**Trading rules**

Our study replicates the momentum strategy proposed by Jegadeesh and Titman (1993), constructing a ​​long-short portfolio​​ that ​​buys past "winners"​​ (stocks with high returns over the past J months) and ​​sells past "losers"​​ (stocks with low returns over the same period). The goal is to exploit intermediate-term momentum effects by ranking stocks based on historical performance and validating their excess returns.

We use the Momentum as our signal. Use cumulative returns over the past J months (In our study, J = 6) as the ranking criterion. To avoid short-term reversal effects, exclude the most recent month’s return​​.

Construct the portfolio first. At the beginning of each month, rank all stocks by momentum signal (descending order) and divide them into ​​10 decile portfolios​​.

​​(1) Winner Portfolio​​: Top 10% of stocks with the highest past returns.

​​(2) Loser Portfolio​​: Bottom 10% of stocks with the lowest past returns.

1. The way we rebalance our portfolio:

(1) Holding Period (K months)​​: Set K = 6 to match the formation period (J = 6).

(2) Liquidation Rule​​: Close positions after K = 6 months and replace them with new portfolios.

2. The frequency we rebalance our portfolio:

(1) Monthly Rollover​​: Each month, a new portfolio is formed and held for K = 6 months. Portfolios are overlapping, meaning the strategy holds K sub-portfolios at any time (For K = 6, 1/6 of positions are rolled monthly).

(2) Rebalancing Date​​: First trading day of each month.

3. The way we weight each security and determine its position:

(1) Weighting Scheme​​: ​​Equal Weighting​​: Each stock in the portfolio has equal weight.

(2) Position Management​​: Long the winner portfolio, short the loser portfolio with equal notional exposure (e.g., Long 1 unit winners, short 1 unit losers).

This strategy’s cumulative return changes over time, the picture shows below:

图表, 折线图

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From this picture, we can know that:

(1) There are ​​Long-Term Positive Returns​​: The cumulative return rises from ​​0 in 2005 to over 4 by 2025​​, suggesting an ​​annualized return of 8-10%​​. This confirms the effectiveness of the momentum strategy over extended periods.

​​(2) Market Cycle Dependency​​:

​​(a) 2008 Crisis​​: Sharp fluctuations between 2005–2010 highlight the strategy’s vulnerability during extreme market conditions, likely due to liquidity shocks or short-term reversals.

​​(b) Surge after 2020​​: The steep rise after 2020 aligns with momentum strategy, such as tech stocks dominating markets during COVID.

​​Conclusion​​:

The chart demonstrates that while the momentum strategy delivers ​​long-term alpha​​, it faces ​​significant cyclical risks and multi-year drawdowns​​. To enhance it, we can:

(1) Test parameter variations, for example, make J=12 and K=3. We can also do the sub-period analyses (e.g.: 2005–2010 vs. 2011–2020 vs. 2021–2025).

(2) Integrate risk controls, such as stop-loss rules and hybrid factor approaches. Validate results against the academic paper’s findings to assess reproducibility in extended samples.

But all in all, this aligns with Jegadeesh and Titman’s (1993) core findings while highlighting modern challenges like regime shifts and factor crowding.