

# Project 2

Please write a report to answer your project questions and your format will count for 10% of your mark. Your group project should only be submitted by one member. Please note that the deadline for Project2 is 12:00PM (11:59AM) 13/Apr/2020. Good luck!

**Background:** You are an intern in a mutual fund company and recently got a mission:

**Question 1:** Your boss recently heard that there exists a CAPM model in the capital market and want to know whether CAPM can explain the stock return rate in the Chinese market. So you need to use one weekend to test it. Although you have studied the principle of CAPM, you have never actually tested it. So you went to search relevant materials and found that there are two papers that can be used for reference. These two papers use the same method to test whether CAPM is reliable in the stock market of China and the United States. By studying these two papers, you have learnt the test method, and decided to use the weekly return rate of all stocks of Shenzhen and Shanghai mainboards (including small and medium-sized boards) from January 4, 2016 to December 27, 2019 for CAPM test. Your boss knows basic principles about CAPM, but obviously has not read these two papers, so you need to summarize the test steps and basic inspection ideas, as well as all the results. Your boss certainly likes more intuitive chart results, but you also want to show your preciseness, so report the quantitative results and your main conclusions in the form of tables.

**Question 2:** Your boss also heard at the meeting that some people get high returns by trading small market value stocks, so he wants to see if it is true. He wants you to explore and test whether the return rate of small market value stocks is higher than that of large market value stocks. You decide to use all stocks of Shenzhen and Shanghai mainboards (including the small and medium board) to test. Your boss likes to explain it simply and directly by constructing 10 different portfolios and comparing portfolios' returns. Naturally, you want to show your initiative in front of your boss, so you also want to explore other strategies that may produce higher returns, such as selecting stocks based on the returns of the past one month or three months, holding stocks for one month, and then selecting stocks again based on the returns of the past month or three months. Can you find any rules by repeating the previous strategy? (We usually use the monthly data from 2006 to calculate)