

Asset Pricing for MA

1011-4250

Dr. Peleg R. Samuels

Meeting time and location: Thursday 09:00-12:00, Berglas 101

Office Hours: Berglas 217, Thursday 14:00-15:00 (or by appointment, pelegsamuels@tauex.tau.ac.il)

Language: Slides in English, lectures & homework in Hebrew.

Course Description

How are prices set for assets such as equities, bonds, and real estate? What is the value of risk, and why is portfolio diversification important? How do these concepts relate to households? This graduate course delves into the classical theory of asset pricing, rooted in the decisions made by risk-averse investors under conditions of uncertainty and discrete time. The course aims to provide an in-depth understanding of the core knowledge in this field, relying heavily on mathematical models. While the course is theoretical in nature, it will also integrate reviews of empirical evidence and commonly used empirical tools in finance research.

The first part of the course will focus on static equilibrium and the canonical models in the field: the CAPM and Multi-factor models. These models offer frameworks for understanding the returns of equities and other assets, quantifying the value of diversification, and establishing a common language used by leading market participants (e.g., alpha, beta, momentum, SVIX, etc.). We will also explore why these models struggle, both empirically and theoretically, to convincingly explain real-world phenomena.

The second part of the course will cover intertemporal pricing models, emphasizing (1) the relationship between returns and prices, (2) bonds, and (3) consumption-based asset pricing. This section will delve into the temporal component and the impact of 'news' on stock prices, providing insights into the yield curve of bonds and how to price assets based on their influence on aggregate consumption. We will examine the 'puzzles' that arise from this approach and discuss various ways to resolve them.

The third and final part of the course will concentrate on households and the assets they typically invest in, with a particular focus on pensions and real estate. We will review the participation of households in different assets over time and how it relates to retirement savings. This module will also cover models of real estate prices and bubbles, including those based on housing consumption and investor speculation. Finally, we will touch on empirical research regarding the implications of individual stock trading.

Course Requirements

This is an MA and PhD level course in asset pricing. Students are expected to have taken introductory micro and macro courses, and to be familiar with linear regressions and dataset construction. This course is relatively math-heavy, and a significant portion of work is expected to be through problem sets. It is reasonable not to complete all parts of each problem set, but some attempt is expected. Final grades will be adjusted to reflect this.

Textbook

Most of the course closely follows a graduate level textbook by Campbell. Students are highly encouraged to read the relevant parts of the textbook ahead of class. The homework will include questions from the book. There is a copy in the library, but you are encouraged to have your own.

Campbell, J. Y. (2018). *Financial Decision and Markets: A Course in Asset Pricing*. Princeton University Press. (FDM)

Assessment and Evaluation

- Homework: 35%
 - The lowest grade homework assignment will be automatically dropped, and a 10 point bonus will be given to the homework average for submission of all assignments. Grading of FDM question will depend on difficulty, with some questions graded on effort.
- News Discussion + Comments: 10%
- Final Exam: 55%

Expected Background:

Calculus, some linear algebra, advanced micro (particularly expected utility & risk aversion, utility maximization), linear econometrics. Summarized in FDM Chapter 1 and see accompanying document.

Course Objectives

1. Understanding of literatures' frameworks, important facts and 'puzzles' so that you can apply them to future research or studies.
2. Understanding of theoretical models for asset pricing, ability to critique and apply them to 'real world' questions and discussion.
3. Familiarity with capital markets data and standard empirical methods.

Lecture Schedule

Subject to change. It is possible some topics will be skipped due to time constraints.

Part I: Static Portfolio Choice and Static Asset Pricing

Lecture 1: Introduction & Portfolio Choice

Reading: FDM Chapter 2.

Optional:

- Campbell, John Y., et al. "Have individual stocks become more volatile? An empirical exploration of idiosyncratic risk." *The Journal of Finance* 56.1 (2001): 1-43.

