



# FIN 3080 Investment Analysis and Portfolio Management

SPRING 2021 || CUHK(SZ)

## PROJECT 2

### Instruction:

1. You have **48** hours to complete the project and the deadline is on **Monday, 12:00(noon) April 12<sup>th</sup>, 2021**. Late submission will not be accepted. You can write the report in English or Chinese. 中英文皆可。
2. Please submit your answer in PDF (name your file with the format “Student ID1+XXX, Student ID2+XXX, Student ID3+XXX”. One group member submits your group assignment.
3. Submit the **code files** as an attachment.

Contact:

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### Case1 中国股市 value factor 起作用吗?

使用 2006 年 1 月到 2020 年 12 月中国股市的月度数据构造 value factor,并且用你计算出的 value factor 跟国泰安数据库(CSMAR)计算的 value factor 进行相关性(correlation)检验, 并把你计算的 value factor 和 CSMAR 的 value factor 画到同一张图上进行对比。  
(注: value factor 在国泰安数据库又叫 Book to Market Ratio Factor)

提示: 构造方法参考

- 1) 国泰安数据库使用说明书/字段说明
- 2) French's website

[https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html)

### Case2 股票的平均收益率和收益波动率相关吗?

无论是 CAPM 还是 APT 模型都认为股票的平均回报率和股票回报率的 idiosyncratic volatility 无关, 请按照我们上课讲的, 构造 long-short portfolio 来检验是否真的如此。  
(使用沪深主板和创业板 2006-2020 月度回报率来进行检验)

提示: idiosyncratic volatility 的计算可以采用 single factor market model



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### CASE 1. Does the value factor work in China's stock market?

Use the monthly Chinese stock market data from January 2006 to December 2020 to construct the value factor, and test the correlation of your value factor with the value factor calculated by CSMAR. Please also draw a graph and put both your value factor and CSMAR value factor together in this graph. (Note that value factor is also called book to market ratio factor in CSMAR)

*Tips: Construction method reference*

1) CSMAR User Guide/Database Manuals/Description

2) French's website

[https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html)

### CASE 2. Is the average return rate of a stock related to the return volatility?

Both the CAPM and APT models claim that the cross-sectional stock return is uncorrelated to the return volatility. In particular, the idiosyncratic volatility of stocks under the APT model should be independent of the cross-sectional stock return. Please use the long-short portfolio construction method to test whether this is really the case. Please use the Shanghai and Shenzhen Mainboard and Second board (growth enterprise board) monthly return from 2006-2020 to conduct the test.)

*Tips: You can use the single factor market model to calculate idiosyncratic volatility.*