
Time Variation in the Equity Risk Premium

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The equity risk premium (ERP) refers to the (expected; sometimes, realized) return of a broad equity index in excess of some fixed-income alternative. In the past decade, a dramatic shift has occurred in what is considered to be the best source of information about the future ERP: Is it historical average returns or forward-looking valuation indicators?

- Academics and practitioners alike used to think that the ERP is constant over time, in which case the future premium would best be estimated from the long-run average of the realized excess return. If the historical realized outperformance of stocks over bonds was 6 percent, for example, 6 percent would also be the best forecast for the future. Such a rearview-mirror perspective makes the ERP seem especially high at the end of each long bull market, just when market valuation ratios are abnormally high.
- The recent roller-coaster experiences in markets, as well as theoretical and empirical lessons, have converted many observers to the belief that expected returns and premiums vary over time. If so, then past average returns are a highly misleading indicator of future returns. Forward-looking valuation indicators are better and may provide useful timing signals. Low dividend yields or low earnings yields (or their inverse, high price-to-earnings ratios) are now seen as a sign of low prospective stock market returns in just the same way that low bond yields and narrow yield spreads are interpreted as a forecast of low returns in fixed-income markets. This forward-looking logic would have guided investors well during the low equity market yields of 2000 and high market yields of early 2009.

This shift in opinion can also be described as a change in the perceived information in market yields (valuation ratios). Does a low dividend yield in the equity market predict low future returns (reflecting low required risk premiums or investor irrationality) or high future cash flow growth (reflecting growth optimism)? The answer must be one or the other—or some combination of the two. Empirical research has shown that low dividend yields tend to precede subpar market returns rather than above-average growth. In January 2011 in Denver, John Cochrane of the University of Chicago, in the American

Finance Association's presidential address (see Cochrane 2011), argued that a 100 percent reversal had occurred in academic thinking on this question in the past 20–30 years. Cochrane explained the following:

- The ERP is no longer thought to be constant *over time*. All time variation in market valuation ratios was once thought to reflect changing growth expectations (with an unchanging *ex ante* required risk premium), but now all such variation is thought to reflect changing required returns.
- All expected return variation *across stocks* was thought to reflect stocks' differing betas. Now, the beta is thought to explain none of the cross-sectional variation in expected returns.

Not all academics agree. Some harbor doubts about return predictability and argue that the evidence against a constant risk premium is limited. For example, variation in the ERP could be sample specific or reflect subtle econometric problems in predictability regressions.¹ And those who agree that expected returns vary over time have a follow-up debate over whether this time variation reflects rational drivers (such as wealth-dependent risk aversion), varying amounts of risk in the market, or investor irrationality.

Practitioner thinking has experienced similar shifts. Many investors have become open to the idea of market timing since the decade of boom-to-bust cycles, when forward-looking valuation indicators turned out to give decent forecasts. Yet, even if a time-varying ERP reflects a general tendency for investor risk aversion to rise in bad times, the typical investor should not necessarily become a contrarian market timer. As many investors found out in 2008, their risk appetites fell at least as fast as their wealth, so they did not feel inclined to jump at the bargains (low market valuations, high expected returns). Investors with a longer horizon or relatively stable risk preferences may well be the more natural buyers when such contrarian opportunities arise. Even for them, however, exploiting high expected returns is not easy because no one knows when the market will hit bottom—until after the fact.

Before we turn to forward-looking market analysis, consider the historical equity market performance over the past 111 years shown in **Table 1**. The geometric average excess return of stocks over long-term government bonds has been more than 4 percent in the United States but a bit lower in the rest of the world. (The excess returns would be higher if stocks were compared with short-dated U.S. T-bills or if arithmetic averages were used.) Equities have outperformed bonds in all of the markets Dimson, Marsh, and Staunton (2011) studied. The 20th century may have been especially favorable, however, for stocks versus bonds; the return gap for the 19th century was less than 1 percent in the United States.

¹Typical is the debate between Welch and Goyal (2008) and Campbell and Thompson (2008).

Table 1. Compound Annual (Geometric) Equity Returns and ERPs, 1900–2010

Market	Real Equity Return	ERP over Long-Term U.S. Government Bonds
United States	6.3%	4.4%
World ex-U.S. (in \$)	5.0	3.8
World (in \$)	5.5	3.8
Range among 19 markets	2.0–7.4%	2.0–5.9%

Source: Dimson, Marsh, and Staunton (2011).

