EE433: Paper Summary 02

Thanakrit Methasate 6204640087

This work is a summary of "***Beta and Return"***, *Fischer Black* from my point of view. *Eugene Fama* says that the relation between average return and beta is completely flat which implies that the beta as a sole variable explaining returns on stocks is dead. On the other hand, *Black* stands for the beta. This paper is the updated version of Black, Jensen, and Scholes *[BJS, 1972]* that captures the low-beta stocks did better than what was predicted by the capital assets pricing model, CAPM, while high-beta stocks did worse.

From *Black*'s perspective, he criticizes *Fama and French [1992]* that the relationship of the size and the expected return they found is the result of data mining due to a lack of theoretical explanation. Plus, he points out that the **beta factor** that should be priced does not exist in *Fama and French [1992]*. There are studies that theorize the beta factor which *Black* claims they are stronger than the evidence for the small-stock factor from *Fama and French [1992]*. For instance, *Black [1972]* showed low-beta stocks have higher expected return than CAPM because of a borrowing restriction, and *BJS [1972]* also gave another possible reason for the beta factor pricing which is the mismeasurement of the market portfolio that might be arisen from the neglect of foreign stocks.

The method used in *BJS, 1972* is called the "portfolio method" which is simple and intuitive. There are many other studies that try to vary the method to be more complicated. *Black's* view, nonetheless, is that those methods are the very same portfolio method but represent it differently. *Black* reveals the portfolio method by updating the *BJS [1972]*. He follows almost the same procedure except the method to estimate portfolio beta, alpha, and residual risk, he uses the Black-Scholes method. The monthly data of the New York Stock Exchange-listed stocks (as *BJS* did) for the period 1926-1991 has been used to build ten portfolios and run the CAPM regression. Note that the market return is calculated by using an equal-weight approach for convenience. Then, he constructs another portfolio by using the ten portfolios before. The positive weight is put on the low-beta portfolio, and the negative weight on the high-beta portfolios. Then, the beta factor is a portfolio that is long in low-beta stocks and short in high-beta stocks, with the largest long positions in the lowest-beta stocks and the largest short positions in the highest-beta stocks. The result confirms that the low-beta stocks did better than that predicted by CAPM and better after the *BJS [1972]* study than during it.

In conclusion, the claim *Eugene Fama* made is rejected. *Black* concludes that rational investors should continue using CAPM and beta to value investments and to choose portfolio strategies.