FIN 3080 Investment Analysis and Portfolio Management

Spring 2023 | CUHK (SZ)

Assignment II

Due: 23:59, March 20, 2023

Tips

- Please reserve at least one hour for submission. Late submission without justification is not acceptable.

- A complete submission shall be a compressed package named with "YourID_YourName" containing (i) one readable PDF file (1.5-spaced, 11pt, no greater than 5 pages) with your, if any, arguments, tables and figures, and (ii) one or many code files that generate the empirical results. Only Excel users are required to submit data files.

- This homework is on individual basis and each student shall submit her or his own solution. You may discuss with your fellows but plagiarism and fabrication are strictly prohibited.

Problems

Please access the CSMAR database and download (i) monthly *stock returns* for all stocks in the mainboard of China's A share market over Dec. 2009 to Dec. 2022 from *China Stock Market Series - Individual Stock Trading*, (ii) daily records on *stock volatility* (of the log return of the lastest 250 trading days) from *China Stock Market Series - Stock Market Derivative Index*, (iii) quarterly records on *total assets* and *total liabilities* over 2009Q3 to 2022Q4 from *China Listed Firms Research Series - Balance Sheet*, (iv) quarterly records of *return on equity* from *China Listed Firms Research Series - Financial Indicators*. Then **manually** construct monthly P/B ratios for all firms in the mainboard from Jan. 2010 to Dec. 2022. [Be alarmed: you will have points deducted if directly leveraging P/B ratios calculated by CSMAR.]

1. Focusing on the observations for all listed firms in the mainboard as of 2010Q4, regress the *P/B ratio* on *return on equity* and *stock volatility* (i.e., you are expected to run a cross-sectional regression). Report regression results and discuss your findings.

2. For each month from Jan. 2010 to Dec. 2022, sort firms based on their last-month *P/B ratios* and divide firms into ten groups (according to their *P/B ratio* deciles). By holding all stocks within each group with equal weights and rebalancing positions every month, we can construct ten portfolios. Please plot the monthly return time-series for the ten portfolios from Jan. 2010 to Dec. 2022, and discuss your findings.