Abstract

This thesis focuses on the Gambler's Fallacy and its effect on the behavior of investors operating in the stock market. The aim is to incorporate the psychological findings about this behavioral phenomenon to the field of finance. This allows us to analyze the dynamics of the stock market that results from human misconceptions about the probabilities of independent events. More specifically, we analyze the profitability of two types of virtual investors whose decision-making is affected by distorted probabilities based on the Gambler's Fallacy. We further define two other trivial benchmark investors' strategies with different levels of randomness. We examine investors' gains in a simulated efficient market as well as in the real S&P 500 index constituents. Our analysis builds on three different approaches: simulation analysis, empirical frequency analysis, and asset pricing models.

By applying the simulation approach together with frequency analysis on the historical stock prices, we find that investors affected by the Gambler's Fallacy gain statistically higher returns than a random investor. Then, we apply both the three-factor and five-factor Fama & French asset pricing model to stocks sorted into portfolios based on their previous earnings per share evolution. Our findings reveal a negative excess return for stocks that are, based on their recent evolution, more likely to be purchased by investors exhibiting a bias towards the Gambler's Fallacy. These results are also consistent with our novel asset pricing approach based directly on psychological findings.

JEL Classification	F12, F21, F23, H25, H71, H87
Keywords	Gambler's Fallacy, Law of Small Numbers, Fama & French model, Efficient Market Hypothesis

Title	Gambler's Fallacy in Investor's Decision-making