

University of Toronto
Department of Economics
ECO 3101
Topics in Macroeconomic Theory

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Lectures: W 3-5pm
Office Hours: By
appointment

This course covers the macro topics with an emphasis on **household heterogeneity**. The main goals of this course are to expose students to research questions at the current frontier, discuss a variety of open questions in this area that can lead to research papers (or possibly to a dissertation), and familiarize with the tools necessary to tackle these questions. We cover the research that links theoretical models to the data in a serious manner using **quantitative** and **empirical** methods.

Course Requirements

(25) Project. We do not have a computational macro course this year. I will not teach you computation but will require you to replicate the 2nd project from last year using endogenous grid method and programming in Fortran. You can do these projects in groups of two.

(25) Weekly Referee Report. Every week you will write a no longer than 1-page referee report on one ****-paper** from the previous week's topic. In one third or half of the report you will summarize the main contribution of the paper. In the rest of the report you will discuss its main weakness(es) and/or strength(s) to justify your recommendation to the editor. As an economist, it is very important that you can communicate your ideas clearly and concisely. Thus, you will also discuss your referee report in the class in not more than 3 minutes.

(10) Weekly Reading and Class Participation. For each topic I have listed more than ten papers. I recommend you to read papers marked with two stars (**). We will discuss these papers.

(30) Literature Review. You will present a topic from the reading list which you're particularly interested in and consider doing research in (if your area of interest is not included in the tentative reading list you can talk to me). In particular, you will introduce the key stylized facts and important questions and issues in this literature and critically discuss 3 or 4 of the most important papers which are probably going to be the ****papers**. In discussing these papers, you should present the key assumptions and the economic mechanisms that drive the paper's main results as well as model's ability to fit both the targeted features of the data and untargeted other aspects (out of sample predictions). Discuss what happens to model's fit to the data if some of the key assumptions are relaxed. And then

tell us whether there is enough evidence from the data to believe in these assumptions and the economic mechanism at play. Hopefully this critical discussion of the literature will lead you to come up with some important open questions. Thus, in the end you will talk about these open questions by explaining why they are still not satisfactorily answered, what the limitations are in addressing these questions. In your presentation, you will take questions from the class and answer them. You should be able to answer the questions on the papers you present as well as the authors of these papers.

(10%) Research Proposal. The research proposal should outline a clear research question and describe how you intend to answer the question posed (which data set you would use, a description of the model, the algorithm for solving it, etc). The proposal will be judged based on the originality of the idea (or the importance of the contribution), the feasibility of the exercise and how specific and detailed the proposal is. 3 pages.

Some Resources

NBER Programs: A Good Guide to Frontier Research

<https://www.nber.org/digest>

EFG:

<https://www.nber.org/reporter/2019number2/program-report-economic-fluctuations-and-growth>

<https://www.nber.org/conferences/economic-fluctuations-and-growth-summer-2021>

Micro Data and Macro Models

<https://www.nber.org/conferences/si-2021-micro-data-and-macro-models>

Macro Public Finance

<https://www.nber.org/conferences/si-2021-macro-public-finance>

Inequality and Macroeconomics

https://benjaminmoll.com/wp-content/uploads/2019/07/inequality_macro.pdf

<https://www.youtube.com/watch?v=kkNbitn9pVo>

Jackson Hole Economic Policy Symposium

<https://www.kansascityfed.org/research/jackson-hole-economic-symposium/>

<https://www.kansascityfed.org/research/jackson-hole-economic-symposium/macroeconomic-policy-in-an-uneven-economy/>

Topics

1. Preference heterogeneity, Consumption-Savings

*Epstein, L.G., Zin, S.E., (1989): “Substitution, risk aversion, and the temporal behavior of consumption and asset returns: a theoretical framework.” *Econometrica* 57, 937–969.

*Guvenen, Fatih (2006): “Reconciling conflicting evidence on the elasticity of intertemporal substitution: A macroeconomic perspective”, *Journal of Monetary Economics* 53 (2006) 1451–1472.

