## Federal Reserve Bank of Minneapolis

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The Declining<br>U.S. Equity Premium (p. 3)

Ravi Jagannathan
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Anna Scherbina

Is the Stock Market<br>Overvalued? (p. 20)

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Edward C. Prescott

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## In This Issue

One of the most exciting economic phenomena of the last decade has been the exceptional strength of the U.S. stock market. Between 1990 and 2000, the value of U.S. corporate equities rose 425 percent, representing an increase in the value of U.S. corporations of $\$ 13.7$ trillion, or about $\$ 50,000$ for every U.S. citizen. The dramatic rise in stock values raises questions about the future course of the stock market. Will stock prices continue to rise? Will stock returns remain high? Or is the market poised for a crash that will generate huge capital losses, disrupt financial markets, and abruptly end the long U.S. economic expansion?

This issue of the Quarterly Review includes two studies which suggest that stock values are currently at about the right level-about where standard economic theory says they should be, at least. These studies demonstrate, however, that the return on a diversified stock portfolio is currently much lower than its historical average and quite close to returns on U.S. government debt. They predict that the equity premium, the premium that investors receive for taking on the extra risk of stocks, will remain small unless the policy environment changes significantly.

In the first article in this issue, "The Declining U.S. Equity Premium" (p. 3), Ravi Jagannathan, Ellen R. McGrattan, and Anna Scherbina make a compelling case that the premium for stock investment has come down substantially over recent years. They define the equity premium as the difference between the yield on a diversified stock portfolio and the yield on a long-term government bond, with the stock yield calculated from a formula that takes into account both the stock's dividend yields and the expected growth rate of its dividends. Between 1926 and 1970, the equity premium calculated this way averaged 6.8 percentage points for publicly traded stocks. Since 1970, however, the premium has averaged 0.7 of a percentage point, just about zero. Jagannathan, McGrattan, and Scherbina demonstrate that the dramatic decline they find is robust to a variety of assumptions and consistent with the results of other recent studies.

In the second article in this issue, "Is the Stock Market Overvalued?" (p. 20), Ellen R. McGrattan and Edward C. Prescott provide a theoretical framework for evaluating the current level of the stock market. They compare the value of U.S. corporate equity to the value of U.S. corpora-
tions' productive assets. Here productive assets include both tangible and intangible assets, as well as assets used outside the country by subsidiaries of U.S. corporations. Intangible assets present a particularly difficult measurement problem. But McGrattan and Prescott devise an innovative and persuasive way to estimate the value of all these assets. The study concludes that the stock market is today correctly valuing capital.

The two studies in this issue do not, of course, guarantee that asset values and returns won't change drastically in the near future. The studies do argue, however, that economic fundamentals now justify current conditions: a stock market that, relative to gross national product, is two and a half times its postwar average and real equity returns that, just like debt returns, are around 4 percent.

Arthur J. Rolnick<br>Editor

