

Machine Learning Pairs Trading

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Abstract

Pairs trading is a comparative-value form of statistical arbitrage designed to use temporary random departures from equilibrium pricing between two stocks. We select trading pairs using cointegration models and determine the opening and close time by pre-chosen threshold. The objective of this study is to investigate the effects of selected variables on trading profits. The considered variables include covariates related to cointegration and financial statements from stock corporations. We perform an empirical study for components of S&P 500 index. Machine learning techniques, such as principal component analysis, support vector machine and etc. are applied to find profitable pairs and dynamically adjust the trading strategy.

Keywords: cointegration, machine learning, principal component analysis, profit.