- Canner, Niko, N. Gregory Mankiw, and David N. Weil. "An asset allocation puzzle." (1994). (can skip section 2)

Lecture 2: Static Asset Pricing, CAPM Model

Reading: FDM Chapter 3 (can skip 3.1.4)

Optional:

- Summers, Lawrence H. "On economics and finance." *The Journal of Finance* 40.3 (1985): 633-635.

Lecture 3: The Stochastic Discount Factor Model

Reading: FDM Chapter 4

Part II: Intertemporal Asset Pricing

Lecture 4: Present Value Relations

Reading: FDM Chapter 4 (can skip 4.4)

Optional:

- Campbell, John Y., and Robert J. Shiller. "Valuation ratios and the long-run stock market outlook: An update." *Advances in Behavioral Finance* 2.1 (2005): 173-201.
- Campbell, John Y. "Empirical asset pricing: Eugene Fama, Lars Peter Hansen, and Robert Shiller." *The Scandinavian Journal of Economics* 116.3 (2014): 593-634.
- Cochrane, John H. "The dog that did not bark: A defense of return predictability." *The Review of Financial Studies* 21.4 (2008): 1533-1575.
- Cohen, Randolph B., Christopher Polk, and Tuomo Vuolteenaho. "The value spread." *The Journal of Finance* 58.2 (2003): 609-641.

Lecture 5: Consumption Based Asset Pricing I

Reading: FDM 6.1-6.3

Optional:

- Barro, Robert J. "Rare disasters and asset markets in the twentieth century." *The Quarterly Journal of Economics* 121.3 (2006): 823-866.
- Martin, Ian WR. "Consumption-based asset pricing with higher cumulants." *Review of Economic Studies* 80.2 (2013): 745-773. (For technical details)
- Gabaix, Xavier. "Variable rare disasters: An exactly solved framework for ten puzzles in macro-finance." *The Quarterly journal of economics* 127.2 (2012): 645-700. (can skip sections that deal with bonds and options: II.C, III.B, III.C, III.D, IV.C, IV.D, IV.E, and section V)

Lecture 6: Consumption Based Asset Pricing II

Reading: FDM 6.4, 6.5, 6.7

Optional:

- FDM, section 6.6, 6.8
- Bansal, R. and Yaron, A. "Risks for the long run: A potential resolution of asset pricing puzzles." *The journal of Finance*, 59.4 (2004), pp.1481-1509.

Lecture 7: Production, General Equilibrium & Demand Based AP

Reading:

- FDM, sections 7.1, 7.2
- Kojien, Ralph SJ, and Motohiro Yogo. "A demand system approach to asset pricing." *Journal of Political Economy* 127.4 (2019): 1475-1515.

Optional:

- Kojien, Ralph SJ, Robert J. Richmond, and Motohiro Yogo. "Which investors matter for equity valuations and expected returns?." *Review of Economic Studies* 91.4 (2024): 2387-2424.
- Gabaix, Xavier, and Ralph SJ Kojien. *In search of the origins of financial fluctuations: The inelastic markets hypothesis*. No. w28967. National Bureau of Economic Research, 2021.
- Graves, Daniel. "What Lies Beneath Zero: Censoring, Demand Estimation, and Hidden Beliefs." *Working paper (job market paper – find on course website)*. 2024.

Lecture 8: Fixed Income Securities

Reading: FDM 8.1-8.4

Optional: TBD

Lecture 9: Exchange Rates

Reading:

- FDM 8.5
- Meese, Richard A., and Kenneth Rogoff. "Empirical exchange rate models of the seventies: Do they fit out of sample?." *Journal of international economics* 14.1-2 (1983): 3-24.
- Hassan, Tarek A. "Country size, currency unions, and international asset returns." *The Journal of Finance* 68.6 (2013): 2269-2308.

Optional:

- Hassan, Tarek A., Thomas Mertens, and Jingye Wang. "A currency premium puzzle." Federal Reserve Bank of San Francisco, 2024. (Video: <https://youtu.be/ptBDbqsN4-I?t=555>)
- Lucas Jr, Robert E. "Interest rates and currency prices in a two-country world." *Journal of Monetary Economics* 10.3 (1982): 335-359.
- Backus, David K., and Gregor W. Smith. "Consumption and real exchange rates in dynamic economies with non-traded goods." *Journal of International Economics* 35.3-4 (1993): 297-316.

