

Beta and Return “Announcements of the death of beta seem premature”

According to this paper, Black tries to find a way to interpret the beta, to know the reason why the relation between average return and beta or the line is so flat and why the low-beta stocks are done so well relative to their expected return under the CAPM.

Black thinks that the previous evidence that Fama and French claimed is a misstatement which we cannot rule out the hypothesis of positive slope in SLB model. If the line is flat, it will create investment opportunities for people who use beta. Therefore, we can use beta as an investment tool, no matter the slope of line is steep or flat.

At first, Fama and French used data mining to see the small-firm effect and they claimed that small firms are underpriced. However, Black doesn't think it is evidence of a priced risk factor due to data mining trap. Black also provided the beta theory which shows that borrowing restriction causes low-beta stocks and they might have higher expected returns than CAPM predicts because borrowing restriction includes margin rules, bankruptcy laws and tax rules that they have some limitations. High-beta stocks are unattractive to investors who are unwilling to borrow so that firms add leverage to provide indirectly borrowing for these investors. Moreover, the market portfolio might mismeasure due to neglect of foreign stocks that causes low-beta stocks are seem consistently underpriced. Black decided to use portfolio method in order to simulate a portfolio strategy for investors, but they will face more risk of data mining bias. To avoid having more risk, BJS used simple one and we should call beta factor instead of total risk factor or residual risk factor.

Black wants to clarify the portfolio method by using monthly data from the Center for Research in Security Prices at the University of Chicago in period 1926 to 1991 and using New York Stock Exchange listed stocks as a sample in Exhibit 1. In Exhibit 2, we can see that 10 portfolios have means, correlations and standard deviations are all changing, and they are expressed in annual terms. In Exhibit 3, it is shown that low-beta stocks did better than CAMP predicts and vice versa for high-beta stocks. In Exhibit 4, we can see the reason why Fama and French said that the slope of the line is flat because low-beta portfolios did about as well as high-beta portfolios. In Exhibit 5, we can observe that beta factor has a negative excess return only in the first decade and low-beta stocks do better while high-beta stocks do badly. In Exhibit 6, they took out any bias of unavailable information by using a strict portfolio test and then they regressed the excess return to figure the residual term. The portfolio method helps them to eliminate the bias and makes it easier to understand and interpret the results which different from multivariate testing method that required use of information on covariances.

If we are continuing to believe that the line relating expected return to beta is flat or flatter than CAPM predicts, it can shift asset mix toward high-risk asset due to borrowing restrictions or investors love high-risk investments. However, corporation can easily borrow than individuals due to less restriction. When corporation faced borrowing restrictions, it may increase in leverage and cause a downgrade from rating agencies then it makes individuals reluctant to borrow. Therefore, low-beta assets may be underpriced but high-beta assets tend to overprice, and the line will be flatter than CAPM predicts. Lastly, ration agents should use the CAPM and beta to design portfolio strategy and investment decision.