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Asset pricing model based on European market with the factor motivated by behavior finance theory

CONTEXTE

In rational and friction-free markets, the theoretical assumption is that assets with higher expected returns carry more risk compared to assets with lower expected returns. That's the hypothesis of famous CAPM.
However, the real market say: NO

There are lots of phenomenon can not be explained by the chosen asset pricing model is referred to as an anomaly.
Size effect: small company help investor earns more than big company.
Value effect: "Cheap" company usually have higher return.
Momentum effect: the stock have the characters to maintain the development trend.
Calendar effect: Turn-of-the-month effect

447 anomalies have been found in USA which are called factor zoo by Cohan.

The CAPM model should have explained every thing(bear higher risk, earn higher return). However, the existence of the momentum factor is a huge challenge to the efficient market hypothesis of CAPM.
The capital market is a "human" market, and we should not ignore the human nature in the market, so the behavioral deviation of investors is a relatively acceptable explanation for these odd phenomenon.

QUESTION

Choosing the right stocks to include in an investment portfolio can, in a sense, be compared to sports betting. A savvy numbers runner knows how team skill, injury and team line-up measures into the odds, and hence will be able to make an educated guess on which team is likely to win a specific game. But if one team is more likely to win, the bookmaker will aim to adjust the odds so that the payout reflects the probabilities for each team winning. In a similar manner, the stock price of a company will always adjust to reflect the expected market value of the stock.
However, there are so many unprofessional player who make decision on their sense, which disturb the information in the market.
We need a model which could describe the behaviors of rational investor and emotional player at the same time.

MÉTHODE

A large number of studies have shown that investors in the financial market show the following false behavior : Overconfidence; Optimism; Representativeness ; Conservatism Confirmation bias ; Anchoring ; Availability bias.
We construct the investors' sentiment index for describing the irrational decision for investment. The index contains the data collected from questionnaire survey and indirect financial indicators.
We combine the index with the asset pricing model which works well in efficient mark.
We test this mix-blood model with different kinds of anomalies(which appear as abnormal performance of stock)

RÉSULTATS

The augment of behavioral factors improves the performance of CAPM, and the reliability of the ability to interpret through the Bayesianized p-value test has yet to be confirmed.