Syllabus

Course: Asset Pricing

Professor:

3RD QUARTER OF 2026

This is an introductory course in Asset Pricing for PhD students. We begin with the main empirical facts in asset pricing and with the fundamental theorems in finance that give the minimum conditions under which we can price assets, i.e., that a stochastic discount factor exists. We can then divide the course in two parts. In part I we focus on factor models and in the cross-section of stock returns. We begin with the cross-section because this was the main subject of the early literature. In part II we focus on consumption-based models and in the market portfolio. The goal of part II is to unveil the economic underpinnings of the equity premium. We begin with the canonical Consumption CAPM model and how it fails to match the data---the so-called equity, risk-free, and volatility puzzles. We then present the most important attempts to reconcile theory with data. We discuss external habit and Epstein-Zin preferences; consumption processes subject to rare disaster shocks and long-run risks; consumption of durable goods and housing; models that deal with incomplete markets with heterogeneous agents; models of incomplete information and learning; and models with multiple assets.

PROGRAM

introduction

1. empirical facts
2. no-arbitrage and stochastic discount factor
3. portfolio theory

part I: factor models

4. linear factor models
5. momentum
6. liquidity
7. conditional factor models

part II: consumption-based models

8. equity premium puzzle
9. external habit
10. recursive preferences
11. long-run risks
12. rare disasters
13. other models (multiple goods, incomplete information, heterogeneous agents, multiple assets)

BIBLIOGRAPHY

Main textbooks:

(KB) Back, Kerry (2017). **Asset Pricing and Portfolio Choice Theory**, 2nd Edition, Oxford Press.

(CM) Munk, Claus (2013). **Financial Asset Pricing Theory**, Oxford Press.

(JC) Cochrane, John (2005). **Asset Pricing**, revised edition, Princeton.

GRADING

10% participation

90% take-home examination (paper replication)

CONTACT

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E-mail:

DETAILED PROGRAM

introduction

1. empirical facts

- JC, chap. 20 (pages 389-395).
- Cochrane, J. (2011) “Presidential Address: Discount Rates.” *Journal of Finance* 66 (4): 1047–1108.

- Campbell, J. (2000) “Asset Pricing at the Millenium”, *Journal of Finance*, 55, 1515-1567.

2. no-arbitrage and stochastic discount factor

   - KB, chap. 3.

   - JC, chaps. 4, 5 e 6.

   - Hansen, Lars Peter, and Scott F. Richard (1987). “The Role of Conditioning Information in Deducing Testable Restrictions Implied by Dynamic Asset Pricing Models.” *Econometrica* 55 (3): 587–613.

   - Hansen, Lars Peter, and Ravi Jagannathan (1991). “Implications of Security Market Data for Models of Dynamic Economies.” *Journal of Political Economy* 99 (2): 225–62.

3. portfolio theory

   - KB, cap. 2, cap 5 (*).

factor models

4. linear factor models

   - KB, chap 6

   - JC, chaps 9, 12, 13

   - Merton, Robert C. (1973). “An Intertemporal Capital Asset Pricing Model.” Econometrica 41 (5): 867–87.

   - Ross, Stephen A (1976). “The Arbitrage Theory of Capital Asset Pricing.” Journal of Economic Theory 13 (3): 341–60.

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   - Fama, E. and French, K. (1992) “The Cross Section of Expected Returns”, *Journal of Finance*, 47, 427-465.

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- Harvey, Campbell R., Yan Liu, and Heqing Zhu (2016) “… and the Cross-Section of Expected Returns.” *Review of Financial Studies* 29 (1): 5-68

5. momentum

- Jegadeesh, N. and Titmam, S. (1993) “Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency”, *Journal of Finance*, 48, 65-91.

- Jegadeesh, Narasimhan, and Sheridan Titman (2011) “Momentum.” Annual Review of Financial Economics 3 (1): 493–509. https://doi.org/10.1146/annurev-financial-102710-144850.

- Da, Zhi, Umit G. Gurun, and Mitch Warachka (2014) “Frog in the Pan: Continuous Information and Momentum.” *Review of Financial Studies*, February, hhu003.

- Birru, Justin (2015) “Confusion of Confusions: A Test of the Disposition Effect and Momentum.” The Review of Financial Studies 28 (7): 1849–73.

