

Explaining the Dividend Yield in the United States

CHARLES F. KRAMER

Dividend yields on US stocks have fallen to historic lows during the past two years, leading some to suggest that the stock market may be overvalued. Is a change in the economic fundamentals affecting US stock markets largely responsible for this decline, or have other influences been at work?

STOCK PRICES in the United States have risen sharply over the past two years, raising concerns about “irrational exuberance” in the stock market. US mutual funds (made up of shares in a pool of stocks and roughly analogous to unit trusts) have experienced record inflows of capital. Some have suggested that US stock prices may be overvalued, perhaps because of buying pressure from mutual funds, and that there is a risk of a correction in US stock prices. In view of the many studies that have documented linkages and spillovers of volatility among international financial markets, this issue has important implications for the capital markets of other countries as well.

Part of the concern over the rapid rise in US stock prices stems from the fact that some traditional indicators of valuation

seem to imply that these prices are too high. For example, dividend/price ratios (or *dividend yields*) have fallen to historic lows (see chart). However, the fact that prices are high relative to current dividends may reflect changes in economic fundamentals. This article briefly describes highlights of some research that suggests that changes in economic variables—including mutual fund flows—can help to explain the decline in the dividend yield over the last few years. It also argues that mutual fund flows have been significantly affected by recent trends in stockholding in the United States.

What kinds of fundamentals have important effects on the dividend yield? The basic theory of financial economics tells us that the dividend yield will vary over time because of changes in three types of fundamentals: expected dividends, investors’ tolerance for risk, and the amount of risk in the stock market. That is, a low dividend yield (high stock prices relative to current dividends) could mean that high dividends are expected in the future, or that investors, viewed collectively, have a high tolerance for risk, or that risk is low. These same fundamentals are reflected in a number of macroeconomic variables. For example, the macroeconomic forces that influence corporate profitability and earnings will also probably influence expected dividends and the dividend yield. Changes in attitudes toward risk will likely be reflected in bond prices (and hence in interest rates), as well as in stock prices. Existing research on financial markets exploits these facts and suggests some variables that could measure these fundamentals:

- the slope of the yield curve (the difference between long-term and short-term interest rates);
- the real interest rate;
- inflation; and
- the default premium (the difference between yields on corporate bonds and government bonds).

Also, the decline in the dividend yield has coincided with record mutual fund inflows. Therefore, it would be useful to know whether these flows, as well as the other variables, can help explain the decline in the dividend yield.

A statistical model that includes these five variables can be used to test whether changes in them can explain the recent decline in the dividend yield. When such a model is fitted to the data for 1984–94, one finds that each of the five variables helps to explain the movements in the dividend yield during that period. The model implies that in the long run, a fall in the dividend yield is consistent with

- lower inflation;
- a lower real interest rate;
- a flatter yield curve; and
- higher mutual fund inflows.

In contrast, there is only a weak long-run relationship between the default premium and the dividend yield.

It also turns out that this model does a good job of predicting the decline in the dividend yield during January 1995–February 1997. The five variables together explain about 80 percent of the decline in the dividend yield, and the 20 percent forecast error is small enough to be accounted for by chance (see table).

Charles F. Kramer,

a US national, is an Economist in the Capital Markets and Financial Studies Division of the IMF’s Research Department. At the time this article was written, he worked in the North American Division of the IMF’s Western Hemisphere Department.

Forecast attribution: January 1995–February 1997

(percent)

	All variables	Individual variables ¹				Mutual fund inflows
		Yield curve	Default premium	Real interest rate	Inflation rate	
Percent contribution ²	80.3	7.2	1.8	11.8	-1.7	73.9

Source: International Monetary Fund, 1997, *United States—Selected Issues*, IMF Staff Country Report 97/97 (Washington).

¹ Contributions do not add to the total because of random error in the forecast.

² Percent of the actual change in the dividend yield that can be explained by the variables or variable.

One can also calculate how much each variable contributes to the forecast of the dividend yield. These contributions differ substantially between variables. For example, the inflation rate makes a negative contribution (that is, it predicts that the dividend yield should have increased); the real interest rate explains about 12 percent of the decline in the dividend yield; and mutual fund flows explain about 74 percent of the decline in the dividend yield. In fact, taken together, the variables other than mutual fund flows explain only about 12 percent of the decline in the dividend yield.

