# Macroeconomic Models of Consumption, Saving, and Labor Supply

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Office hours: Thursdays 1-2 pm and by appointment

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Time: Monday, 2.15 to 3.45 pm

Room Dubai (1.27) in House of Finance

### Description

This course is intended to help second year PhD students develop a research question in an area of the microfoundations of macroeconomics, and acquire some of the skills needed to answer interesting research questions. The main focus of the course is on quantitative macroeconomic models. We will learn how to write down a model, derive predictions from the model, and evaluate the model performance against empirical counterparts. We will look at models that explicitly take into account heterogeneity of households, and will analyze aggregate implications of microeconomic non-linearities. You will get familiar with the most heavily used data sets in the research area. We will study dynamic programming and structural estimation techniques, calibration, and reduced form empirical approaches.

#### Readings

There is no required textbook for this part of the class. The syllabus contains links to the readings. The readings marked with a star are the ones that we will primarily discuss. I always also list further references.

#### **Special Classes**

On May 6, we will have a special class on how to write a scientific paper (jointly offered by GRADE and taught by me and Michael Binder).

On May 13, the REStud Tour is in Frankfurt. Rather than having a regular class, we will attend a 90 minutes talk by one of the participants and discuss the paper and presentation in the next class.

#### Requirements

There are two components to the assessment for this class.

The first and most important component is a short paper on a topic broadly related to the class. The goal of the paper is to encourage you to learn some hands-on lessons about the process of doing research. The minimal requirement is to replicate empirical results or a calibration exercise from a paper in the literature. Obviously, more ambitious exercises are welcome. You should start talking to me about your ideas as soon as possible, and

definitely before the due date for the proposal. The proposal should be two pages long, and contain a detailed outline of what you plan to do. For example, if you plan to replicate an empirical paper or work on an empirical topic of your own, your proposal should describe the relevant data sources, and demonstrate that you have access to them. During the last class, everyone is required to do a short presentation on his or her research idea. I want to give you the opportunity to get feedback from your colleagues, and to get to know what other people are working on.

Important dates for the paper

June 15: Proposal for paper is due
July 15: In-class presentations of papers
October 1: Final version of paper is due

Second, I expect you to actively participate in class discussions. Class participation will be part of the assessment for the class.

# I. Introduction to Data on Consumption, Working Hours, and Time Use

## II. Structural Estimation of a Life Cycle Consumption Model

Cagetti, Marco (2003): <u>Wealth Accumulation Over the Life Cycle and Precautionary Savings</u>, Journal of Business and Economic Statistics, 21(3), 339-353.

De Nardi, Mariacristina, Eric French, and John Bailey Jones (2010): Why do the Elderly Save? The Role of Medical Expenses, Journal of Political Economy, 118, 39-75.

French, Eric (2005): <u>The Effects of Health, Wealth and Wages on Labor Supply and Retirement Behavior</u>, Review of Economic Studies, 72(2), 395-427.

\* Gourinchas, Pierre-Olivier and Jonathan A. Parker (2002): <u>Consumption over the Life Cycle</u>, Econometrica, 70(1), 47-89.

Laibson, David, Andrea Repetto, and Jeremy Tobacman (2007): <u>Estimating Discount</u> Functions from Lifecycle Consumption Choices, NBER WP 13314.

# III. Idiosyncratic Risk and Aggregate Uncertainty

An, Sungbae, Yongsung Chang, and Sun-Bin Kim (2009): <u>Can a Representative-Agent Model Represent a Heterogeneous-Agent Economy</u>, American Economic Journal: Macroeconomics, 1(2), 29-54.

Bai, Yan, Patrick Kehoe and Cristina Arellano (2012): <u>Financial Markets and Fluctuations in Uncertainty</u>, Working Paper.

Favilukis, Jack, Sydney Ludvigson and Stijn Van Nieuwerburgh (2010): <u>The Macroeconomic Effects of Housing Wealth, Housing Finance, and Limited Risk-Sharing</u> in General Equilibrium, NBER Working Paper 15988.

Khan, Aubhik and Julia Thomas (2011): <u>Credit Shocks and Aggregate Fluctuations in an Economy with Production Heterogeneity</u>, NBER Working Papers 17311

\* Krusell, Per and Anthony Smith (1998): <u>Income and Wealth Heterogeneity in the Macroeconomy</u>, Journal of Political Economy, 106(5), 867-896.

Krusell, Per and Anthony A. Smith (1999): On the Welfare Effects of Eliminating Business Cycles, Review of Economic Dynamics, 2(1), 245-272.

### IV. The Skewness of the Wealth Distribution

Benhabib, Jess, Alberto Bisin and Shenghao Zhu (2011): <u>The Distribution of Wealth and Fiscal Policy in Economies With Finitely Lived Agents</u>, Econometrica, 79(1), 123-157.

\* Castaneda, Ana, Javier Diaz-Gimenez and Jose-Victor Rios-Rull (2003): <u>Accounting</u> for Earnings and Wealth Inequality, Journal of Political Economy, 111(4), 818-857.

Cagetti, Marco and Mariacristina De Nardi (2008): <u>Wealth Inequality: Data And Models</u>, Macroeconomic Dynamics, 12(S2), 285-313.