**Guvenen, Fatih (2009): “A Parsimonious Macroeconomics Model for Asset Pricing”, *Econometrica*, Vol. 77, No. 6 (November, 2009), 1711–1750.

Gourinchas, P.-O. and J. A. Parker (2002): “Consumption over the Life Cycle,” *Econometrica*, 70, 47–89.

**Laurent E. Calvet, John Y. Campbell, Francisco Gomes, and Paolo Sodini (2021) “The Cross-Section of Household Preferences” working paper.

2. Wealth Inequality (and Rate of Return Heterogeneity)

Quadrini, V. (2000): “Entrepreneurship, Saving, and Social Mobility,” *Review of Economic Dynamics*, 3, 1–40.

*Castañeda, A., J. Díaz-Giménez, and J.-V. Ríos-Rull (2003): “Accounting for the U.S. Earnings and Wealth Inequality,” *The Journal of Political Economy*, 111, 818–857.

Cagetti, M. and M. De Nardi (2006): “Entrepreneurship, Frictions, and Wealth,” *Journal of Political Economy*, 114, 835–870.

Cagetti, M. and M. De Nardi (2009): “Estate Taxation, Entrepreneurship, and Wealth,” *American Economic Review*, 99, 85–111.

*Guvenen, F., G. Kambourov, B. Kuruscu, S. Ocampo, and D. Chen (2019): “Use It or Lose It: Efficiency Gains from Wealth Taxation,” Working Paper 26284, National Bureau of Economic Research.

*Guvenen, F., G. Kambourov, B. Kuruscu, and S. Ocampo (2021): "Taxing Capital Income and Wealth with Heterogenous Returns," working paper.

Moll, Benjamin. "Productivity losses from financial frictions: Can self-financing undo capital misallocation?." *American Economic Review* 104.10 (2014): 3186-3221.

Itskhoki, Oleg, and Benjamin Moll. "Optimal development policies with financial frictions." *Econometrica* 87.1 (2019): 139-173.

Fagereng, A., L. Guiso, D. Malacrino, and L. Pistaferri (2016): "Heterogeneity and Persistence in Returns to Wealth," Working paper, Stanford University.

**Krusell, Per, and Anthony A. Smith Jr. "Is Piketty's "second law of capitalism" fundamental?." *Journal of Political Economy* 123.4 (2015): 725-748.

**Fagereng, A., M. B. Holm, B. Moll, and G. Natvik (2019): "Saving behavior across the wealth distribution: The importance of capital gains," Tech. rep., National Bureau of Economic Research.

Hubmer, Joachim, Per Krusell, and Anthony A. Smith Jr. "Sources of US wealth inequality: Past, present, and future." *Nber macroeconomics annual* 35.1 (2021): 391-455.

Moll, Ben. [Comment on Hubmer, Krusell and Smith \(2020\) "Sources of U.S. Wealth Inequality: Past, Present, and Future"](#)

**Greenwald, D. L., M. Leombroni, H. Lustig, and S. Van Nieuwerburgh (2021): "Financial and Total Wealth Inequality with Declining Interest Rates," Tech. rep., National Bureau of Economic Research.

Gabaix, X., Lasry, J. M., Lions, P. L., & Moll, B. (2016). The dynamics of inequality. *Econometrica*, 84(6), 2071-2111.

Benhabib, Jess, Alberto Bisin, and Mi Luo. "Wealth distribution and social mobility in the US: A quantitative approach." *American Economic Review* 109.5 (2019): 1623-47.

3. MPC in Macro

<https://www.youtube.com/watch?v=BiKc5lo9xHo>

*Kaplan, G. and G. L. Violante (2014): "A Model of the Consumption Response to Fiscal Stimulus Payments," *Econometrica*, 82, 1199–1239.

*Guler, B., B. Kuruscu, and B. Robinson (2021): "The Composition and Distribution of Wealth and Aggregate Consumption Dynamics," working paper.

Carroll, C., J. Slacalek, K. Tokuoka, and M. N. White (2017): “The distribution of wealth and the marginal propensity to consume,” *Quantitative Economics*, 8, 977–1020.

