

### **Common risk factors in the returns on stocks and bonds**

This study identifies five common risk variables in stock and bond returns. In terms of stock market variables, there are three types including 1) an overall market factor, 2) firm-size factors, and 3) book-to-market equity factors. Moving to the bond market characteristics, there are two variables which are 1) maturity and 2) default concerns. With the exception of low-grade corporates, stock returns are connected to bond returns due to common fluctuation in bond-market fundamentals. The five factors most importantly appear to explain both average stock and bond returns.

This paper extends asset-pricing by using the time-series regression approach. Starting with the input, the explanatory variables consist of a market portfolio of stocks returns and portfolios for size, book-to-market equity, and term-structure risk factors in returns. Fama French study concerns two different government bond maturity ranges, five different corporate bond rating categories, and 25 various stock portfolios based on size and book-to-market equity to discuss.

On the one hand, the Bond Market has one common risk from uncertainty of interest rate. The bill rate is intended to be a proxy for the overall amount of expected bond returns, and TERM is a proxy for the variation of long-term bond returns from expected returns since interest rate changes. Moreover, the fluctuations of economic conditions would generate a default factor, DEF, for corporate bonds. On the other hand, the Stock Market would mainly depend on size and book-to-market equity that related to economic fundamentals. It is obvious that the high BE/ME firms tend to have a low returns on assets and vice versa. Furthermore, size and average return have a negative relationship which could be explained by a common risk factor. Similar to the relationship between book-to-market equity and earnings, the relationship between BE/ME and average return shows that relative profitability is the source of a common risk element in returns, the positive relationship between BE/ME and average return.

After experimenting with the regression test, this study can conclude that the stock and bond markets are linked by two term-structure considerations. As evidence that the three stock-market factors are mostly uncorrelated with one another and with the two term-structure factors, TERM and DEF. With the exception of low credit rating bonds, the five-factor regressions found that TERM and DEF represent substantially all of the shared variation in bond returns. As a result, the low average bond excess returns correspond to the low average TERM and DEF returns. TERM and DEF, with regression values near 1, explain practically all of the volatility in high-grade (Aaa, Aa, A) credit scores. But overall stocks have a much more common volatility due to stock market fundamentals.

The results reveal that size and BE/ME are common return factors which help capture the cross-section of average stock returns with multifactor asset-pricing models. Size and BE/ME, according to Fama and French, are linked to systematic patterns in relative profitability and growth, which could be the source of common risk factors in returns.