

Monetary Trends



Spring of Disconnect Across Stock Markets?

Rates of return on broad stock market indices, such as the composite New York Stock Exchange (NYSE) and the National Association of Securities Dealers Automated Quotations System (NASDAQ), are generally highly correlated with one another. Although the two indices are comprised of different stocks, both of their rates of return are influenced by macroeconomic shocks and a common underlying rate of discounting future profits. In the spring of 2000, however, the NASDAQ and NYSE seemed to disconnect, in that their movements were substantially less correlated than usual.

Mico Loretan and William English suggest that changes across time in the measured correlation between financial rates of return can reflect changes in the volatility of one asset relative to another.¹ If NASDAQ returns, for example, experience an idiosyncratic increase in volatility that is not shared by NYSE returns, then the correlation between the returns of the two indices will be lower than average during the period of high volatility. On the other hand, if events cause the volatilities of NASDAQ and NYSE returns to increase in tandem, then the correlation will be higher than average. In the spring of 2000, NASDAQ returns experienced unprecedented volatility and NYSE returns did not. Of special concern to investors during that period was uncertainty about the future profitability of internet stocks, which make up a relatively larger share of the NASDAQ index than of the NYSE. This idiosyncratic increase in the volatility of NASDAQ returns might help us understand why we observed low correlations between NASDAQ and NYSE returns last spring.

The attached chart shows 100-day rolling sample correlations between NYSE and NASDAQ returns (dark line) and how the sample correlation would be expected to vary from its long-run average due solely to changes in the volatilities of returns, holding the underlying correlation structure constant (gray line). The volatility-implied degree of correlation proves to be an imperfect indicator during periods of relatively high and stable correlation, but tracks the sample correlations accurately when the sample correlations are far below normal. Thus, sharp drops in sample correlations do not necessarily represent a fundamental break in the correlation structure between the two stock markets. The link between the idiosyncratic volatility of NASDAQ returns and the sample correlations between NASDAQ and NYSE returns suggests a gradual return to normal correlations as NASDAQ volatility subsides from the high levels reached this spring.

—Michael Dueker

¹Mico Loretan and William B. English, "Special Feature: Evaluating changes in correlations during periods of high market volatility," *BIS Quarterly Review*, June 2000, pp. 29-36.

