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Independent Research Providers to the
Professional Investment Community

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Special Report

Update on US Equity Valuations Good News: Earnings Have Stabilized Bad News: Dividends Continue to Fall



All Graphs and Comments in this Report are based on Data as of 8 October 2002

What is the outlook for equity prices?

In this report, we examine the components of equity valuation (including dividends, earnings, growth prospects, dividend pay outs, and fixed-income yields), and draw some conclusions about the current appeal of equity investments.

This report is an update of a report we published a year ago (“Spotlight on US Equity Valuations” 14 October 2001). At that time, we made two major predictions; one that “the long years of dollar hegemony are coming to an end,” and the other that “equity prices will have to come down to restore valuation parameters to be more in line with historical norms.” Needless to say, these forecasts have come true in spades. The dollar is down more than 10% versus the euro, and the S&P 500 index has fallen by 25% over the course of the last year.

What is the prognosis today? We remain negative on the long-term (3-to-5-year) outlook for the greenback. Given, however, the recent weakening of the global economy, we expect the dollar will mark time for a while before resuming its descent.



The State of Earnings and Dividends

A year ago, we pointed out that earnings were approaching a 5 or 6 year low (reported earnings on the S&P 500 index had just fallen below 40), and that we opined that “this number is likely to recede even further.” As can be seen in the graph above, earnings did indeed fall much further, bottoming out (for the time being, anyway) at around 25, well below their trend line of the last 25 years and the lowest they’ve been in more than 8 years.

Dividends, meanwhile, have also declined, from nearly 17 to their current level of 15. In a way, this is even more troubling, since one way to view dividends (traditionally, at least) is that they are a signal of a company’s confidence (or lack thereof) in its ability to sustain a given level of earnings. Unlike in Europe, where companies have historically raised and lowered dividends in concert with earnings fluctuations, American companies are loath to cut dividends, with the result that pay outs are raised slowly in good times and only to the point that management feels is sustainable even if the company were to endure a rough spot. Thus, the recent reductions in dividends could be taken as a troubling sign that corporate America is not confident that earnings will recover to their recent lofty levels (or even, perhaps, return to their trend line growth path) anytime soon.

[In evaluating all of these index-related statistics, it is well to keep in mind that they are distorted by the capitalization-weighted nature of index construction. For a somewhat more detailed explanation of this problem, see our report already mentioned (“Spotlight on US Equity Valuations” 14 October 2001).]

Another interpretation (one that has some credence, but we think will not stand up to careful scrutiny) is that the nature of dividends has changed. We will have

quite a bit more to say on that in a moment, but first let's review our overall conclusions.

Whither the Equity Market?

For the US equity market, the worst of a 2 or 3 year decline may be over, but we're not convinced that stocks are a clear "buy" just yet. To be sure, by some measures, stocks are cheap, but it is also possible to make the case that they remain overvalued (or, at best, fairly valued). Another consideration is that while the downward momenta of prices, earnings, and dividends may have all been halted, it's also possible that these variables are still in a declining trend. It's probably best to wait a bit to gauge the staying power of the recent turnaround before getting enthusiastic about the prospects for a recovery in the stock market (especially in light of the economic and political risks that still abound).

Incidentally, please note that for this analysis, we chose a date that represents a recent bottom in equity prices. We figured if equities didn't look attractive at those prices, it would obviously be harder to make the case that they are a good investment at higher levels.

Why Dividends Matter

Before we delve into the details of the current state of affairs, we ask the reader to indulge us in a bit of a digression into theoretical matters.

John Burr Williams

John Burr Williams, writing in 1938, seemed to anticipate the debate that would follow 60 years later about how to value an equity. Consider carefully what he had to say:

"Let us define the investment value of a stock as the present worth of all the dividends to be paid upon it."

"Most people will object at once to the foregoing formula for stocks by saying that it should be the present worth of future *earnings*, not future *dividends*. But should not earnings and dividends both give the same answer under the implicit assumptions of our critics? If earnings not paid out as dividends are all successfully reinvested at compound interest for the benefit of the shareholder, as the critics imply, then these earnings should produce dividends later; if not, then they are money lost."

