# Empirical Asset Pricing

**Teacher**: Irina Zviadadze

**Duration**: 18 hours                    **Number of ECTS credits**: 3

| Education Level | Period | Language of instruction | Max. Staffing | Teaching Mode |
|---|---|---|---|---|
| Master | S2 | English | 25 | in-person |

**Deanship Department**: Finance                    **Domain:** Advanced courses

**Track**: Financial Economics

**Keywords**: Finance, Data, Evidence based asset pricing, Risk-return tradeoff

## SYNOPSIS

This course introduces students to research in the area of evidence-based asset pricing. The course builds on the foundations of asset pricing taught by Professor Thierry Foucault and covers topics at the frontier of empirical asset pricing. Each topic starts with an overview of the fundamental concepts, continues with an analysis of research efforts and advances made to answer the questions of interest, and ends with a discussion of outstanding research questions.

## DETAILED DESCRIPTION

**Prerequisites**:

The asset-pricing course of Thierry Foucault or equivalent; introductory course in econometrics; ability to work independently with data using a programming language, such as Matlab, R, or Python.

**Course overview**:

The course introduces contemporary topics in empirical asset pricing. We will start by analyzing time-series properties of asset returns and macroeconomic fundamentals and discussing workhorse equilibrium models that explain both. We will provide a critical assessment of these models.

Then, we will discuss return predictability and its implication for the risk-return tradeoff across different investment horizons.

Next, we will discuss the cross-sectional properties of asset returns and numerous attempts to make sense of them. I will explain why researchers built a factor zoo but could not explain the cross-section of asset returns.

The second part of the course covers more recent topics in asset pricing. We will discuss the role of intermediaries in pricing assets and how properties of asset returns change in the environment with frictions.

Next, we will discuss how to model asset demand systems. We will analyze how we can use investor-level data on portfolio holdings to answer policy questions such as, for example, the impact of quantitative easing on prices or the impact of socially responsible investing on the risk-return profile of asset returns. We will conclude our course by discussing government debt sustainability and what asset prices tell us about it.

**Principal Items:**

The main facts in asset pricing and the main theories to interpret these facts. Critical assessment of existing theories. Empirical approaches to test the existing theories.

**Pedagogical Objectives**:

This course is designed to fulfill three objectives: (1) understand the risk-return tradeoff in financial markets and its implications for practical questions such as corporate decision-making and asset management, (2) learn how to use the state-of-the-art methods to analyze empirical questions, and (3) learn how to do empirical research based on theoretical grounds.

**Skills:**

By the end of this course, the students should be able to comprehend, synthesize, and critically analyze asset-pricing articles published in the top finance journals. The students will also learn how to use modern econometric techniques to test asset-pricing theories and to develop new knowledge about asset prices and the macroeconomy. Moreover, the students should be ready to contribute to the development of new theories and methods in empirical asset pricing. Finally, in a professional situation, the students should be able to consult on asset management questions.

**Course organization**:

There are six sessions of 3 hours each. The preliminary course outline is:

Session 1: Macro-based asset pricing. Asset-pricing puzzles and their possible solutions

Session 2: Return predictability and the term structure of risk (equity, currencies, and bonds)

Session 3: Cross-sectional asset pricing (factor zoo, taming the factor zoo, p-hacking and replication crisis, resolving the factor zoo)

Session 4: Intermediary asset pricing. Asset pricing with frictions

Session 5: Asset pricing via demand systems

Session 6: Fiscal policy and asset pricing

## TEACHING MATERIALS

The course is based on lecture slides and academic articles.

**Books (optional):**

Campbell, John, 2018, *Financial Decisions and Markets: A Course in Asset Pricing*, Princeton University Press

Campbell, John, Andrew W. Lo, and A. Craig MacKinlay, 1997, *The Econometrics of Financial Markets*, Princeton University Press

Cochrane, John, 2005, *Asset Pricing: Revised Edition* Princeton, NJ: Princeton University Press

Ferson, Wayne, 2019, *Empirical Asset Pricing*, The MIT Press

Singleton, J. Kenneth, 2006, *Empirical Dynamic Asset Pricing*, Princeton University Press

**Digital Resources:**

Self-contained lecture slides. Academic articles.

## TEACHING METHODS

In-class lectures and discussions, weekly assignments to master the material discussed in class and to start doing empirical research.

## WORK AND EVALUATIONS

**Work requested:**

Five weekly assignments will be distributed for independent work at home. Each assignment carries 15% weight in the final grade. Students are expected to complete the required readings and come to class prepared.

**Assessment of achievement:**

| Tool/method of evaluation | Duration | Weight in the final grading |
|---|---|---|
| Five weekly assignments (take home) | NA | 75% |
| Final exam | TBA | 25% |

Additional details: The format of the final exam is to be decided. It will be either an in-person exam in class or a final take-home project.

## BIOGRAPHY

Irina Zviadadze is an Associate Professor of Finance at HEC Paris

She received a Ph.D. in Finance in 2013 from the London Business School. Between 2013 and 2019, Irina served as an Assistant Professor of Finance at the Stockholm School of Economics, where she taught a core course on derivatives pricing and financial markets to BSc students, topics in Asset Pricing for Doctorate students, and Investments and Financial Management to students in an Executive program. In 2019, Irina joined HEC Paris, and since then, she has taught financial economics in the HEC's flagship Grand Ecole program.

Irina's research interests lie in asset pricing. She studies a risk-return tradeoff in different asset markets (equity, fixed-income, and foreign-exchange markets) and across different horizons. Her papers appeared in the *Journal of Finance, Review of Financial Studies*, and *Journal of Financial and Quantitative Analysis*; and were also presented at numerous conferences and seminars worldwide. Irina has received several research awards, including Hans Dalborg's award for excellence in research in financial economics in 2019 and the Best Young Researcher Award in Finance and Economics in 2023 by Foundation SCOR, Europlace Institute of Finance, and Institut Louis Bachelier.

## WAIVER POLICY

This course cannot be waived unless a student can demonstrate that he/she took a course with similar content elsewhere. In addition, the course must be at the level of a Master in Research or PhD program.