

Beta and Return

“Death of beta” — Fischer Black

The topic is about Beta and Return. To find the evidence supports that “beta as the sole variable explaining returns on stocks is dead.” By using the areas of economic hypothesis testing, these methodological problems appear to be especially acute in the testing of market rationality.

Black, Jensen, and Scholes (BJS, 1972) and Miller and Scholes (1972) find that in the period from 1931-1965, low-beta stocks in the United States did better than the capital asset pricing model (CAPM) predicts, while high-beta stocks did worse. All these authors find that the estimated slope of the line relating average return and risk is lower than the slope of the line that the CAPM relates expected return and risk. While Fama and French thought that Beta is a valuable investment tool if the line is as steep as the CAPM predicts. It is even more valuable if the line is flat. No matter how steep the line is, beta is alive and well. Then they discussed about Data Mining. Data mining is a process of searching, extracting and analyzing discovering various periods and various models. They said that data mining is not limited to single research studies, in particular, most of the so-called anomalies that have plagued the literature on investments seem likely to be the result of data mining. They mention the possibility that this result is due to "chance". Moving on to data theory, the empirical evidence that the beta factor had extra returns is stronger than the corresponding evidence for the small-stock factor or the book-to-market equity factor. While Black (1972) showed that borrowing restrictions might cause low-beta stocks to have higher expected returns than the CAPM predicts. Borrowing restrictions could include margin rules, bankruptcy laws that limit lender access to a borrower's future income, and tax rules that limit deductions for interest expense. At the same time, the BJS study covered lots of ground. The portfolio method was simple and intuitive. They tried to simulate a portfolio strategy that an investor can actually use. The strategy can use any data for constructing the portfolio each year that are available to investors at the start of that year. Thus they could incorporate into the selection method any "cross-sectional" effects that they thought were important. However, the more complex their portfolio selection method was, the more they risk bringing in a data mining bias.

The beta of a corporation's stock depends on both its asset beta and its leverage. If the line is flat for investors, a corporation will increase its stock price whenever it increases its leverage. Exchanging debt or preferred for stock increases leverage, even when the debt is below investment grade. Even if the line is flat for both investors and corporations, beta is an essential tool for making investment decisions. Indeed, beta is more useful if the line is flat than if it is as steep as the CAPM predicts.

They conclude that the announcements of the "death" of beta seem premature. The evidence that prompts such statements implies more uses for beta than ever. Rational investors who can borrow freely, whether individuals or firms, should continue to use the CAPM and beta to value investments and to choose portfolio strategy.