"Earnings are only a means to an end, and the means should not be mistaken for the end."

These words are as true today as they were when they were written. To be sure, the science of finance has advanced since those days, and we have a more sophisticated understanding of such issues as tax effects (differential rates of taxation on dividends and capital gains) and risk (different rates of discount are appropriate for different investors and for investments with different risks). Still, the basic point is the same: if corporations retain earnings to invest in business ventures, be they external (portfolio investments) or internal (acquisitions or expansion, or to reward employees with stock options), these investments are only sensible if they result in future profits that can be paid out as dividends (or reinvested, *ad infinitum*).

Even the casual observer will have to admit that corporate America has not been terribly successful in this endeavor of late. Many portfolio investments made during the internet craze have all but disappeared. Shares repurchased in anticipation of option awards were available at much better prices later on. Investments in physical expansion, in many cases, resulted in worthless inventory or capacity that had to be written down. And all of this before we even talk about the fraud and robbery that has been in the headlines these last few months. Some critics of dividends complain of the “double taxation” — that payments are made out of after-tax corporate profits and then are taxable income for recipients — but one would logically prefer to accept the after-tax remains of a cash payment to the alternative of letting the corporation squander the money. This comes right back to the point Williams was making to those many years ago. As the French say, *plus ca change, plus c'est la meme chose*.

Here, in a simple formula, is the proposal that Williams made for evaluating the worth of future dividends:

$$V \equiv \sum_{i=1}^{\infty} \frac{D_i}{(1 + r_i)}$$

Note that Williams was defining “Investment Value” [V], not giving a formula for price. His work was done from the perspective of an analyst, not in the context of portfolio theory or equilibrium theory, perspectives that we enjoy today thanks to the subsequent decades of advances in finance theory made possible by the pioneering work of Markowitz, Sharpe, and many others.

Williams was proposing a measure that the analyst could use, after forecasting future dividends and declaring an investment return threshold, to determine if the price of a stock was attractive or not. *Ceteris paribus*, one would prefer a portfolio with a low P/V (price-to-value) ratio.

In a classic 1956 paper, Gordon and Shapiro proposed a form of analysis that follows from the proposition of John Burr Williams under certain very restrictive (e.g. constant growth) assumptions:

$$P_0 = \frac{D_0(1 + g)}{k - g}$$

In this view, the current price (P_0) of an equity investment can be used to derive the implied rate of return (k) that will be earned. The catch here is that one is not forecasting all future dividends, as Williams would have us do, but rather a pattern of growth (g) in those dividends, so that one need only observe the current payout (D_0) as a starting point of the analysis.

A couple of caveats that are sometimes overlooked by people employing this

formula:

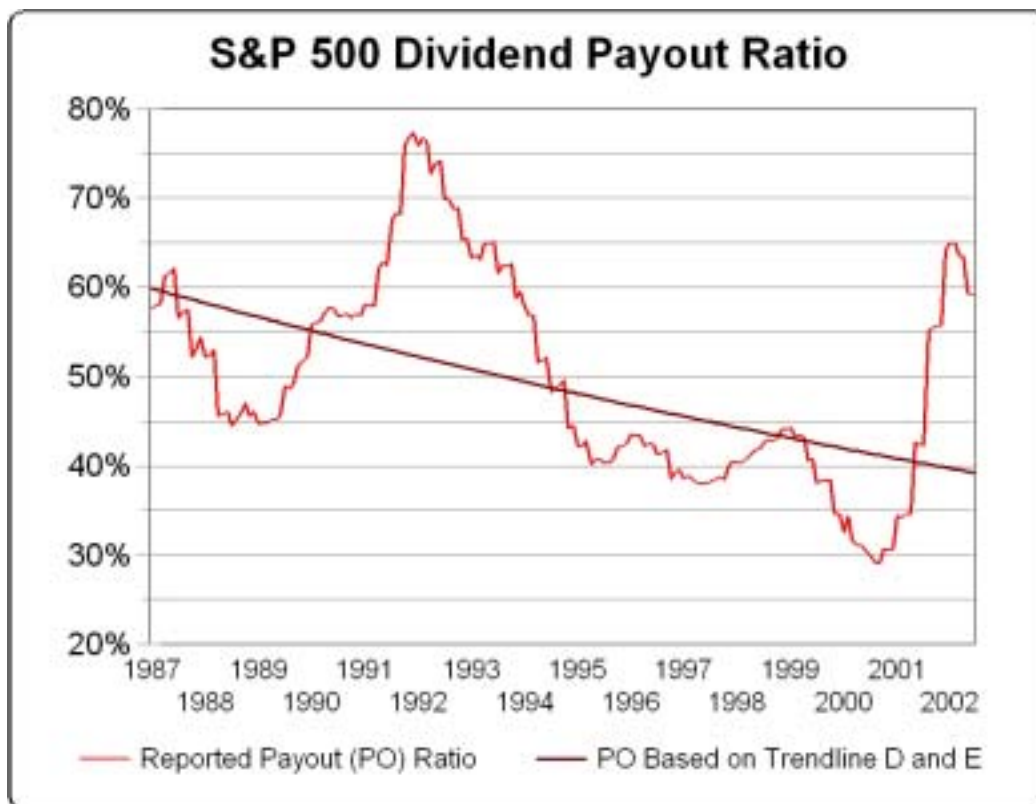
(1) there is no possibility of a term structure of discount rates. Rather, the rate of return (k) implied by the price is assumed to be constant over (infinite) time.