- Daniel, Kent, and Tobias J. Moskowitz (2016) “Momentum Crashes.” Journal of Financial Economics 122 (2): 221–47.

- Barroso, Pedro, and Pedro Santa-Clara. (2016). “Momentum Has Its Moments.” Journal of Financial Economics.

- Gao, Lei, Yufeng Han, Sophia Zhengzi Li, and Guofu Zhou (2018) “Market Intraday Momentum.” Journal of Financial Economics 129 (2): 394–414.

6. Liquidity

- Pástor, Luboš, and Robert F. Stambaugh (2003). “Liquidity Risk and Expected Stock Returns.” *Journal of Political Economy* 111 (3): 642–85.

- Acharya, V. and Pedersen, L. (2005) “Asset Pricing with Liquidity Risk”, *Journal of Financial Economics*, 77, 375-410.

- Amihud, Y., Mendelson, H., and Pedersen, L. (2005) “Liquidity and Asset Prices”, *Foundations and Trends in Finance*, 1, 269-364.

7. conditional factor models

- JC, chap. 8.

- Jagannathan, R. and Wang, Z. (1996) “The Conditional CAPM and the Cross-Section of Expected Returns”, *Journal of Finance*, 51, 3-53.

- Ferson, W. and Harvey, C. (1999) “Conditioning Variables and the Cross Section of Stock Returns” *Journal of Finance*, 54, 1325-1361.

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consumption-based models

8. equity premium puzzle

- KB, chap. 10

- JC, chap. 21

- Lucas, R. (1978) “Asset Prices in an Exchange Economy”, *Econometrica*, 46, 1429-1446.

- Breeden, D. (1979) “An Intertemporal Asset Pricing Model with Stochastic Consumption and Investment Opportunities”, *Journal of Financial Economics*, 7, 265-296.

- Hansen, Lars P.; Singleton, Kenneth J. (1982) Generalized Instrumental Variables Estimation of Nonlinear Rational Expectation Model. *Econometrica*, vol. 50, n.º 5, p. 1269-1286.

- Mehra, R. and Prescott, E. (1985) “The Equity Premium: A Puzzle," Journal of Monetary Economics, 15, 145-161.

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- Breeden, Douglas T., Robert H. Litzenberger, and Tingyan Jia (2015) “Consumption-Based Asset Pricing, Part 1: Classic Theory and Tests, Measurement Issues, and Limited Participation”. Annual Review of Financial Economics, 7, 35–83.

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Asset Pricing, Part 2: Habit Formation, Conditional Risks, Long-Run Risks, and Rare Disasters". Annual Review of Financial Economics, 7, 85–131.

9. external habit

- CM, chap. 9

- KB, chap. 11

- Abel, A. (1990) "Asset Prices Under Habit Formation and Catching Up with the Jones", American Economic Review, 80, 38-42.

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10. recursive preferences

- CM, chap. 9

- KB, chap. 11

- Epstein, L. and Zin, S. (1989) "Substitution, Risk Aversion and the Temporal Behavior of Asset Returns: A Theoretical Framework", *Econometrica*, 57, 937-969

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11. long-run risks

- CM, chap. 9

- KB, chap. 11

- Ravi, and Amir Yaron (2004) "Risks for the Long Run: A Potential Resolution of Asset Pricing Puzzles." The Journal of Finance 59 (4):1481–1509.

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- Bansal, Ravi, Dana Kiku, and Amir Yaron (2012) “An Empirical Evaluation of the Long-Run Risks Model for Asset Prices.” Critical Finance Review 1 (1): 183–221.

12. rare disasters

- CM, chap. 9

- KB, chap. 11

- Rietz, Thomas A. (1988) “The Equity Risk Premium a Solution.” Journal of Monetary Economics 22 (1):117–31.

- Barro, Robert J. (2006) “Rare Disasters and Asset Markets in the Twentieth Century.” The Quarterly Journal of Economics 121 (3):823–66.

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13. other models

- C, chap. 21

- CM, chap. 9

- KB, chap. 23

- Yogo, Motohiro (2006) “A Consumption-Based Explanation of Expected Stock Returns.” The Journal of Finance 61 (2):539–80.

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