Labor Supply.", NBER WP.
- (g) Low, H. (2005). "Self-insurance in a life-cycle model of labour supply and savings". *Review of Economic Dynamics* 8 (4), 945975.
- (h) Meghir, C. and L. Pistaferri (2011). "Earnings, consumption and life cycle choices". In D. Card and O. Ashenfelter (Eds.), *Handbook of Labor Economics*, 4B. Amsterdam: Elsevier.
- (i) Rupert, Peter, Richard Rogerson, and Randy Wright (2000), "Homework in Labor Economics: Household Production and Intertemporal Substitution", *Journal of Monetary Economics*, 46, 557-79.
- (j) Pijoan-Mas, J. (2006). "Precautionary savings or working longer hours?" *Review of Economic Dynamics* 9 (2), 326352.
- (k) Andrés Erosa, Luisa Fuster and Gueorgui Kambourov, 2016. "Towards a Micro-Founded Theory of Aggregate Labour Supply," *Review of Economic Studies*, Oxford University Press, vol. 83(3), pages 1001-1039.
- (l) Alexander Bick, Nicola Fuchs-Schuendeln and David Lagakos: "How do Hours Worked Vary With Income? Cross-Country Evidence and Implications". *American Economic Review*, 2018
- (m) D. Lagakos, B. Moll, T. Porzio, N. Qian and Todd Schoellman: "Life-Cycle Wage Growth Across Countries". *Journal of Political Economy*, 2018, 126(2), 797-849.
- (n) Lei Fang, Anne Hannusch, and Pedro Silos: "Bundling Time and Goods: Implications for Hours Dispersion"
- (o) Lei Fang, Anne Hannusch, and Pedro Silos: "Luxuries, Necessities, and the Allocation of Time"

7. Occupational Choice: Experimentation, Displacement, Career Progression, etc

- (a) Topel, Robert H. and Michael P. Ward, "Job Mobility and the Careers of Young Men," *Quarterly Journal of Economics*, 1992, 107 (2), 439-79.
- (b) Papageorgiou, T. "Learning your Comparative Advantage", *Review of Economic Studies*, 2015.

- (c) Gibbons, Robert, Lawrence F. Katz, Thomas Lemieux, and Daniel Parent, "Comparative Advantage, Learning, and Sectoral Wage Determination," *Journal of Labor Economics*, October 2005, 23 (4), 681-724
- (d) Huckfeldt, C. "Understanding the Scarring Effect of Recessions", manuscript, Cornell University.
- (e) Gueorgui Kambourov and Iourii Manovskii, 2009. "Occupational Mobility and Wage Inequality," *Review of Economic Studies*, Oxford University Press, vol. 76(2), pages 731-759.
- (f) Moscarini, Giuseppe, "Job Matching and the Wage Distribution," *Econometrica*, March 2005, 73 (2), 481-516
- (g) Philip Jung and Moritz Kuhn, 2017. "Earnings Losses and Labor Mobility Over the Life Cycle," CESifo Working Paper Series 6552, CESifo Group Munich.
- (h) Cubas G. and Silos P. 2017, "Social Insurance and Occupational Mobility", manuscript.
- (i) Dvorkin, M. (2013) "Sectoral Shocks, Reallocation and Unemployment in a Model of Competitive Labor Markets", Federal Reserve Bank of St. Louis Working Paper.
- (j) M.P. Keane, K.I. Wolpin (1997). "The career decisions of young men," *Journal of Political Economy*, 105 (3) (1997), pp. 473-522
- (k) M. Huggett, G. Ventura, A. Yaron (2011). "Sources of lifetime inequality," *The American Economic Review*, 101 (7) (2011), pp. 2923-2954

8. Some Econometric Tools

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