Abstract

This thesis studies the four-factor pricing model in Hong Kong stock market over the period July 1980 – June 2001. The four-factor model is constructed by adding a momentum factor to the Fama and French (1993) three-factor pricing model. Even though return volatility of Hong Kong is much higher than other developed markets, the four-factor pricing model still could explain considerable variation of excess returns in stocks. The risk factor premiums (MP, SMB, HML, and WML) do not display any pattern of turn-of-the-year (January) effect. Instead, we find a strong CNY effect for the MP and SMB factors and a weak CNY effect for the HML factor. We find that the market conditions impose different impact on the SMB and HML premiums. Investors require higher risk premiums on small size firms and high book-to-market equity firms in down-market than up-market condition because these firms are sensitive to adverse market conditions.

The four expectations of a valid four-factor model are all met in our tests. We find that the coefficients of the four factors are largely significant, which is consistent with our first expectation. We also find that the intercept coefficients are mainly insignificant, which is also consistent with our second expectation. To test our third expectation, we try adding in a few additional factors, such as the residual standard deviation, higher co-moments and illiquidity factors, in the model but the coefficients of these factors are largely insignificant among the 25 portfolios. We find that the coefficients of these factors are largely insignificant. This is also consistent with our third expectation. Lastly, we check our fourth expectation by investigating the stability and up- and down- markets behavior of our model.

The mean coefficients of the four factors are all stable over the test horizon on a monthly basis. Our results show that the four-factor model is valid in both markets but seems to fit the data better in the down-market than in the up-market. The results suggest that the fourth expectation is, in general, substantiated.

In general, we find that the four-factor model can explain the average stock returns in the Hong Kong stock market pretty well. The success of this model would provide a proper benchmark for measuring portfolio performance for analysts and investors in the Hong Kong stock market. The importance of the success of this model is of twofold. First, Hong Kong investors can use this model as a proper benchmark to calculate the returns of their investments. Second, analysts and investors in the Hong Kong stock market can use this model as a benchmark for their portfolio performance evaluation.