De Nardi, Mariacristina (2004): Wealth Inequality and Intergenerational Links, Review of Economic Studies, 71(3), 743-768.

De Nardi, Mariacristina, and Marco Cagetti (2006): <u>Entrepreneurship</u>, <u>Frictions</u>, and <u>Wealth</u>, Journal of Political Economy, 114(5), 835-870.

Dynan, Karen, Jonathan Skinner and Stephen Zeldes (2004): <u>Do the Rich Save More?</u>, Journal of Political Economy, 112(2), 397-444.

Hubbard, Glenn, Jonathan Skinner and Stephen Zeldes (1995): <u>Precautionary Saving and Social Insurance</u>, Journal of Political Economy, 103(2), 360-399.

Huggett, Mark (1996): <u>Wealth Distribution in Life-Cycle Economies</u>, Journal of Monetary Economics, 38(3), 469-494.

Huggett, Mark, and Gustavo Ventura (2000): <u>Understanding Why High Income</u> <u>Households Save More Than Low Income Households</u>, Journal of Monetary Economics, 45(2), 361-397.

Quadrini, Vincenzo (2000): <u>Entrepreneurship</u>, <u>Saving and Social Mobility</u>, Review of Economic Dynamics, 3(1), 1-40.

Quadrini, Vincenzo (1999): <u>The Importance of Entrepreneurship for Wealth Concentration and Mobility</u>, Review of Income and Wealth, 45(1), 1-19.

# V. Consumption and Leisure Inequality

Attanasio, Orazio, Erich Battistin and Hidehiko Ichimura (2007): What Really Happened to Consumption Inequality in the US?, NBER Chapters, in: Hard-to-Measure Goods and Services: Essays in Honor of Zvi Griliches, 515-543.

Blundell, R. and Preston, I. (1998): <u>Consumption Inequality and Income Uncertainty</u>, Quarterly Journal of Economics, 113(2), 603-640.

Deaton, Angus and Christina Paxson (1994): <u>Intertemporal Choices and Inequality</u>, Journal of Political Economy, 102(3), 437-468.

Fuchs-Schündeln, Nicola, Dirk Krueger and Mathias Sommer (2010): <u>Inequality Trends</u> for Germany in the Last Two Decades: A Tale of Two Countries, Review of Economic Dynamics, 13(1), 103-132.

Heathcote, Jonathan, Fabrizio Perri, and Gianluca Violante (2010): <u>Unequal We Stand:</u> <u>An Empirical Analysis of Economic Inequality in the United States: 1967-2006</u>, Review of Economic Dynamics, 13(1), 15-51.

Heathcote, Jonathan, Kjetil Storesletten, and Gianluca Violante (2004): <u>The Macroeconomic Implications of Rising Wage Inequality in the United States</u>, Journal of Political Economy, 118(4), 681-722.

- \* Hurst, Erik and Mark Aguiar (2007): <u>Measuring Trends in Leisure: The Allocation of Time Over Five Decades</u>, Quarterly Journal of Economics, 122(3), 969-1006.
- \* Krueger, Dirk and Fabrizio Perri (2003): On the Welfare Consequences on the Increase in Inequality in the US, NBER Macroeconomics Annual, 83-121. Comments by Steve Davis and Kjetil Storesletten

Krueger, Dirk and Fabrizio Perri (2006): <u>Does Income Inequality Lead to Consumption Inequality?</u> Evidence and Theory, Review of Economic Studies, 73(1), 163-193.

### VI. Taxation and Hours Worked

Alesina, Alberto, Edward Glaeser, and Bruce Sacerdote (2005): Work and Leisure in the U.S. and Europe: Why So Different?, NBER Working Papers 11278.

- \* Bick, Alexander, and Nicola Fuchs-Schündeln (2012): <u>Taxation and Labor Supply of Married Women across Countries: A Macroeconomic Analysis</u>, CEPR Discussion Paper No. 9115.
- \* Guner, Nezih, Remzi Kaygusuz, and Gustavo Ventura (2012): <u>Taxation and Household Labor Supply</u>, Review of Economic Studies, 79 (3), 1113–1149.

McDaniel, Cara (2011): <u>Forces Shaping Hours Worked in the OECD, 1960-2004</u>, American Economic Journal: Macroeconomics, 3(4), 27-52.

McDaniel, Cara (2012): <u>Average Tax Rates on Consumption, Investment, Labor and Capital in the OECD 1950-2003</u>, Working Paper, Arizona State University.

\* Prescott, Edward (2004): Why do Americans Work so much more than Europeans?, Quarterly Review, Federal Reserve Bank of Minneapolis Quarterly Review, 28(1), 2-13.

Ragan, Kelly (2012): <u>Taxes, Transfers and Time Use: Fiscal Policy in a Household Production Model</u>, American Economic Journal: Macroeconomics, 5(1), 169-192.

\* Ohanian, Lee, Andrea Raffo, and Richard Rogerson (2008): <u>Long-term Changes in Labor Supply and Taxes</u>: <u>Evidence from OECD countries</u>, <u>1956-2004</u>, Journal of Monetary Economics, 55(8), 1353-1362.

Wallenius, Johanna (2012): <u>Social Security and Cross-Country Differences in Hours: A General Equilibrium Analysis</u>, Working Paper, Stockholm School of Economics.