(2) the payout ratio (dividends paid as a percentage of earnings) must also remain constant, implying that both earnings and dividends grow at a constant (and equal) rate.

[Incidentally, the numerator of this fraction is usually expressed as D_t , though the subscript is often overlooked. When that is done, the equation can be rearranged into the familiar $k = DY + g$, or: expected return equals {prospective} dividend yield plus the growth rate in earnings/dividends.]

How realistic are these assumptions of constant growth and payout? For individual companies, this formula is probably not very useful. But for the market as a whole, these assumptions may not be too far off base, especially if we add one small twist. We've found it helpful to look not at the latest reported numbers (which, as we all know, can be quite volatile over short periods of time), but at "normalized" or trend line statistics.

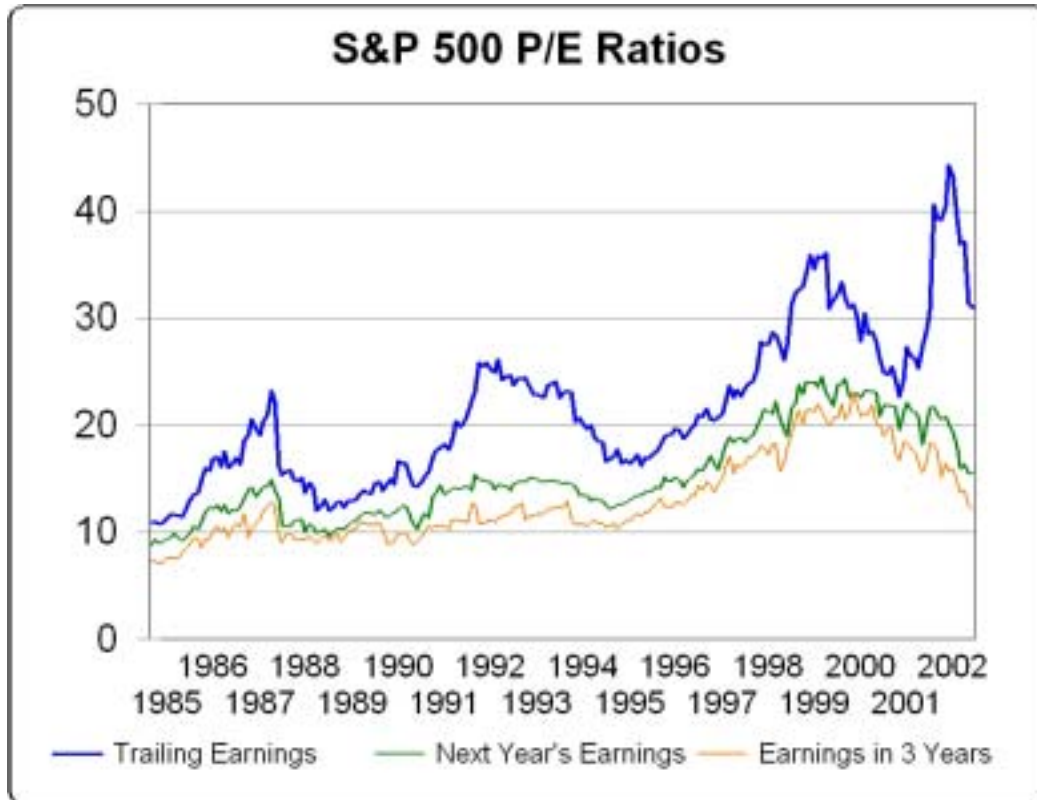
First, a reality check: how "constant" has the payout ratio for the S&P 500 index been over the past 25 years?