My favorite valuation ratio for the equity market is the inverse of the “Shiller P/E10,” which Yale Professor Robert Shiller conveniently updates each month on his website.² Because one-year earnings may be too volatile and cyclical for accurate comparisons, Shiller compares today’s market prices with smoothed (10-year averages of real) earnings. **Figure 1** compares this ratio, which I’ll henceforth call the “real E10/P” or just “E10/P,” with the real long-term Treasury yield from January 1900 to February 2011.³ The solid line correctly predicted high prospective returns for equities in the early 1920s, the 1930s, the 1980s, and more recently in late 2008–2009. Similarly, it captured the low prospective returns in 1929 and 2000, both in stand-alone equity investments and relative to bonds.

Framework to Anchor the Debates

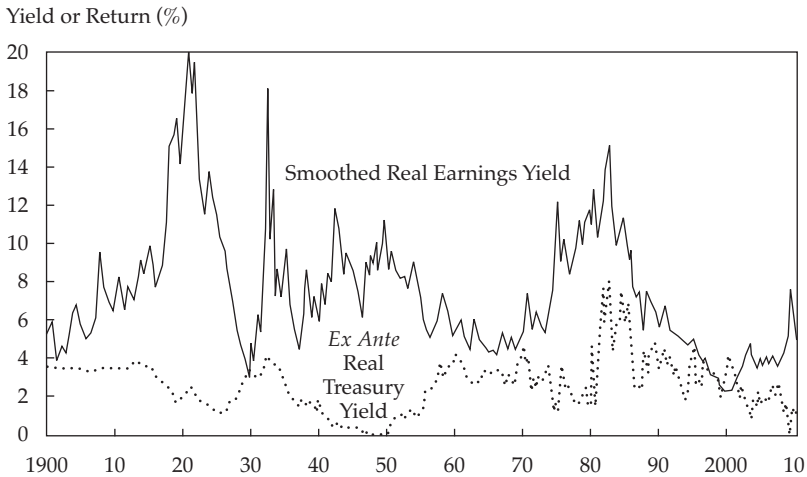
The gap between the two lines in Figure 1 is roughly the forward-looking ERP. Yet, strictly speaking, the Shiller earnings yield equals the *ex ante* real return for equities only under fairly stringent conditions. The dividend discount model (DDM) provides a cleaner conceptual framework than the Shiller earnings yield for assessing the difference between the long-term expected returns of stocks and bonds. Analysts will, of course, debate the inputs of the model and the resulting ERP estimates, but this framework at least gives the debaters a common language.

In the basic version of the DDM, cash flows to equity investors (which can be considered, narrowly, to be dividends) are assumed to grow at a constant annual rate G . A feasible long-run return on equities is then the sum of the cash flow yield (here, dividend yield, or D/P) and the trend of cash flow growth rate,

²The P/E10 is the price or index value of the S&P 500 Index divided by the average of the last 10 years of earnings. Shiller’s website is www.econ.yale.edu/~shiller/data.htm.

³In the real long-term Treasury yield, the nominal Treasury yield is deflated by the consensus forecast inflation for the next decade (for the period before survey forecasts became available in the 1970s, statistical estimates were used). For details, see Ilmanen (2011).

Figure 1. Smoothed Real Earnings Yields of U.S. Equities and *Ex Ante* Real Yields on 10-Year Treasuries, 1900–2011



Sources: Bloomberg; Shiller website (www.econ.yale.edu/~shiller/data.htm); U.S. Federal Reserve; Blue Chip Economic Indicators; Consensus Economics.

G. The required return on equities, or the discount rate, can be viewed as the sum of the riskless long-term Treasury yield, *Y*, and the required equity-over-bond risk premium, the ERP. Intuitively, markets are in equilibrium when the equity market return that investors require, $Y + ERP$, equals the return that markets are able to provide, $D/P + G$. These expressions can be reshuffled to state the *ex ante* ERP in terms of three building blocks:

$$ERP = D/P + G - Y.$$

The DDM can be expressed in nominal terms (with G_{nom} and Y_{nom}) or in real terms (with G_{real} and Y_{real}) if both expected cash flow growth and the bond yield for expected inflation are adjusted. The model can also be expressed as an earnings discount model if a constant dividend payout rate is assumed. With a constant payout rate, the growth rates of dividends and earnings are equal.