Jappelli, Tullio, and Luigi Pistaferri. "Fiscal policy and MPC heterogeneity." *American Economic Journal: Macroeconomics* 6.4 (2014): 107-36.

**Lewis, D. J., D. Melcangi, and L. Pilossoph (2019): “Latent heterogeneity in the marginal propensity to consume,” FRB of New York Staff Report.

**Fagereng, Andreas, Martin Blomhoff Holm, and Gisle James James Natvik. "MPC heterogeneity and household balance sheets." Available at SSRN 3399027 (2019).

**Aguiar, Mark A., Mark Bilts, and Corina Boar. “Who are the Hand-to-Mouth?.” No. w26643. National Bureau of Economic Research, 2020.

**Laibson, David, Peter Maxted, and Benjamin Moll. *Present bias amplifies the household balance-sheet channels of macroeconomic policy*. No. w29094. National Bureau of Economic Research, 2021.

**Attanasio, O., Kovacs, A., & Moran, P. (2021). *Temptation and Incentives to Wealth Accumulation* (No. w28938). National Bureau of Economic Research.

** Patterson, Christina. "The matching multiplier and the amplification of recessions." *Unpublished Manuscript, Northwestern University* (2019).

4. Monetary Policy with Heterogenous Agents

*Kaplan, G., B. Moll, and G. L. Violante (2018): “Monetary Policy According to HANK,” *American Economic Review*, March, Vol. 108, No. 3, 697-743.

*Kaplan, G. and G. L. Violante (2018): “Microeconomic heterogeneity and macroeconomic shocks,” *Journal of Economic Perspectives*, 32, 167–94.

**Berger, D. W., K. Milbradt, F. Tourre, and J. Vavra (2018b): “Mortgage prepayment and path-dependent effects of monetary policy,” Tech. rep., National Bureau of Economic Research.

**Broer, T., N.-J. Harbo Hansen, P. Krusell, and E. Öberg (2020): “The New Keynesian transmission mechanism: A heterogeneous-agent perspective,” *The Review of Economic Studies*, 87, 77–101.

**Auclert, Adrien. "Monetary policy and the redistribution channel." *American Economic Review* 109.6 (2019): 2333-67.

**Auclert, Adrien, Matthew Rognlie, and Ludwig Straub. “The Intertemporal Keynesian Cross.” No. w25020. National Bureau of Economic Research, 2018.

**Piazzesi, Monika, Ciaran Rogers, and Martin Schneider. “Money and banking in a New Keynesian model.” Working Paper, Stanford, 2019.

****McKay, A., E. Nakamura, and J. Steinsson (2016): “The Power of Forward Guidance Revisited,” American Economic Review, 106, 3133–58.**

****Hagedorn, Marcus, Jinfeng Luo, Iourii Manovskii, and Kurt Mitman (2019): “Forward Guidance”, working paper.**

****Auclert, Adrien, and Matthew Rognlie. “Inequality and aggregate demand.” No. w24280. National Bureau of Economic Research, 2018.**

The HANK literature in one slide

https://benjaminmoll.com/wp-content/uploads/2019/09/HANK_summary.pdf

https://benjaminmoll.com/wp-content/uploads/2020/11/HANK_summary_references.pdf

5. Housing Wealth Effects

***Berger, D., V. Guerrieri, G. Lorenzoni, and J. Vavra (2018a): “House prices and consumer spending,” The Review of Economic Studies, 85, 1502–1542.**

***Guren, A. M., A. McKay, E. Nakamura, and J. Steinsson (2021): “Housing wealth effects: The long view,” The Review of Economic Studies, 88, 669–707.**

****Greenwald, D. (2018): “The mortgage credit channel of macroeconomic transmission,” working paper.**

6. Housing, Boom-Bust Cycles and Financial Crisis

***Justiniano, A., G. E. Primiceri, and A. Tambalotti (2019): “Credit supply and the housing boom,” Journal of Political Economy, 127, 1317–1350.**

***Kaplan, G., K. Mitman, and G. L. Violante (2020): “The Housing Boom and Bust: Model Meets Evidence,” Journal of Political Economy, 128, 3285–3345.**

