

Executive Summary

The validity of the Capital Asset Pricing Model (CAPM) and its ability to explain the empirical pattern of asset returns have been questioned in several empirical studies. Diverse approaches to increase the predictive significance of the traditional CAPM have been undertaken. The arbitrage model of Capital Asset Pricing by Ross (1976) is an alternative to the CAPM. On the basis of the Arbitrage Pricing Theory, Fama and French (1992) and Carhart (1997) launch further common factor models to determine new risk premia. In the first place, this thesis will thoroughly discuss and review the existing literature on the CAPM and the alternative asset pricing models.

Secondly, the thesis compares the two alternative asset pricing models against the benchmark model, which is the CAPM. By using Swiss market data for a period of five years from January 2014 to December 2018, decile test portfolios are formed from stocks sorted according to their beta. Time series regressions are performed with the ordinary least squares (OLS) method to test if the alternative asset pricing models perform well in comparison to the CAPM and to assess the most appropriate model to explain the cross-section of returns.

In the time series regressions it becomes apparent that the beta is very significant in all the models. For the Fama-French and Carhart factors, the size factor is very significant in the beta sorted portfolios. In contrast, the book-to-market and momentum factors are only significant in a few portfolios. In both multi-factor models, the adjusted R^2 values have a higher range as compared to CAPM.

The Carhart model features the highest adjusted R^2 , but it is noticeable that the alpha values for both multi-factor models are significant in several portfolios. So one can say that on the one hand the CAPM is more suitable to explain the time variability of the test portfolio returns. On the other hand, the two multi-factor models have a higher explanatory power than the CAPM.

In addition, the thesis examines an anomaly in asset pricing, which is the low-volatility anomaly. The thesis investigates, if the low-volatility anomaly applies to the Swiss market. For the analysis of the low volatility anomaly I choose a sample consisting of stocks selected from the Swiss Performance Index. The sample includes monthly returns for the period February 2008 to December 2018.

The results in this thesis show that in the Swiss stock market the low-volatility anomaly is not evident during the period of February 2008 to December 2018. One possible reason for the undetected low-volatility anomaly in the Swiss stock market could be the sample selection. Since the size of the sample for the SPI is restricted. Another reason could be the time period selected. As the returns of the last 10 years may contain biases.