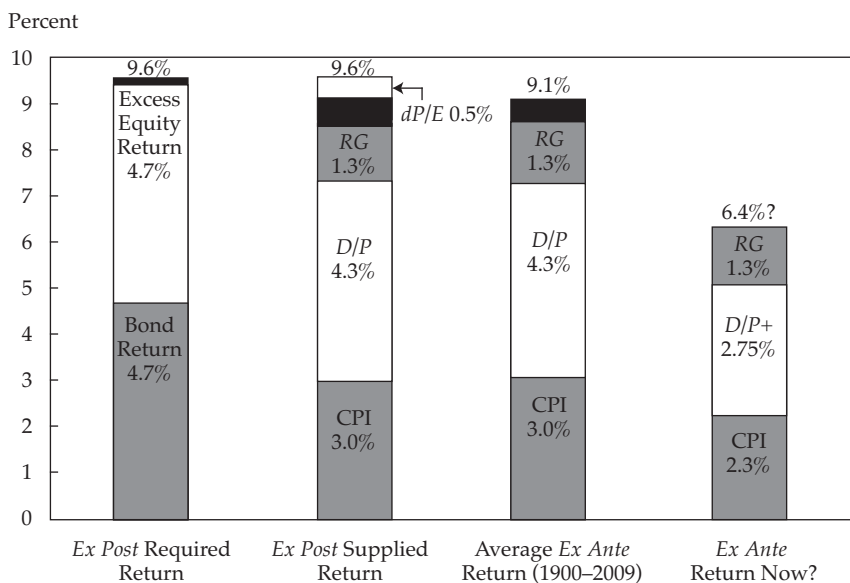
The DDM framework can be easily extended to include a variety of short-term and long-term growth rates, but the use of the DDM to analyze time-varying ERPs can only be informal because it is a steady-state model that assumes constant expected returns and valuation ratios. In a dynamic variant of the DDM, one that allows time-varying expected returns, D/P is a combination of the market's expectations of future (required) stock returns and dividend growth (see Campbell and Shiller 1988).

The DDM framework is simple and flexible, but what inputs to use in calculating the ERP is a topic of wide disagreement. Even the observable inputs—dividend yield and bond yield—are ambiguous because broader payout yields (including, for example, share buybacks) may be appropriate for equities and the maturity and nature (nominal versus real) of the Treasury yield may be debated. The main source of contention, however, is the assumed trend of the growth rate of profits, or earnings per share (EPS), G .

Nevertheless, this framework can be used to analyze the building blocks of realized and prospective equity market returns (see Ibbotson and Chen 2003). **Figure 2** decomposes the realized 110-year (1900–2009) compound annual U.S. stock market return of 9.6 percent into its elemental parts with separate decompositions for the “demand” and “supply” of returns. The nomenclature follows Diermeier, Ibbotson, and Siegel (1984). The total return is split into either

- the sum of returns demanded by the investor (the first column in Figure 2), on the assumption that sample averages capture required returns well: 4.7 percent nominal T-bond return + 4.7 percent *ex post* ERP + small interaction terms, represented by the black bands or

Figure 2. Decomposed Historical Equity Market Returns, 1900–2009



Note: RG = real earnings growth, dP/E = repricing gains, and CPI is the U.S. Consumer Price Index. Sources: Arnott and Bernstein (2002); Bloomberg; Shiller website (www.econ.yale.edu/~shiller/data.htm).

- the sum of returns supplied by the economy (the second column in Figure 2): 3.0 percent average inflation + 4.3 percent average dividend yield + 1.3 percent average real EPS growth rate + 0.5 percent repricing effect (which represents the annualized impact of the expansion of the P/E by 75 percent—from 12.5 to 21.9—during the sample period) + small interaction terms.

The third column shows the result when, following Ibbotson and Chen, I deemed the 0.5 percent repricing gain to be an unexpected windfall and subtracted it from the supplied returns.⁴ This column suggests, then, that investors required an *ex ante* nominal equity market return of 9.1 percent between 1900 and 2009, on average. If expected returns vary over time and current values differ from the average levels over the sample, this analysis can be misleading for assessing current expected returns. The current inflation rate and equity and bond yields are clearly below historical averages. Using a 2.3 percent rate of CPI growth (the consensus forecast for long-term inflation) and a 2.0 percent *D/P* produces a forward-looking measure predicting only 5.6 percent nominal equity returns. Admittedly, the *D/P* value could be higher if a broader carry measure that included net share buybacks were used, so for the last column in Figure 2, I added 0.75 percent to the estimate (and called it “*D/P+*”). Return forecasts more bullish than the 6.4 percent nominal return in the fourth column would have to rely on growth optimism (beyond the historical 1.3 percent rate of real EPS growth, to be discussed later) or further P/E expansion in the future (my analysis assumes none). More bearish forecasts consider my buyback adjustment excessive and/or my growth or valuation forecasts overly optimistic.

