

Building the Future From the Past*



WENDY BARROWS

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UNTIL THE LAST TWO YEARS, INVESTORS had not seen consecutive negative annual stock market returns since the 1970s. In contrast, during the 1980s and 1990s the market produced its best 20-year performance ever. But neither the last two years nor the last two decades are good predictors of the long run.

A forecast usually begins by comparing the expected return on stocks with that of a low-risk asset, such as U.S. government bonds. This differ-

ence is called the equity (stock) risk premium, because it is likely to be positive and represents the extra payoff that an investor demands (but does not always get) for investing in something risky (stocks) compared with something nearly risk-free (government bonds). Thus, the bond yield is our starting point, and adding the equity risk premium gives us the expected return on stocks.

Generally, the best way to get a sense of what the future may bring is to look at the past. After all, the past is our primary source of data. But, as you already know from recent market results, the stock market is quite

volatile. The only way to get a good representation is to look back over a long period of time, so that the ups and downs of the market tend to cancel out and we get a reasonable average. The compound average annual nominal rate of return (including inflation) for common stocks was 10.7 percent over the period 1926–2001. This return exceeded long-term U.S. Treasury yields by over 5 percent per year. That difference was the historical equity risk premium—the amount of extra return investors got over the last three-quarters of a century for invest-

ing in stocks rather than bonds.

But looking at historical stock returns relative to bond income is not the whole picture. The bull market of the 1980s and 1990s had so much of an impact on stock prices that the price of stocks in the S&P 500® Index is almost 30 times the earnings of the same companies. This contrasts with a price/earnings (P/E) ratio closer to 10 back in the 1970s—and only

about 14 over the whole 76 years. This growth in the P/E ratio is not expected to repeat in the future. Thus, to a certain extent, the stock market has outrun the underlying real earnings power of corporations.

A long-term forecast should not extrapolate the separation of the P/E ratio indefinitely. But today's high P/E ratios are not necessarily going to soon revert to historical levels, because the prices reflect the future outlook of investors—all those people and institutions that hold, buy, or sell stocks. In fact, if today's P/E ratio is higher than in the past, it has to mean one of three things: The price is now unrealistically high, people are willing to accept a much lower expected return for the

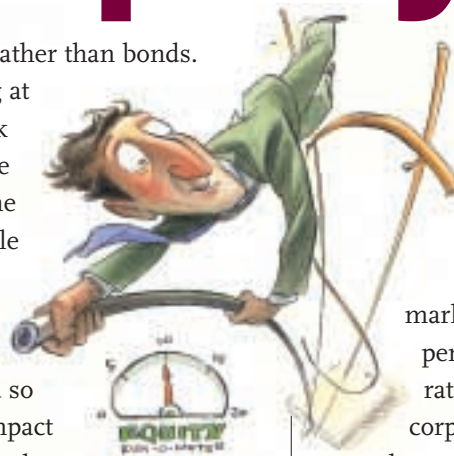
Measuring Equity Risk

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risk of stocks, or the market is optimistic that the earnings per share growth of corporations will be higher than it was in the past.

In fact, I believe in the market's optimism. Earnings per share will grow at faster rates for two reasons. First, corporations are paying out lower dividends and retaining more earnings. These extra retained earnings are reinvested back into firms. If the money is used productively, extra growth can be achieved.

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Stock Returns for a New Century*

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WHAT RETURNS SHOULD INVESTORS expect the U.S. stock market to deliver on average during this century? Does the experience of the last century provide a reliable guide to the future?

Perhaps the simplest way to try to forecast future returns is to use some average of past realized returns, but there are serious difficulties with this approach. Stock returns are so variable that even an average measured over a century is an unreliable guide to the true long-term average. Also, if the expected future stock return is not constant, but changes over time, it can have a perverse



have happened during the long bull market of the 1980s and 1990s.

An alternative approach is to forecast future returns using valuation ratios — ratios of stock prices to accounting measures of value, such as dividends or earnings. One variant of this approach, known as the Gordon growth model, breaks returns into income

consistent with average realized returns. For instance, from 1871–2001, the average dividend/price ratio was just under 5 percent, while the average real growth rate was just over 2 percent, adding to about 7 percent, which is the long-term compound average realized stock return in real terms, that is, correcting for inflation. The average earnings/price ratio was also close to 7 percent.

But current valuation ratios are wildly different from historical averages, reflecting the unprecedented 20-year bull market that ended about two years ago. The dividend/price ratio, for example, has fallen dramatically to about 1.5 percent. In part, this may be due to a shift in corporate financial policy away from paying dividends and toward repurchasing shares. One way to correct for this is to add repurchases to conventional dividends, but this still implies a dividend/price ratio of only about 2.5 percent. The earnings/price ratio has also declined. In the short term, this ratio may be affected by temporary cyclical fluctuations in earnings. But even correcting for this, the earnings/price ratio is about half its long-term historical average.

