MSc Finance & MSc IWM: Financial Econometrics Assessed Exercise

Instructions

Please complete the Exercise below and submit:

- Point 1. before 4/11/2018 at 23:59 on The Hub. Submission will only be possible via The Hub. Late submissions will not be considered.
- Points 2. and 3. before 3/12/2018 at 23:59 on The Hub. Submission will only be possible via The Hub. Late submissions will not be considered.

Please complete the exercise within your allocated syndicate groups and submit one solution for each group. The maximum number of pages for this exercise is 5, excluding tables and graphs. Papers exceeding the length limit will only be evaluated on the first 5 pages.

Exercise - Momentum

This empirical exercise is based on the work by Jegadeesh and Titman (2003).

Portfolios and factors construction

Let's construct tradable portfolios from the given dataset.

1. Upload data (filename: `assignment_data18.RData`) in R.
2. Data contain daily close prices, standard industrial classification (SIC) code and market cap (ME) for a large cross-section of stocks in the US. The first row contains the permno of any given stock, whereas the second row contains the date, the third the SIC code, the fourth the closing price, and the fifth market cap.
3. Upload the five Fama-French factors monthly data.

   `http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html`

   (Link).

Trading strategies

1. Form decile momentum portfolios following the methodology of Jegadeesh and Titman (2003), considering the effect of the SIC code. Report the average number of stocks and the average ME within each decile for each SIC code, over the considered sample size.

   (30% of mark)

2. Calculate the returns of the momentum strategies, considering the effect of the SIC code. For any of the strategies, report summary statistics, Sharpe ratios, t-ratios, maximum drawdowns, a plot of the cumulative returns over time. Comment on the different performances and risk-return profiles of the strategies.

   (45% of mark)

3. Run regressions of each strategy's returns on the **five** Fama-French factors and comment on the sign, size and the significance of the estimated alphas and betas.

   (25% of mark)

References

Jegadeesh, N. and S. Titman (2003). Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency. *The Journal of Finance*, 48, pp. 65-91.