Lecture 10: Intertemporal Risk

Reading: FDM 9.1-9.3

Part III: Households and Household Assets*Lecture 11: Asset Pricing Implications of Household Finance*

Reading:

- FDM 10.1-4
- Coval, J., Hirshleifer, D. and Shumway, T. "Can Individual Investors Beat the Market?" *The Review of Asset Pricing Studies* (2021). 11(3), pp.552-579

Optional:

- Campbell, John Y. "Household finance." *The Journal of Finance* 61.4 (2006): 1553-1604.
- Brad Barber and Terrance Odean, "Trading is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors", *Journal of Finance* (2000). 55,773-806
- Gabaix, Xavier, et al. "Asset demand of us households." *Available at SSRN 4251972* (2023).
- Hong, Harrison, Jeffrey D. Kubik, and Jeremy C. Stein. "The only game in town: Stock-price consequences of local bias." *Journal of Financial Economics* 90.1 (2008): 20-37.
- P. Samuels. Real estate investors, their wealth and local housing prices and returns. Working Paper.

Lecture 12: Real Estate I (finance view)

Required Reading:

- Poterba, James M. "Tax subsidies to owner-occupied housing: an asset-market approach." *The quarterly journal of economics* 99.4 (1984): 729-752.
- Greenwald, Daniel L., and Adam Guren. *Do credit conditions move house prices?*. No. w29391. National Bureau of Economic Research, 2021.

Optional:

- Genesove, David, and Christopher Mayer. "Loss aversion and seller behavior: Evidence from the housing market." *The quarterly journal of economics* 116.4 (2001): 1233-1260.
- Sinai, Todd, and Nicholas S. Souleles. "Owner-occupied housing as a hedge against rent risk." *The Quarterly Journal of Economics* 120.2 (2005): 763-789.
- Amaral, Francisco, et al. "Interest rates and the spatial polarization of housing markets." *American Economic Review: Insights* 6.1 (2024): 89-104.
- Samuels, Peleg R. "Spatial Dispersion in Returns to Rental Housing: A Decomposition of Local Rent-Price Ratios." *Available at SSRN 5072804* (2024).

Israeli Housing Market (Optional):

- Dovman, Polina, Sigal Ribon, and Yossi Yakhin. "The Housing Market in Israel 2008-2010: Are House Prices a 'Bubble'?" *Israel Economic Review* 10.1 (2012).
- Caspi, Itamar. "Testing for a housing bubble at the national and regional level: the case of Israel." *Empirical Economics* 51.2 (2016): 483-516.
- Ben-Moshe, Dan, and David Genesove. "Regulation and Frontier housing supply." *arXiv preprint arXiv:2208.01969* (2022).
- Genesove, "A Price Boom and a Government's Response", prepared for Falk book on
- Israeli Economy, [pages 6-34 only].

Lecture 13: Real Estate II (consumption/urban view)

Consumption-based (urban) real estate, spatial equilibrium

Reading : Glaeser, Edward L. *Cities, agglomeration, and spatial equilibrium*. OUP Oxford, 2008.

Chapter 2, pgs 18-33; Chapter 3, pgs 47-68

Optional : (TBD)

- Saiz, Albert. "The geographic determinants of housing supply." *The Quarterly Journal of Economics* 125.3 (2010): 1253-1296.

- Albouy, David, and Bert Lue. "Driving to opportunity: Local rents, wages, commuting, and sub-metropolitan quality of life." *Journal of Urban Economics* 89 (2015): 74-92.
- Hausman, Naomi, et al. "Urban pull: The roles of amenities and employment." *Available at SSRN 4798884* (2023).
- Glaeser, Edward L., and Joseph Gyourko. "Urban decline and durable housing." *Journal of political economy* 113.2 (2005): 345-375.
- Glaeser, Edward L., and Kristina Tobio. "The rise of the sunbelt." *Southern Economic Journal* 74.3 (2008): 609-643.