Obviously, the answer is, "not very." The recent upsurge has been because earnings have collapsed. As we pointed out earlier, dividends have actually been decreasing of late, just not as rapidly as earnings. Still, over this entire time period, pay out ratios have trended downward from about 60% to about 40%.

Earnings Slide Appears to be Over, But Which Valuation Measure to Use?

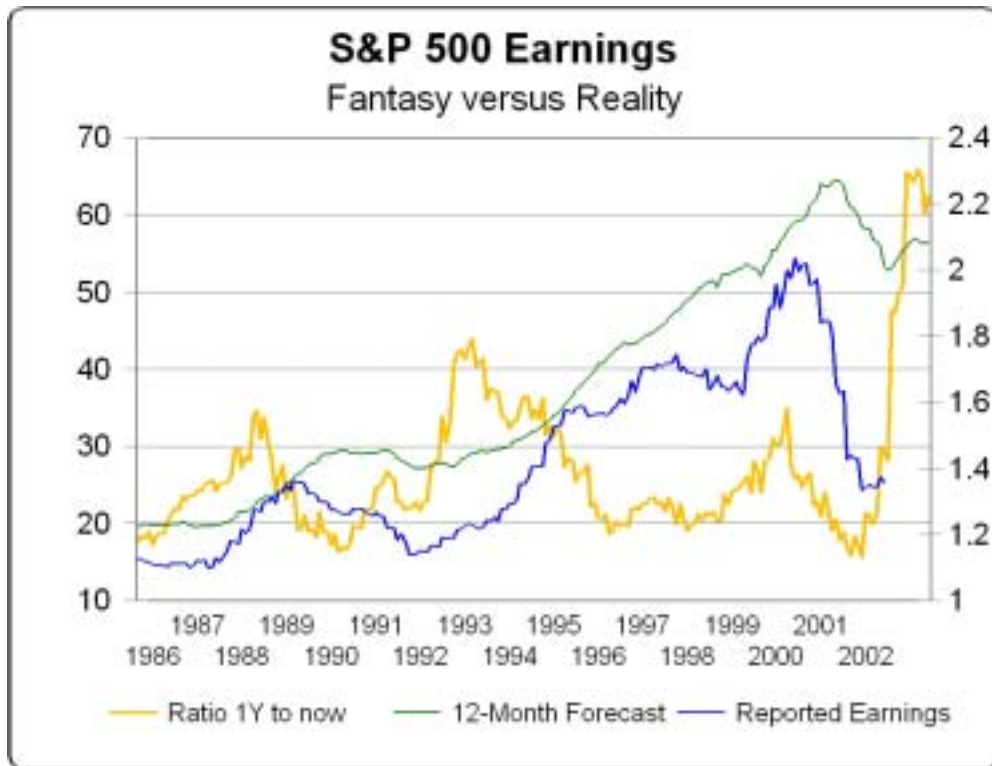
As we mentioned on page 2, earnings appear to be bottoming out, and thus don't provide a very useful yardstick for evaluating the level of equity prices. Which measure to use? Forecast earnings? Here's a look at some different forecasting horizons:



In contrast to reported earnings, PEs based on (bottom up) forecast earnings look much more attractive today than they have in quite some time. Still, how reliable are these consensus forecasts? Unfortunately, they have more than a bit of wishful thinking in them, especially at this time, in our view. One of our favorite ratios is the one we use to measure the degree of (over)optimism in analyst forecasts. It is a given that analysts, as a group, always overestimate the actual outcome — our task is to try to figure out if they are more or less optimistic than usual at any given moment in time.

