

Common risk factors in the returns on stocks and bonds*

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This paper identifies five common risk factors in the returns on stocks and bonds. There are three stock-market factors: an overall market factor and factors related to firm size and book-to-market equity. There are two bond-market factors, related to maturity and default risks. Stock returns have shared variation due to the stock-market factors, and they are linked to bond returns through shared variation in the bond-market factors. Except for low-grade corporates, the bond-market factors capture the common variation in bond returns. Most important, the five factors seem to explain average returns on stocks and bonds.

1. Introduction

The cross-section of average returns on U.S. common stocks shows little relation to either the market β s of the Sharpe (1964)–Lintner (1965) asset-pricing model or the consumption β s of the intertemporal asset-pricing model of Breeden (1979) and others. [See, for example, Reinganum (1981) and Breeden, Gibbons, and Litzenberger (1989).] On the other hand, variables that have no special standing in asset-pricing theory show reliable power to explain the cross-section of average returns. The list of empirically determined average-return variables includes size (ME , stock price times number of shares), leverage, earnings/price (E/P), and book-to-market equity (the ratio of the book value of a firm's common stock, BE , to its market value, ME). [See Banz (1981), Bhandari (1988), Basu (1983), and Rosenberg, Reid, and Lanstein (1985).]

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