

FINANCE 937
Topics in Macro Finance
Fall 2022

Professors: **Tim Landvoigt** (timland@wharton.upenn.edu), 1st half
Itamar Drechsler (idrechs@wharton.upenn.edu), 2nd half

TA: **Chi (Clara) Xu** (chixu@wharton.upenn.edu)

DESCRIPTION FIRST HALF (LANDVOIGT)

Finance 937 is a semester long course in **macro-finance theory and empirics**. It is intended for advanced doctoral students in finance, economics and related fields.

The course is part of the Doctoral sequence in Finance. It follows logically from FNCE 924. It is intended to complement (with minimum overlap) the asset pricing courses FNCE 921 and FNCE 934. The choice of topics is also designed to appeal to economics students with an interest in Macro and Finance.

The first half of the course focuses on quantitative theory models and connects the literatures on macro models with financial sectors, banks, monetary policy and government debt. We will also explore asset pricing implications of production economies both in models with and without nominal frictions.

Our approach is to develop and discuss in detail a set of core ideas. Course lectures summarize and combine material from several key papers, often using a consistent notation and methodology. These core insights are then used to discuss recent literature.

The reading list has two parts. It is expected that you will read the core. The supplementary readings are reasonably extensive and will be amended as the semester progresses. Past students found this to be a useful reference for the remainder of their graduate studies.

The course will also cover numerical methods for computing non-linear global solutions to macro-finance models with a finite number of heterogeneous agents. Assignments for the first half are (1) a numerical problem set and (2) a presentation.

CORE READINGS

1. Half: Quantitative Macro-Finance Models

a. Macro Models with Financial Frictions

- Kiyotaki, Nobuhiro and John Moore, Credit Cycles, *Journal of Political Economy*, 1997
- Bernanke, Ben, Mark Gertler and Simon Gilchrist, The Financial Accelerator in a Quantitative Business Cycle Framework, *Handbook of Macroeconomics*, 1999

b. Intermediary Asset Pricing

- Brunnermeier, Markus and Yuliy Sannikov, A Macroeconomic Model with a Financial Sector, *American Economic Review*, 2013
- He, Zhiguo, and Arvind Krishnamurthy, Intermediary Asset Pricing, *American Economic Review*, 2013

c. Banks in Macro Models

- Gertler, Mark, and Nobuhiro Kiyotaki, "Financial Intermediation and Credit Policy in Business Cycle Analysis" *Handbook of Monetary Economics*, 2010
- Begenau, Juliane, Capital Requirements, Risk Choice and Liquidity Provision in a Business Cycle Model, *Journal of Financial Economics*, 2018

d. Macro-Finance with Housing and Mortgages

- Favilukis, Jack, Ludvigson, Sydney and Van Nieuwerburgh, Stijn, The Macroeconomic Effects of Housing Wealth, Housing Financing and Limited Risk-Sharing in General Equilibrium, *Journal of Political Economy*, 2016
- Kaplan, Gregory, Mitman, Kurt, and Violante, Gianluca, The Housing Boom and Bust: Model Meets Evidence, *Journal of Political Economy*, 2020

e. Production-based Asset Pricing

- Jermann, Urban, Asset Pricing in Production Economies, *Journal of Monetary Economics*, 1998
- Gourio, Francois, Disaster Risk and Business Cycles, *American Economic Review*, 2012
- Croce, Mariano Massimiliano, Long-run productivity risk: A new hope for production-based asset pricing?, *Journal of Monetary Economics*, 2014

f. Asset Pricing Implications of New Keynesian Models

- Gali, Jordi, Monetary Policy, Inflation, and the Business Cycle, Textbook, Chapter 3
- Pflueger, Carolin, and Rinaldi, Gianluca, Why Does the Fed Move Markets So Much? A Model of Monetary Policy and Time-Varying Risk Aversion, *Journal of Financial Economics*, 2022

FURTHER READINGS

Macroeconomic Models with Financial Imperfections

Macro Theory Models with Financing Frictions

- Carlstrom, Charles and Fuerst, Timothy, Agency Costs, Net Worth and Business Fluctuations: A Computable General Equilibrium Approach, *American Economic Review*, 1997
- Bigio, Saki, Endogenous Liquidity and the Business Cycle, *American Economic Review*, 2015.
- Di Tella, Sebastian Uncertainty Shocks and Balance Sheet Recessions, *American Economic Review*, 2015
- Bianchi, Javier and Enrique Mendoza, Optimal Time-Consistent Macroprudential Policy, *Journal of Political Economy*, 2018