On the next page, we present our “Fantasy versus Reality” graph, in which we contrast the consensus expectation for earnings a year ahead with what actually transpired. Obviously, there have been periods of rapid growth when reported earnings have almost caught up with analysts’ predictions. The present time is clearly not one of those periods, and, in our view, one is not on the horizon. The forecast for a doubling of earnings over the next year seems quite ludicrous to us.

The ratio on the graph is one not of forecast earnings to the actual outcomes, but the ratio of the forecast at any given time to the then-current level of earnings. In other words, it is the implicit growth forecast for a one-year time horizon that the consensus is making. Today, that number stands at 120%, way above the usual 20% to 60% range seen over the past 15 years or so.



A More Useful PE

Coming back to the spirit of the constant-growth model, a PE that reflects trend line earnings is more likely to give a useful indication of prospective returns in the stock market than is one that is focussed on a moment in time, be that moment the past 12 months or the next 12 months. To that end, we present here such a ratio:



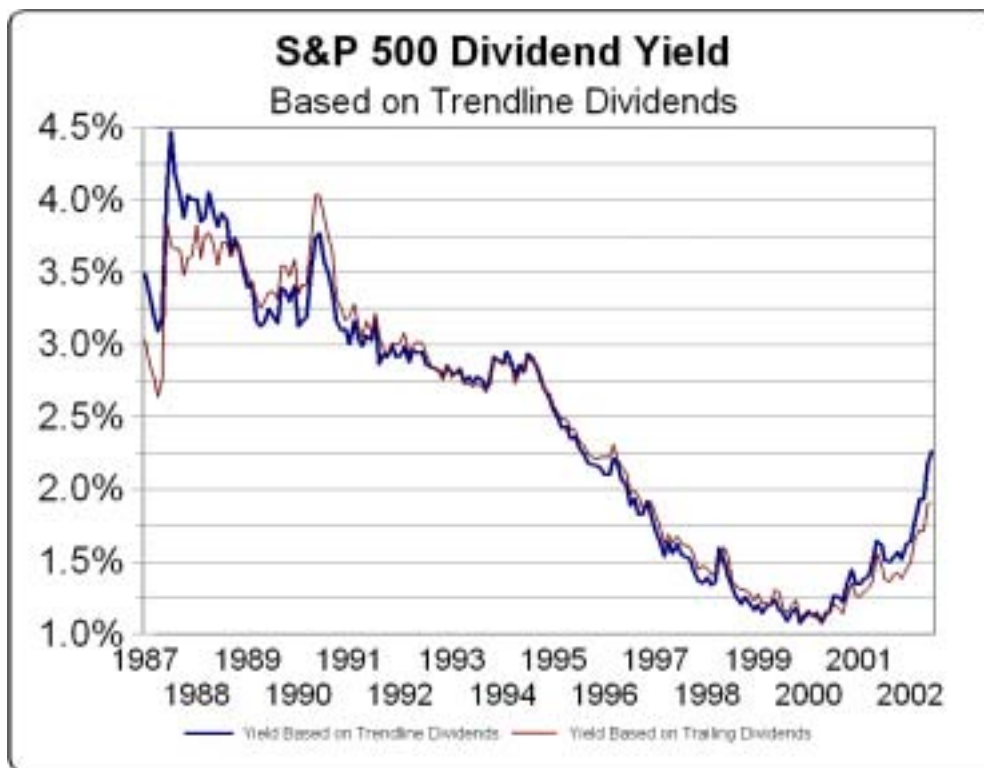
Better Value?

By this (trend line PE) measure, stocks look quite cheap by recent standards, and are actually priced very close to the levels they enjoyed a decade or so ago, prior to the big run up in prices in the closing years of the last century.

All of this begs the question of whether the trend line of past earnings represents a good forecast of the future trend line. Our guess is that it's not a bad proxy, but it there is a bias we would suspect it to be an optimistic one.

