

## Quantitative Finance &gt; Portfolio Management

# The market behavior and performance of different strategy evaluation schemes

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We observe the performances of three strategy evaluation schemes, which are the history-dependent wealth game, the trend-opposing minority game, and the trend-following majority game in a stock market where the price is exogenously determined. The price is either directly adopted from the real stock market indices or generated with the Markov chain of order  $2$ . Each scheme's success is quantified by average wealth accumulated by the traders equipped with the scheme. The wealth game, as it learns from the history, shows relatively good performance unless the market is highly unpredictable. The majority game is successful in a trendy market dominated by long periods of sustained price increasing or decreasing. On the other hand, the minority game is suitable for a market with persistent zig-zag price patterns. These observations suggest under which market circumstances each evaluation scheme is appropriate for modeling the behavior of real market traders.

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