

The Generalized Filter Trading Rule under Time Varying Volatility

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Abstracts

Filter trading rule is a technical trading strategy with a long history dated back to the pioneer work by Alexander (1961). The filter trading rule generates a sequence of buy/sell trading signals according to the following principle. If the asset price moves up at least $100\delta\%$ from a low, the signal sequence will start with a buy signal. The rule then suggests to buy and hold the asset until the price moves down at least $100\delta\%$ from a subsequent high, at which time a sell signal is generated and the rule will suggest to sell and go short. It is interesting to observe that there is a mathematical equivalence between filter rule and the CUSUM technical control charts. CUSUM chart which is dated back even earlier to Page (1954) was proved to be Wald's sequential probability ratio test (SPRT) and the assumption for its derivation is that the observations are independent. However, in financial markets, various kinds of dependencies of the asset's returns have been long discovered and widely adopted. This paper is aiming to generalize the ordinary filter trading rule to cater for conditional heteroskedasticity.

Keywords: Filter trading rule, CUSUM, Heteroskedasticity

References

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