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US Stock Market Valuation: The Role of the Macroeconomic Risk Premium

Using quarterly data since 1953, we estimate a fundamental-based empirical model for the US real stock prices and earning-price ratio. The key fundamental variable is a time-varying discount rate, decomposed into a time-varying measure for the real interest rate and the equity risk premium. Applying the VECM methodology developed by Johansen, we implicitly estimate the equity risk premium with cointegration test in an error correction model. Several determinants of the equity premium are tested in the long-term specification: demographic variables, GDP volatility, price inflation and the share of institutional investors as a proxy for the increased portfolio diversification. This equity risk premium is determined by GDP volatility and price inflation. Our results suggest that the reduction of the macroeconomic equity risk premium has driven much of the recent run-up in the US stock prices. However, the estimated model exhibits an overvaluation of real stock prices over the 1998Q3-2000Q4 period.