

**** ADVANCED INVESTMENT THEORY ****

Professor Matti Suominen
SYLLABUS 2019

Pre-requisite: Derivatives and Risk Management

This course provides a technical introduction to the financial markets and asset pricing theories under perfect information and imperfect information. In addition, we study the role of hedge funds in the securities markets. The course is suitable for mathematically oriented Masters Students seeking to develop a deeper understanding of the modern finance theory, quantitative finance and hedge funds.

Course can be completed in two ways: Either by taking an exam or by writing a 20-30 page independent study on a subject directly related to the course material (the topic must be approved by the Professor).

Exercises comprise an integral part of the program. Through exercises a student can earn 10 bonus points to be added to the exam score (max 100) or the score from the written report (max 100).

Exercise sessions are organized by **Ellapulli Vasudevan**. There will be homework assignments. The session times are:

16.4.19 at 13.15 - 15.00 (Room T004)

7.5.19 at 13.15 - 15.00 (Room T004)

14.5.19 at 13.15 - 15.00 (Room T004)

Course structure:

I. FINANCE THEORY UNDER PERFECT INFORMATION

- 9.4.19 14.00 - 15.30 LECTURE 1. Investment and portfolio choice in discrete time (Room U006)**
- 11.4.19 16.15 – 18.00 LECTURE 2. Modeling financial markets in continuous time I (Room U006)**
- Hull, Ch. 12, 13
- Black & Scholes, 1973, The Pricing of Options and Corporate Liabilities, *Journal of Political Economy*. [link](#)
- 16.4.19 10.15 – 12.00 LECTURE 3. Modeling financial markets in continuous time II (Room U006)**
- 18.4.19 16.15 – 18.00 LECTURE 4. Options and term structure of interest rates revisited (Room U006)**
- Hull Ch 25, 26

II. FINANCE THEORY UNDER IMPERFECT INFORMATION AND LIQUIDITY

- 23.4.19 13.15 – 15.00 LECTURE 5. Modeling financial markets (Room T004)**
- Grossman and Stiglitz, 1980, On the Impossibility of Informationally Efficient Markets, *American Economic Review*, [link](#)
- Kyle, 1985, Continuous Auctions and Insider Trading, *Econometrica* [link](#)
- Grossman and Miller, 1988, Liquidity and Market Structure, *Journal of Finance* [link](#)
- Amihud, 2002, Illiquidity and Stock Returns: Cross Section and Time-Series Effects, *Journal of Financial Markets* [link](#)

23.4.19 15.15 – 17.00 LECTURE 6. Liquidity and asset prices (Room T004)

- Pastor and Stambaugh, 2003, Liquidity Risk and Expected Stock Returns, *Journal of Political Economy* [link](#)
- Brunnermeier and Pedersen, 2008, Market Liquidity and Funding Liquidity, *Review of Financial Studies*, [link](#)
- Duffie, Presidential Address: Asset Price Dynamics with Slow-Moving Capital, 2010, *Journal of Finance*, [link](#)
- Gromb and Vayanos, 2010, Limits of Arbitrage: The State of the Theory, *Annual Review of Financial Economics*, [link](#)
- Garleanu, Pedersen, Efficiently Inefficient Markets for Assets and Asset Management, 2018, WP, [link](#)

25.4.19 16.15 – 18.00 LECTURE 7. Hedge funds' and liquidity (Room U006)

- Gatev, Goetzmann and Rouwenhorst, 2006, Pairs Trading: Performance of a relative-value arbitrage rule, *Review of Financial Studies*, [link](#)
- Sadka, 2010, Liquidity risk and the cross-section of hedge-fund returns, *Journal of Financial Economics*, [link](#)
- Khandani and Lo, 2010, What happened to the quants in August 2007?: Evidence from factors and transactions data, *Journal of Financial Markets*, [link](#)
- Jylhä, Rinne and Suominen, 2014, Do Hedge Funds Supply or Demand Liquidity, *Review of Finance*, [link](#)
- Albert J Menkveld, High frequency trading and the new market makers, *Journal of Financial Markets*, 2013, [link](#)

III. ANOMALIES, ALTERNATIVE RISK PREMIA AND THE ROLE OF HEDGE FUNDS

2.5.19 16.15 – 18.00 LECTURE 8. Agency problems, bubbles and price manipulation (Room U006)

- De Long, Shleifer, Summers, and Waldmann, 1990, Noise Trader Risk in Financial Markets, *Journal of Political Economy*
- Itzhak, Franzoni, Landier, and Moussawi, Do Hedge Funds Manipulate Stock Prices? *Journal of Finance*, 2013
- Jylhä, Suominen, Tomunen, Beta Bubbles, *Review of Asset Pricing Studies*, 2018

7.5.19 10.15 – 12.00 LECTURE 9. Empirical asset pricing anomalies and hedge funds (Room V002)

- Fung, W., and DS. Hsieh, "Empirical Characteristics of Dynamic Trading Strategies: The Case of Hedge Funds," *Review of Financial Studies*, 10 (1997), 275-302, [link](#)
- Fung, W., and DS. Hsieh, "Hedge Fund Benchmarks: A Risk Based Approach," with William Fung, *Financial Analyst Journal*, 60 (2004), 65-80, [link](#)
- Jegadeesh and Titman, 2001, Profitability of Momentum Strategies: An Evaluation of Alternative Explanations, *Journal of Finance* [link](#)
- Asness, C., T. Moskowitz, L. Pedersen, Value and Momentum Everywhere, *The Journal of Finance*, v. LXVIII, NO. 3 • JUNE 2013 [link](#)
- Moskowitz T. J., Y. H. Ooi L. H. Pedersen, "Time series Momentum," *Journal of Financial Economics*, 104 (2012) , 228-250, [link](#)
- Kokkonen and Suominen, 2015, Hedge Funds and Market Efficiency, *Management Science* 2015, [link](#)
- Etula, Rinne, Suominen and Vaittinen, Dash for Cash: Monthly Market Impact of Institutional Liquidity Needs, *Review of Financial Studies*, forthcoming [link](#)

14.5.19 10.15 – 12.00 LECTURES 10. Hedge funds' investment strategies in fixed income and currencies (Room V002)

- Jylhä and Suominen, 2010, Speculative Capital and currency carry trades, *Journal of Financial Economics*, [link](#)
- Duarte, Longstaff and Yu, Risk and Return in Fixed Income Arbitrage: Nickels in front of a Steamroller? *Review of Financial Studies*, 2006, [link](#)
- Menkhoff, Sarno, Schmeling and Schrimpf, Currency Momentum Strategies, *Journal of Financial Economics*, 2012, [link](#)
- Pitkäjärvi, Suominen, and Vahtinen, Cross-Asset Signals and Time-Series Momentum, *Journal of Financial Economics*, forthcoming, [link](#)

General references:

- Hull, Options, Futures and Other Derivatives, 6th Edition, 2006, or newer
- Merton, Continuous-Time Finance, Blackwell 1990
- O'Hara, Market Microstructure Theory, Blackwell 1995
- Ilmanen, Expected Returns, Wiley, 2011

Additional References:

- Lecture notes
- Articles listed during the course