Macro Theory Models with “Bank Runs”

- Allen, Franklin, Elena Carletti and Douglas Gale, Money, Financial Stability and Efficiency, *Journal of Economic Theory*, 2012
- Gertler, Mark and Nobuhiro Kiyotaki, Bank Liquidity and Bank Runs in an Infinite Horizon Economy, *American Economic Review*, 2016
- Boissay, Frederic, Collard, Fabrice and Smets, Frank, Booms and Banking Crises, *Journal of Political Economy*, 2016

Quantifying Financial Frictions

- Chari, V. Kehoe, Patrick and McGrattan, Ellen, Accounting for Business Cycles, *Econometrica*, 2007
- Christiano, Lawrence, Motto, Roberto, and Rostagno, Massimo, Financial Factors in Business Cycles, working paper, Northwestern University, 2010
- Christiano, Lawrence J., Roberto Motto, and Massimo Rostagno, Risk Shocks, *American Economic Review*, 2014
- Hall, Robert, Quantifying the Forces Leading to the Collapse of GDP after the Financial Crisis, *NBER Macroeconomics Annual*, 2014
- Phillipon, Thomas, Has the U.S. Finance Industry Become Less Efficient? *American Economic Review*, 2015

Macro Models of Firm Financing Frictions

- Jermann, Urban and Quadrini, Vincenzo, Macroeconomic Effects of Financial Shocks, *American Economic Review*, 2011
- Khan, Aubhik and Julia K. Thomas, Credit Shocks and Aggregate Fluctuations in an Economy with Production Heterogeneity, *Journal of Political Economy*, 2014
- Gomes, João, Jermann, Urban and Schmid, Lukas, Sticky Leverage, *American Economic Review*, 2016

Monetary Policy and Banks

- Gertler, Mark and Peter Karadi, A Model of Unconventional Monetary Policy, *Journal of Monetary Economics*, 2011

- Drechsler, Itamar, Savov, Alexei, and Schnabl, Phillip, A Model of Monetary Policy and Risk Premia, *Journal of Finance*, 2017
- Lenel, Moritz, Piazzesi, Monika, and Schneider, Martin, The short rate disconnect in a monetary economy, *Journal of Monetary Economics* 2019
- Wang, Olivier, Banks, Low Interest Rates, and Monetary Policy Transmission, Working paper

Housing and Mortgage Finance

- Landvoigt, Tim, Monika Piazzesi, and Martin Schneider, The Housing Market(s) of San Diego, *American Economic Review*, 2015
- Justiniano, Alejandro, Primiceri, Giorgio, and Tambalotti, Andrea, The Mortgage Rate Conundrum, Working Paper 2018
- Justiniano, Alejandro, Primiceri, Giorgio, and Tambalotti, Andrea, Credit Supply and the Housing Boom, *Journal of Political Economy*, 2018
- Greenwald, Daniel, The Mortgage Credit Channel of Macroeconomic Transmission, Working Paper
- Greenwald, Daniel and Guren, Adam, Do Credit Conditions Move House Prices?, Working Paper
- Diamond, William, and Landvoigt, Tim, Credit Cycles with Market-Based Household Leverage, *Journal of Financial Economics*, 2021

Banking and Regulation

- Van den Heuvel, The Welfare Cost of Bank Capital Requirements, *Journal of Monetary Economics*, 2006
- Davidyuk, Tetiana, Dynamic Bank Capital Requirements, Working paper
- Dempsey, Kyle, Capital Requirements with Non-bank Finance, Working paper

GRADES

- **There is no final exam.**
- **Total course grade will be average of grades for 1st and 2nd halves.**

1st Half

Problem Set 60%

There will be one quantitative problem set. The problem set is designed to help you understand the key issues involved in numerically solving a particular class of models. Can be done individually or in groups of 2 students.

Paper Presentation 40%

Each student will need to prepare a 30 minute presentation on one paper. I will compile a list of working papers and randomly assign them, but students are free to trade assigned papers. Based on current enrollment, each student will get to present in front of the class.