Risk Aversion of U.S. Households, 1988–2001

Wojciech Grabowski, Assistant Professor,
Department of Economics, University of Warsaw

The implications of financial decision making processes of individuals and businesses for economic growth and stability appear to be significant. Nevertheless, the exact effects and channels of risk transmission in the economy are not well known. In this short paper I combine basic formulas from portfolio theory and corporate finance to estimate household risk aversion in the U.S. in recent years and indicate some likely consequences of its changes for the developments in the stock market.

1. Selected developments in the U.S. economy, 1988–2001

The behavior of stock prices in recent years was far from uniform. The S&P 500 index returns in the 1990–1994 period were quite modest with an average return of about 6% per annum. Only in 1995–1999 did the index reach an elevated level rising 26 percent per annum on average. The performance of the indexes contrasts with the dynamics of S&P 500 earnings which experienced the period of most dynamic growth in 1992–1996 advancing annually between 8 and 28% on the operating and between 11 and 40% on the reported basis, with the average growth of about 16 and 20% respectively. The mean S&P 500 operating earnings growth in 1989–2001 was close to 5%, it was almost 6% if we disregard the worst and the best year in that period, and was over 8% in 1992–2001 including the worst result of the period, the 30% drop in 2001.

Annualized historical volatility of daily returns rose from 11.75% in 1996 to over 22% in 2000 [Standard&Poor's, 2001], with the main increase in 1997. Stocks became also more volatile on the intraday basis. Daily volatility as measured by the intraday spread between the high and low price rose sharply from 0.8% in 1996 to 1.8% level in 2000 [Engen and Lehnert, 2000] which translates into the annualized change from 12% to over 28%. The intraday patterns seem to be captured by the VIX volatility index, which is constructed on the basis of the implied volatility of S&P 100 index options and is a widely followed market indicator. The mean annual values for that index were in the 18–25% range in 1988–1991, then fell considerably in 1992–1996 to 12–17% range before rising to 24–28% range in 1996–2001.