***Arslan, Y., B. Guler, and B. Kuruscu (2020): “Credit Supply Driven Boom-Bust Cycles,” SSRN Electronic Journal.**

****Lorenzoni, Guido. "Inefficient credit booms." The Review of Economic Studies 75.3 (2008): 809-833.**

****Guerrieri, Veronica, and Guido Lorenzoni. "Credit crises, precautionary savings, and the liquidity trap." The Quarterly Journal of Economics 132.3 (2017): 1427-1467.**

**Gertler, Mark, and Peter Karadi. "A model of unconventional monetary policy." *Journal of Monetary Economics* 58.1 (2011): 17-34.

**Gertler, Mark, and Nobuhiro Kiyotaki. "Financial intermediation and credit policy in business cycle analysis." *Handbook of monetary economics*. Vol. 3. Elsevier, 2010. 547-599.

**Brunnermeier, Markus K., and Yuliy Sannikov. "A macroeconomic model with a financial sector." *American Economic Review* 104.2 (2014): 379-421.

**Mian, Atif, Amir Sufi, and Emil Verner. "Household debt and business cycles worldwide." *The Quarterly Journal of Economics* 132.4 (2017): 1755-1817.

7. Human Capital, Mismatch, and Wage Inequality Over the Lifecycle

*Y. Ben-Porath. (1967) "The Production of Human Capital and the Life Cycle of Earnings," *Journal of Political Economy*, 75 (August), 352-65.

*Kuruscu, B. (2006): "Training and Lifetime Income," *American Economic Review*, 96, 832–846.

*Güvenen, F., B. Kuruscu, and S. Ozkan (2014): "Taxation of Human Capital and Wage Inequality: A Cross-Country Analysis," *Review of Economic Studies*, 81, 818–850.

*Güvenen, F., B. Kuruscu, S. Tanaka, and D. Wiczer (2020): "Multidimensional skill mismatch," *American Economic Journal: Macroeconomics*, 12, 210–44.

**Jarosch, Gregor, Ezra Oberfield, and Esteban Rossi-Hansberg. *Learning from Coworkers*. No. w25418. National Bureau of Economic Research, 2019.

**Herkenhoff, Kyle, Jeremy Lise, Guido Menzio, and Gordon M. Phillips. *Production and Learning in Teams*. No. w25179. National Bureau of Economic Research, 2018.

**Lise, J. and F. Postel-Vinay (2020): "Multidimensional skills, sorting, and human capital accumulation," *American Economic Review*, 110, 2328–76.

**Bagger, Jesper, et al. "Tenure, experience, human capital, and wages: A tractable equilibrium search model of wage dynamics." *The American Economic Review* 104.6 (2014): 1551-1596.

**Karahan, Fatih, Serdar Ozkan, and Jae Song (2020), "Anatomy of Lifetime Earnings Inequality: Heterogeneity in Job Ladder Risk vs. Human Capital", Working Paper.

**Lagakos, D., Moll, B., Porzio, T., Qian, N., & Schoellman, T. (2018). Life cycle wage growth across countries. *Journal of Political Economy*, 126(2), 797-849.

8. Covid 19 and Uneven Macroeconomic Shocks

**Guerrieri, V., G. Lorenzoni, L. Straub, and I. Werning (2020): “Macroeconomic implications of COVID-19: Can negative supply shocks cause demand shortages?” Tech. rep., National Bureau of Economic Research.

**Guerrieri, V., G. Lorenzoni, L. Straub, and I. Werning (2021): “Monetary Policy in Times of Structural Reallocation,” working paper.

9. Rising Market Concentration, Productivity Slowdown, Declining Business Dynamism

**Liu, E., A. Mian, and A. Sufi (2019): “Low interest rates, market power, and productivity growth,” Tech. rep., National Bureau of Economic Research.

**Karahan, F., B. Pugsley, and A. Şahin (2019): “Demographic origins of the startup deficit,” Tech. rep., National Bureau of Economic Research.

**Akcigit, U. and S. T. Ates (2021): “Ten facts on declining business dynamism and lessons from endogenous growth theory,” *American Economic Journal: Macroeconomics*, 13, 257–98.

