

Advanced Asset Management

Master 203

Group Assignment

April 2023

Guidelines

Part 1 - Replicate the momentum/value European equity long/short strategy described there-after

- Data file: DATA.xlsx containing the monthly returns and the historical price-to-book ratios of European stocks
- Strategy description on next page.
- Expected outputs:
 - o The working python code
 - o An excel file containing:
 - the monthly performances of the investment strategy from March 2008 to March 2023;
 - the corresponding monthly portfolio weights.

Part 2 – Strategy evaluation

- Assess the relevance of the above investment strategy vs. “lucky” long/short European equity strategies (provide the python code).
- Detail your methodology and the result in a short report (2 pages max, pdf format).

Deadline: May 15, 2023.

Send the full files in a compressed zip or rar file at: guillaume.monarcha.univ@gmail.com

Groups of 3 or 4 persons.

Momentum/Value European Equity Long/Short Strategy

Strategy rationale: benefit from both momentum and value risk premia in the European equity market.

Index Construction Rules

The strategy index is rebalanced the last day of each month, according to the rules described below.

- Step 1: Stock scoring
 - Each stock is given a momentum score, computed as the cross-sectional z-score¹ of their average monthly return over the last 12 months but the last one (to account for short-term mean reversion).
 - Each stock is given a value score, computed as the cross-sectional z-score² of the inverse of their Price to Book ratio as measures at the end of the previous month (i.e. as of January 31 for a rebalancing as of February 28).
 - The global score of each stock is computed as the arithmetic average of the momentum and of the value scores.
- Step 2: Stock selection
 - The long portfolio is composed of the 15 stocks that display the highest global scores.
 - The short portfolio is composed of the 15 stocks that display the lowest global scores.
- Step 3: Portfolio construction
 - In both long and short portfolios, stocks are weighted proportionally to the absolute values of their global scores.
 - The strategy invests 100% in the long and 100% in the short portfolios respectively.

¹ Cross-sectional z-score are winsorized (capped at 3 standard deviations) to limit the impact of extreme values.

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