Factor investing

Online course

Centre for Econometric Analysis
Delivered by: Dr Simona Boffelli

Fees:

£180 City students, alumni, Staff

£210 External students

£360 External rate

A 15% discount is available for groups of three or more participants

Course overview

In this online course you will be introduced to factor investing, an industry that according to BlackRock accounts for $1.9 trillion in Asset under Management AUM and that is expected to reach $3.4 trillion by 2022. Factors are defined as specific features relating a group of securities that can have a role in explaining return and risk pattern. Since the seminal paper by Sharpe (1964) which introduced the Capital Asset Pricing Model (CAPM) and by Fama and French (1993) which extended CAPM to add size and value factors, a large body of academic papers were devoted to analyze and describe market anomalies.

Benefits

- You will be introduced to Factor investing: Factor investing is an investment approach that involves targeting quantifiable firm characteristics or 'factors' that can explain differences in stock returns
- You will learn about the most common 'factors' and the reasons for their popularity
- You will be taught how to construct a 'factor' starting from raw data
- You will refresh your knowledge about different portfolio construction methodologies
- You will be introduced to 'factor' timing and alternative possible techniques to achieve it.

Target audience

This course is useful to both professionals working in asset management as analysts, quant analysts and portfolio managers as well as for researchers with interest in asset pricing and portfolio construction.

Course prerequisites

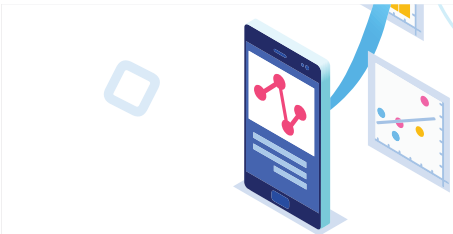
Participants should have a knowledge of statistics, time series analysis and portfolio construction. Knowledge of Matlab is recommended but not necessary.

Contents

Day 1 : Four hours online

Topic 1: Factor Definition and Construction

- Traditional asset allocation approaches to portfolio construction: Markowitz, Black and Litterman and Risk Parity
- An introduction to factor definition and construction
- Fundamental approach to gain exposure to pre-specified sources of alpha-return (value/quality)
- Data-driven approach: decomposition of the variance-covariance matrix to extract almost independent sources of alpha-return
- Factor-neutralisation, orthogonalisation and factor mimic portfolios



For more info contact:
elisabetta. pellini@city.ac.uk
Bayes Business School
CEA@city.ac.uk
www.bayes.city.ac.uk/cea-econometrics-courses

Dr Simona Boffelli

Simona Boffelli is a quantitative analyst and portfolio manager in long/short equity at Eurizon Capital in Milan. She holds a Ph.D in Economics, Applied Mathematics and Operational Research from Bergamo University and she is CFA charterholder. She gained experience in portfolio construction and management in a number of investment and commercial banks in Milan, including FinecoBank, Unicredit and Pioneer Investments. She is a researcher associate to the Department of Management, Economics and Quantitative Methods of Bergamo University and to the Centre for Econometrics Analysis of Bayes Business School in London. Her research interests are in financial econometrics, with focus on portfolio construction and risk management. She has published in the International Journal of Forecasting, International Journal of Money and Finance and Journal of Financial Econometrics.

- Statistical approaches to factor construction: an introduction
- Static factor models: from PCA to factor models
- Dynamic factor models.

Day 2: Four hours online

Topic 2: Portfolio Construction and Factor Timing

- Alternative approaches to combine factors: an introduction
- Defining a factor strategic asset allocation through the portfolio construction techniques (Markowitz, Black and Litterman and Risk parity)
- Long-term factor allocation by tactical factor allocation (i.e. timing)
- Alternative methodologies in factor timing: an introduction
- Applications using dynamic factor models
- Mixed Frequency Factor Model with MIDAS (Mixed Data Sampling) structure
- Explaining MIDAS techniques allowing to deal simultaneously with data sampled at different frequency (macroeconomic data at monthly and stock returns at daily/weekly frequency)
- The relevance of MIDAS models in factor timing: factor showing highly heterogeneous returns through the phases of the business cycle
- Factor timing as regime switching models
- Endogenously identifying the number of states and evaluation of the degree of persistence of the states.

Recommended reading

The following textbooks and journal articles are recommended for this course:

Bai J. and Ng S. (2008). Large Dimensional Factor Analysis. Foundations and Trends in Econometrics. 3, 89-163.

Cazalet Z. and Roncalli T. (2014). Facts and Fantasies About Factor Investing. *SSRN Electronic Journal*. 10.2139/ssrn.2524547.

Fama, E., and K. French (1993). Common Risk Factors in the Returns on Stocks and Bonds. *Journal of Financial Economics 33*, 3-56.

Fama, E., and K. French (2015). A Five-Factor Asset Pricing Model. *Journal of Financial Economics 116*, 1–22.

Ghysels E., Santa-Clara P and Valkanov R. (2002). The MIDAS Touch: Mixed Data Sampling Regression Models. UNC and UCLA Working Papers.

Russo A. (2015). Equity Factor Investing According to the Macroeconomic Environment. Amundi Discussion Paper Series 11.

Qian, Edward, Ronald Hua and Eric Sorensen (2007). Quantitative Equity Portfolio Management: Modern Techniques and Applications. *CRC press*

Registration, payment and cancellation policy

Payment of course fees is required prior to the course start date

In case a course is cancelled, registered participants will receive the full refund

Registration closes seven calendar days prior to the start of the course.