**De Loecker, Jan, Jan Eeckhout, and Gabriel Unger. "The rise of market power and the macroeconomic implications." *The Quarterly Journal of Economics* 135.2 (2020): 561-644.

**Eeckhout, Jan and Laura Veldkamp (2021): “Data and Market Power”, working paper.

10. Decline in Labor Income Share

Karabarbounis, L., & Neiman, B. (2013). The global decline of the labor share. *The Quarterly Journal of Economics*, 129(1), 61-103

David, A., David Dorn, Lawrence F. Katz, Christina Patterson, and John Van Reenen. "Concentrating on the Fall of the Labor Share." (2017).

**Karabarbounis, Loukas, and Brent Neiman. "Accounting for factorless income." In *NBER Macroeconomics Annual 2018*, volume 33. University of Chicago Press, 2018.

**Acemoglu, Daron, and Pascual Restrepo. "The race between man and machine: Implications of technology for growth, factor shares, and employment." *American Economic Review* 108.6 (2018): 1488-1542.

**Hubmer, Joachim. "The race between preferences and technology." Unpublished Working Paper (2018).

**Dorn, David, Lawrence F. Katz, Christina Patterson, and John Van Reenen. "Concentrating on the Fall of the Labor Share." *American Economic Review* 107, no. 5 (2017): 180-85.

**Hsieh CT, Rossi-Hansberg E. The industrial revolution in services. National Bureau of Economic Research; 2019 Jun 17.

11. Wage Inequality over time, Automation

Acemoglu, Daron, and Pascual Restrepo. "Low-skill and high-skill automation." *Journal of Human Capital* 12.2 (2018): 204-232.

**Acemoglu, Daron, and Pascual Restrepo. "The race between man and machine: Implications of technology for growth, factor shares, and employment." *American Economic Review* 108.6 (2018): 1488-1542.

Acemoglu, Daron and Pascual Restrepo, (2018), "Artificial Intelligence, Automation and Work" NBER working paper #24196

**Acemoglu, Daron, and Pascual Restrepo. Tasks, Automation, and the Rise in US Wage Inequality. No. w28920. National Bureau of Economic Research, 2021.

**Greenwood, Jeremy, et al. "Marry your like: Assortative mating and income inequality." *American Economic Review* 104.5 (2014): 348-53.

**Adão R, Beraja M, Pandalai-Nayar N. "Technological transitions with skill heterogeneity across generations." National Bureau of Economic Research; 2020 Jan 6.

**Jones, Charles I., and Jihee Kim. A Schumpeterian model of top income inequality. No. w20637. National Bureau of Economic Research, 2014.

Guvenen, Fatih, Greg Kaplan, Jae Song, Justin Weidner. Lifetime Incomes in the United States over Six Decades*

**Song, Jae, David J. Price, Fatih Guvenen, Nicholas Bloom, and Till Von Wachter. Firming up inequality. No. w21199. National Bureau of Economic Research, 2015.

**Autor, David H., Frank Levy, and Richard J. Murnane. "The skill content of recent technological change: An empirical exploration." *The Quarterly journal of economics* 118.4 (2003): 1279-1333.

12. Aggregate Savings and the Decline in Real Interest Rate

**Auclert, A., H. Malmberg, F. Martenet, and M. Rognlie (2021): "Demographics, Wealth, and Global Imbalances in the Twenty-First Century," Tech. rep., National Bureau of Economic Research.

****Mian, A., L. Straub, and A. Sufi (2021): “What explains the decline in r^* ? Rising income inequality versus demographic shifts,” working paper.**

Mian, Atif, Ludwig Straub, and Amir Sufi, “Indebted Demand,” *The Quarterly Journal of Economics*, 2021, forthcoming.

Mian, Atif R, Ludwig Straub, and Amir Sufi, “The Saving Glut of the Rich,” Technical Report, National Bureau of Economic Research 2021.

****Reis, Ricardo. (2021). "The constraint on public debt when $r < g$ but $g < m$." Working paper.**