The implications of current valuations for future returns depend on

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Stock Premium

effect on the average realized return: Consider what happens if the expected future stock return declines — perhaps because investors have become more comfortable with equity (stock) market risk and require a smaller compensation for bearing it. Investors' willingness to reduce their equity risk premium itself tends to drive up the price of stocks, causing an increase in realized returns. Thus, at precisely the wrong time, when the expected future stock return is declining, the average of past stock returns will actually increase. This may well

(the dividend/price ratio) and capital gains (the long-term average growth rate of dividends). Return is estimated by the dividend/price ratio plus the dividend growth rate. Another variant argues that stock returns come from corporate earnings: Earnings that are paid out generate income, while earnings that are reinvested generate growth. In the long run, both components of earnings are equally valuable and thus return should equal the earnings/price ratio.

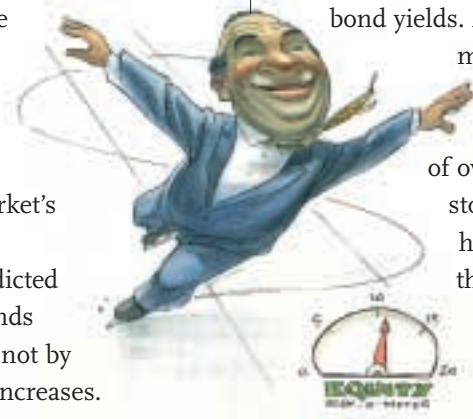
Over long periods of time, these formulas have given results that are

*Ibbotson's and Campbell's columns refer to returns on the S&P 500® Index, in nominal terms and real (inflation-adjusted) terms respectively.

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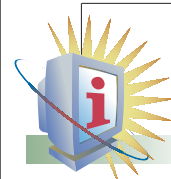
Second, investors are rationally willing to pay high prices for current earnings when they think future earnings will grow. The evidence demonstrates that over time investors who buy when the market's P/E ratios are high do just about as well as those who buy when the market's P/E ratios are low.

Stocks are predicted to outperform bonds in the future, but not by further P/E ratio increases.



Instead, stocks will tend to participate with the overall U.S. economy and earnings per share growth. My forecast for stocks is somewhat less than 4 percent in excess of long-term bond yields. Applying this premium to recent bond yields gives a long-term forecast of over 9 percent for the stock market. It is high, but lower than the historical stock market return. But, of course, there is no free lunch. The

reason stocks are expected to outperform bonds is that they are riskier than bonds. Although stocks belong in most people's portfolios, the smart investor will still want to diversify across different types of stocks, as well as across bonds and other asset classes. ■



To learn more about Ibbotson's research, go to <http://mba.yale.edu/faculty/professors/ibbotson.htm>.

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whether the market has reached a new steady state, in which current valuations will persist, or whether these valuations are the result of some transitory phenomenon.

If current valuations represent a new steady state, they imply a substantial decline in the equity returns that can be expected in the future. The future expected stock return might be 3.5 percent to 4.5 percent, rather than the historical average of 7 percent. This would allow for only a very modest equity premium relative to Treasury bills or inflation-indexed Treasury bonds, which currently offer a safe 3.5 percent real yield.

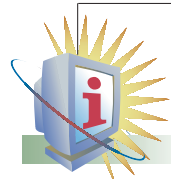
If current valuations are transitory, it matters critically what happens to restore traditional valuation ratios. Rapid earnings and dividend growth could restore traditional valuations without any decline in stock prices. While this is always a possibility, it would be historically unprecedented. The U.S. stock market has an extremely poor record of predicting

long-term earnings and dividend growth. Historically, stock prices have increased relative to earnings during decades of rapid earnings growth, such as the 1920s, 1960s, and 1990s, as if the stock market anticipates that rapid earnings growth will continue in the next decade. But there is no systematic tendency for a profitable decade to be followed by a second profitable decade. The 1920s, for example, were followed by the 1930s, and the 1960s by the 1970s. Thus, stock market optimism often fails to be justified by subsequent earnings growth.

A second possibility is that stock prices will decline or stagnate until traditional valuations are restored. This has occurred at various times in the past after periods of unusually high stock prices, notably in the 1900s, 1910s, 1930s, and 1970s. This would imply extremely low and perhaps even negative returns during the adjustment period and then higher returns afterward.

It is too soon to tell which of these

views is correct, and I believe it is sensible to put some weight on each. That is, I expect valuation ratios to return part way but not fully to traditional levels, with the adjustment coming primarily from stock prices rather than earnings growth. A rough guess for the long-term stock return, after the adjustment process is complete, might be a compound average real equity return of 5.0 percent to 5.5 percent, corresponding to an equity premium of 1.5 percent to 2.0 percent. ■



To learn more about Campbell's research, go to <http://post.economics.harvard.edu/faculty/campbell/campbell.html>.

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