

ASSET MANAGEMENT AND QUANTITATIVE INVESTMENT 2025: PROJECT

KE WU

This project accounts for 30% of your final grade. You should work in groups and a common grade will be assigned to each group. The project asks you to construct a trading strategy based on one or multiple market anomalies using portfolio sorting or regression approaches, report its average return, standard deviation, t-statistics, Sharpe ratio, information coefficient, maximum drawdown, or other related statistics you think are important, and to evaluate its abnormal performance against classical factor models, such as [Liu, Stambaugh, and Yuan \(2019\)](#)'s CH-3 or CH-4 factor models. Both equal-and value-weighting schemes should be reported.

Below I list some well-known anomalies and related papers for your reference. The main objective is to get you familiar with financial data and apply empirical methods you learned to conduct investment research.

The group presentation is scheduled on Dec 8 and Dec 15, 2025. After the in-class presentation, each group is required to turn in your presentation slides, programing codes, and a document that discusses your strategy and its performance.

RESEARCH TOPICS AND PAPERS

I provide a sample Chinese stock market data (in Stata format) with several firm characteristics that matched to the stock return variable following conventions of Fama and French (1992). The data set contains 13 variables and is organized in monthly frequency. The variable definition is as follows:

stkcd: Chinese A share stock ID number

year, month: year and month stock returns are recorded

ret: monthly stock excess returns

size: market capitalization in thousands of RMB

r11: 12-2 month momentum

bm: book-to-market ratio

ep: earnings-to-price ratio

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roe: return on equity

ivff: idiosyncratic volatility based on the FF 3-factor model

beta: CAPM beta

tur: monthly turnover ratio

srev: short-term reversal (t-1 monthly return)

The sample period is from 2001 to 2010. You may construct your investment strategy based on this data set or use GTA CSMAR, Wind, or RESSET databases (or any other available data source) to extend the sample period and add in more variables. You may also construct your own data using difference time frequency.

(1) Systematic and Idiosyncratic Risks

(a) Idiosyncratic Volatility Puzzle

[Ang et al. \(2006\)](#); [Ang et al. \(2009\)](#); [Fu \(2009\)](#); [Huang et al. \(2010\)](#); [Hou and Loh \(2016\)](#); [Li, Sullivan, and Garcia-Feijoo \(2016\)](#); [Rachwalski and Wen \(2016\)](#)

(b) Betting Against Beta Anomaly

[Fama and French \(1992\)](#); [Frazzini and Pedersen \(2014\)](#); [Cederburg and O'Doherty \(2016\)](#); [Bali et al. \(2018\)](#); [Liu, Stambaugh, and Yuan \(2018\)](#)

(c) Estimation of Systematic Risk

[Avramov and Chordia \(2006\)](#); [Lewellen and Nagel \(2006\)](#); [Cosemans et al. \(2016\)](#)

(d) Factor Models

[Fama and French \(1996\)](#); [Hou, Xue, and Zhang \(2015\)](#); [Fama and French \(2015\)](#); [Fama and French \(2016\)](#); [Fama and French \(2018\)](#); [Hou et al. \(2019\)](#)

(2) Firm Characteristics and Expected Stock Returns

(a) High-order Moments

[Harvey and Siddique \(2000\)](#); [Chen, Hong, and Stein \(2001\)](#); [Mitton and Vorkink \(2007\)](#); [Boyer, Mitton, and Vorkink \(2010\)](#) [Amaya et al. \(2015\)](#); [Dittmar \(2002\)](#); [Langlois \(2020\)](#); [Jondeau and Zhang \(2019\)](#)

(b) Momentum and Reversals

[Jegadeesh \(1990\)](#); [Jegadeesh and Titman \(1993\)](#); [Moskowitz, Ooi, and Pedersen \(2012\)](#); [Asness, Moskowitz, and Pedersen \(2013\)](#); [Daniel and Moskowitz \(2016\)](#); [Gao et al. \(2018\)](#); [Lo and MacKinlay \(1990\)](#)

- (c) Lottery Preference Related Anomaly
[Bali, Cakici, and Whitelaw \(2011\)](#); [Conrad, Kapadia, and Xing \(2014\)](#)
 - (d) Machine Learning Methods
 - [Lewellen \(2015\)](#); [Green, Hand, and Zhang \(2017\)](#); [Giglio and Xiu \(2019\)](#)
 - [Kelly, Pruitt, and Su \(2017\)](#); [Kelly, Pruitt, and Su \(2019\)](#); [Kozak, Nagel, and Santosh \(2018\)](#); [Kozak, Nagel, and Santosh \(2020\)](#); [Feng, Giglio, and Xiu \(2020\)](#)
 - [Ao, Li, and Zheng \(2018\)](#); [DeMiguel et al. \(2019\)](#)
 - [Han et al. \(2018\)](#); [Freyberger, Neuhierl, and Weber \(2020\)](#); [Gu, Kelly, and Xiu \(2020\)](#)
 - [Chen, Pelger, and Zhu \(2019\)](#)
- (3) Other recent asset pricing papers published in Chinese top Fin/Econ journals.

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