Macroeconomic Theory III
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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 cosumption/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.

Course Requirements and Grading

Your course grade 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 (20%), presentation (20%), participation (discussion other students presenataions) (20%), final project (40%). How well the student understood the paper and how well she/he answers the questions from me and other students will form the basis for the grade. Besides the presentations, there will be a project that 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 the students to combine theory with data using different methodologies. Students will present at least twice 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 think this is a great opportunity to show you 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. Detailed theory of VARs and structural VARs. How impulse response functions and variance decompositions are calculated.
2. Generalized Method of Moments (GMM).
3. Estimation of Income Processes.
4. Standard Search and Matching models for understanding aggregate labor markets.
5. Labor Supply: From Individual to Aggregate.
6. Recent work in structural consumption models.
7. Occupational Choice: Experimentation, Displacement, Career Progression, etc
8. Facts on labor market, income and wealth.

Course Readings

This is the tentative list of papers corresponding to each of the topics described above. We will discuss them at different levels of depth.

1. Detailed theory of VARs and structural VARs. How impulse response functions and variance decompositions are calculated.
   (a) Bent's notes.
   (b) Sims's notes.
   (c) Stock and Watson' notes.
   (d) Barsky and Sims
2. Generalized Method of Moments (GMM).
   (a) Bent's notes.
   (b) Andersen-Sorensen GMM 1996
   (c) Andersen-Sorensen EMM 1999
   (d) Hansen-Singleton
3. 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, 1âĂŞ18*
   (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), 687âĂŞ712.*

(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), 177âĂŞ209*.

(h) Dmytro Hryshko and Iourii Manovskii (2018): "On the Heterogeneity in Family Earnings and Income Dynamics in the PSID," *AEA Papers and Proceedings* 108: 292âĂŞ296. (Dmytro is a UH Ph.D. and we have his code that you can have.)

(i) F. Guvenen and Antohny A. Smith (2014). "Inferring Labor Income Risk and Partial Insurance From Economic Choices." *Econometrica, 82 (6), pp. 2085-2129*.

(j) 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*.

(k) 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), 398âĂŞ403, May 2017*.

(l) 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*

(m) 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*.

(n) 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.*

4. Recent work in structural consumption models. (For the work by Bent and co-authors, you can have the programs and, in most cases, the data, although some of the data are restricted.)

(a) Yuliya Demyanyk, M.J. Luengo-Prado, Dmytro Hryshko, and Bent E. Sørensen (2018): "The Rise and Fall of Consumption in the '00s. A Tangled Tale." *Economica*, Forthcoming. (This paper is descriptive. A lot findings there have not yet been structurally modelled.)

(b) Yuliya Demyanyk, María José Luengo-Prado, Dmytro Hryshko. Bent E. Sørensen (2017): "Moving to a Job: The Role of Home Equity, Debt, and Access to Credit." *American Economic Journal: Macroeconomics*, Vol. 9, 149-81.

(c) Díaz, Antonia and Luengo-Prado, Maria J (2008): "On the User Cost and Homeownership," *Review of Economic Dynamics*, Vol 11, pp. 584-613.

(d) Marí a José Luengo-Prado, Dmytro Hryshko, and Bent E. Sørensen (2010): "House Prices and Risk Sharing." *Journal of Monetary Economics*, Vol. 57, 975–987.

Christopher D. Carroll (1997): "Buffer-Stock Saving and the Life Cycle/Permanent Income Hypothesis," *The Quarterly Journal of Economics*, Vol. 112, 1-55. (Most modern consumer models builds on Carroll's work. Carroll post a lot of code that you might want to use on this web-page.)

(e) J. Heathcote, Storesletten K., and G.L. Violante (2009). "Quantitative macroeconomics with heterogeneous households." *Annual Review of Economics, 1(1): 319-354*.

(f) 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*.

(g) 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*.

(h) 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*.

(i) D. Krueger and Fabrizio Perri (2011). "How Do Households Respond to Income Shocks." *manuscript*.

(j) Greg Kaplan and Giovanni L. Violante (2010). "How Much Consumption Insurance Beyond Self-Insurance?." *American Economic Journal: Macroeconomics 2 (October 2010): 53âĂŞ87*.

(k) Greg Kaplan (2012). "Inequality and the life cycle." *Quantitative Economics 3 (2012), 471âĂŞ525*.

(l) Greg Kaplan, Giovanni L. Violante, Justin Weidner (2014). "The Wealthy Hand-to-Mouth." *Brookings Papers on Economic Activity (2014)*.

(m) Greg Kaplan and Giovanni L. Violante (2018). "MICROECONOMIC HETEROGENEITY AND MACROECONOMIC SHOCKS." *NBER Working Paper 24734*.

(n) 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*.

(o) Sam Schulhofer-Wohl (2011). "Heterogeneity and Tests of Risk Sharing." *Journal of Political Economy 119(5), 925âĂŞ58, October 2011*.

(p) 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.

(q) 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.

(r) Mark Aguiar, Erik Hurst, 2008. "The Increase in Leisure Inequality," NBER Working Papers 13837, National Bureau of Economic Research, Inc.

(s) Mark Aguiar and Erik Hurst, 2013. "Deconstructing Life Cycle Expenditure," Journal of Political Economy, University of Chicago Press, vol. 121(3), pages 437-492.

(t) 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.

(u) Standard Search and Matching models for understanding aggregate labor markets.

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): 390431.*

(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 Econonomics, 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*.

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*