Coming back, however, to our original valuation equation, it must be admitted that PEs don't play a direct role in the evaluation of future stock market returns. To get back closer to a more defensible analysis (from the point of view of theory, that is), we should look at the same issue of trend line analysis of dividends.

Since dividends (as noted earlier) tend to fluctuate less than earnings, it's pretty clear that it doesn't make a lot of difference whether one uses the trend line or the



actual payment experience. In either case, today's level is very attractive by recent standards, but still far below levels that prevailed 10 or 15 years ago (and earlier).

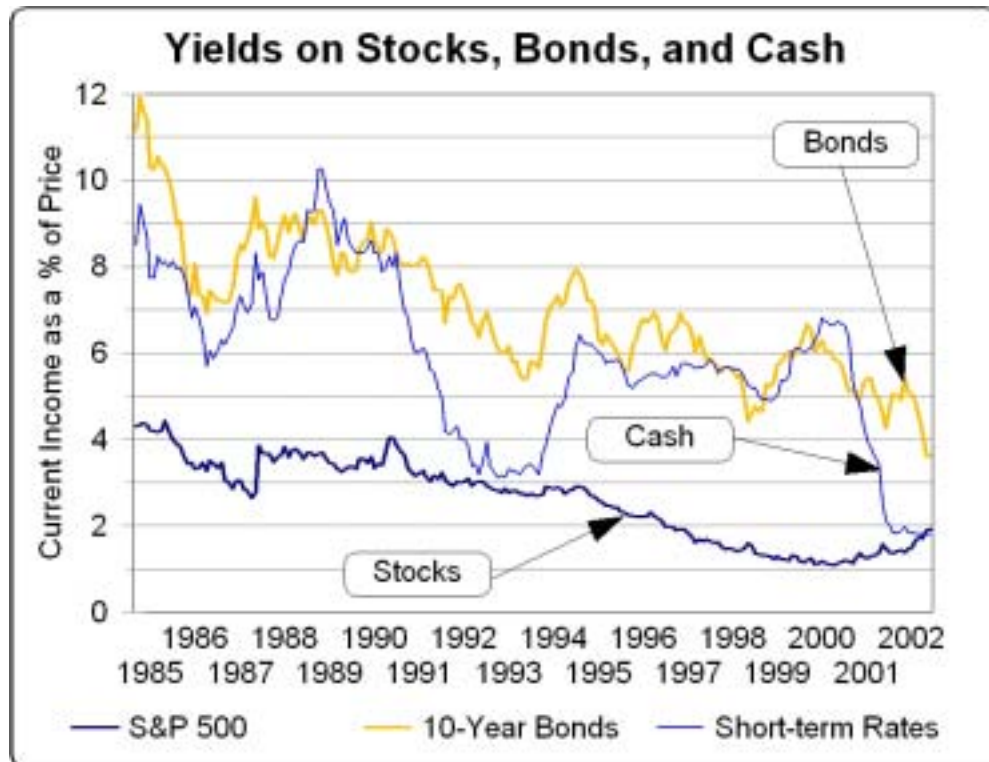
But wait! There's a variable that we're leaving out of the analysis. The "k" (expected return) in our equation can be broken down into its components. The underlying return is one common to all investments, the real rate of return. On top of that is an inflation expectation to compensate investors for loss of purchasing power. The sum of these two can be observed in market interest rates in the form of bond yields. For simplicity here, we use the 10-year treasury yield as a proxy, but of course a detailed analysis would want to use a full term structure.

In addition to the riskless rate of return expected, one must add a premium for equity risk. By manipulating all of these variables (we will spare you the algebra), it is possible to express this relationship as the "dividend yield premium."

Yield Levels

First, a look at current levels of yields. The graphic on this page provides an historical perspective on the relationship between dividend yields (on the S&P 500), bond yields (on 10-year treasury bonds), and short-term yields (3-month Eurodollar rates).

As can be seen, both short-term rates and bond yields are now at their lowest levels in recent history. In fact, these yields are at their lowest levels in about 4 decades. Dividend yields, on the other hand (as already noted) have been on the rise of late.