Clearly, then, mutual fund flows are the most important single variable for explaining the decline in the dividend yield during January 1995–February 1997. What accounts for the significance of mutual fund flows? Some might argue that these mutual fund flows are speculative, driven by unrealistic expectations of future stock returns, so that this evidence is consistent with “irrational exuberance” causing artificially inflated stock prices. In fact, empirical work cannot conclusively answer this question. The statistical significance of mutual fund flows does not tell us anything about whether they indicate shifts in fundamentals or speculation. However, a strong argument can be made that the recent rise in mutual fund inflows reflects longer-term fundamentals related to changes in the portfolios held by US households.

Historically, holdings of US stocks have been highly concentrated among a relatively small number of wealthy households. In recent years, more households have come to participate in the stock market, particularly through mutual funds. For example, in 1982, about 20 percent of US households owned stocks, either directly or through mutual funds; by 1992, the percentage had

risen to almost 30 percent. The inflow of money into mutual funds might thus reflect a shift in portfolio allocations by individual investors, stemming from trends such as the declining fees charged by mutual funds and a rise in retirement saving by the baby-boom generation. If these flows are the manifestation of such changes in fundamentals, then the recent rise in stock prices and the decline in dividend yields may represent a shift to a different stock market equilibrium,

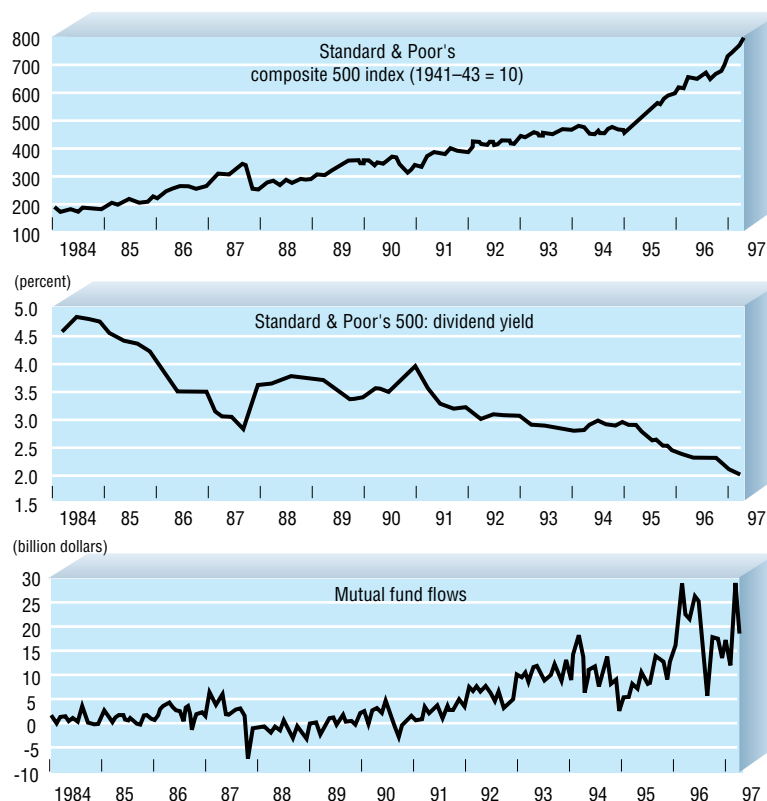
rather than a departure from equilibrium. Indeed, some recent theoretical work in finance predicts that broader asset ownership implies higher equilibrium asset prices. Moreover, one of the prime puzzles in US financial markets—the “equity premium puzzle”—is that historical stock returns are higher than formal equilibrium models predict. Thus, higher prices, and lower returns, would be more consistent with models of financial market equilibrium. Only time will tell what future patterns of stockholding in the United States, and their implications for stock prices, will be. [F&D](#)

Suggestions for further reading:

Charles F. Kramer, 1996, *Stock-Market Equilibrium and the Dividend Yield*, IMF Working Paper 96/90 (Washington: International Monetary Fund).

International Monetary Fund, 1997, *United States—Selected Issues*, IMF Staff Country Report 97/97 (Washington).

United States: stock prices, dividends, and mutual fund flows



Source: *Wall Street Journal*; *Financial Times*; Standard & Poor's, a division of McGraw-Hill; and the Investment Company Institute.