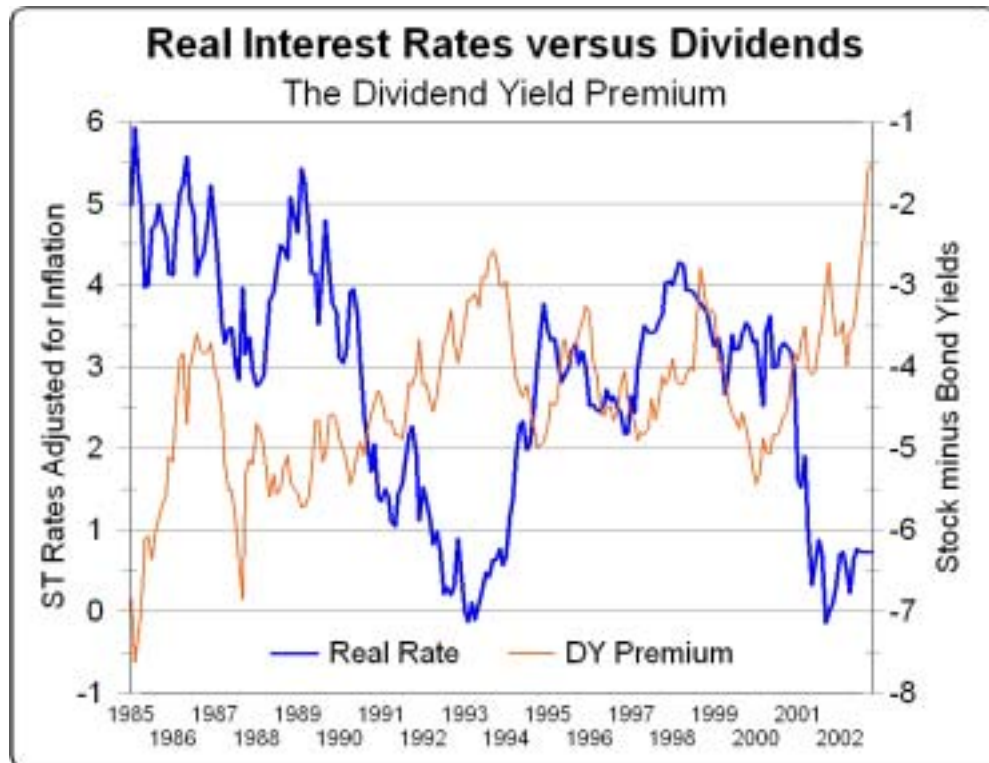


The Dividend Yield Premium

Without going into a detailed discussion of the theory behind the comparison, suffice it to say that the proper juxtaposition is not between PE levels (or, their inverse, the EP ratio) and fixed-income yields, but between dividend yields and fixed income yields stripped of their inflation component.

One intuition that might be helpful here is that dividend yields are already a "real" or inflation-adjusted return, to the extent that future inflation is embedded in both the discount rate and the rate of growth of future earnings. Roughly speaking, these cancel out, and the dividend yield is one of the components of expected return in the stock market. The other component (in the constant-growth model world) is the rate of growth of dividends (which, implicitly, is the rate of growth of earnings). For this, we are content to use the trend line rate. For the purposes of this comparison, however, if the rate is constant, it does not affect the relative attractiveness of equity and fixed-income investments. Rather, they can be compared directly through the dividend yield premium, which is the difference between dividend yields and real rates available in the fixed-income market.

By this standard, the US equity market is at its most attractive level of valuation of the past dozen years or more.



What's the caveat here? The implicit assumption is that dividend growth will soon resume at a rate equal to that enjoyed over the period for which this graph makes comparisons. Recent experience suggests that assumption might be a problematic one.

Other benchmarks (PEs and dividend yields) indicate that, while equities may be priced attractively relative to the current (depressed) levels of fixed-income yields, they are not at levels that would suggest large absolute returns lie in store in the period just ahead.

As always, it is possible to make the case both for and against equity investments. For our money, caution is in order. We do suspect the worst returns are behind us, but the valuation measures we have examined here tell us that it would take even lower equity prices to make the stock market a clearly compelling place to invest.

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