Figure 2 is based on data at the end of 2009. Conveniently, market changes over the subsequent 15 months have been modest. Equity markets have rallied somewhat, with dividend yields dropping from 2 percent to 1.8 percent (and the Shiller E10/P falling from 5 percent to 4.3 percent), whereas Treasury yields and consensus inflation forecasts are virtually unchanged.

So, when asked what I expect the realized outperformance of U.S. equities over Treasuries to be for the decade from the first quarter (Q1) of 2011 to Q1:2021, I pretty much stay with the same numbers. In Exhibit 1, I predict 4 percent real (compound annual) return for the equity market and 1 percent real return for Treasuries—close to the current 10-year yield of Treasury Inflation-Protected Securities (TIPS)—thus, a 3 percent ERP. Because inflation terms wash out across stocks and bonds, I do not need to forecast inflation, which is currently an especially hard call. I would assign a ± 0.25 percent band around each component estimate.

⁴To be a stickler, I'll note that the yield and growth estimates are consistent only if the payout ratio is constant over time. I could use the real dividend growth rate (averaging 1.2 percent) and the repricing effect based on dividend yield changes (which has a slightly higher annualized impact, 0.7 percent) instead of earnings data, and I would obtain, broadly, the same results.

Exhibit 1. Components of the ERP

Component	Estimate for Next Decade
Equity cash flow yield	2.7% (<i>D/P</i> + addition for net buybacks)
+ Real cash flow growth	1.3 (historical average EPS growth)
+ Valuation change	0 (assume unchanged valuations)
– Real Treasury yield	<u>–1</u>
ERP	3%

For the global markets, my ERP forecast is similar. In most countries, I can see somewhat better growth prospects than in the United States, but these prospects are offset by higher real yields. Japan is the one exception; growth prospects are worse there than in the United States.

Debates about the Values of the Main Components

As I have stressed, these building blocks give us a useful framework for debating the values of key components of future ERPs. What are these debates?

Equity Market Yield. Dividend yield is the classic proxy for equity market yield. Having ranged between 3 percent and 6 percent for 40 years, the *D/P* of the S&P 500 Index fell below 3 percent in 1993 for the first time ever and then fell below 2 percent in 1997, remaining there for the next decade. The decline in the *D/P* in the 1980s and 1990s partly reflects a structural change: Many companies replaced dividends with repurchases (i.e., stock buybacks), which were more tax efficient and more flexible and which had a more positive impact on share price (and thereby executive compensation) than did dividends. One reason share buybacks increased is the 1982 change in U.S. SEC rules that provide a safe harbor from price manipulation charges for companies conducting share buybacks.

The obvious improvement in the measurement of the equity market yield would be to include share buybacks. The buyback yield never exceeded 1 percent before 1985 but did in most years thereafter. Even though the buyback yield has in some years exceeded the dividend yield, the buyback yield arguably should not get as high a weight as the dividend yield in any long-run yield measure because it is not as persistent. It is much easier for a corporation to reduce repurchase activities than to cut dividends.

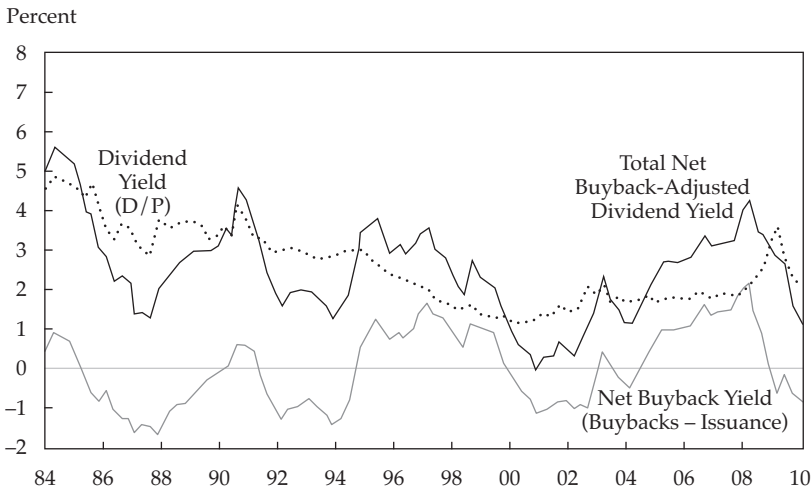
Only adding share buybacks (i.e., not subtracting share issuance), as is sometimes done, would overstate the effective yield. Companies may repurchase shares or pay dividends when they have excess cash, whereas they issue “seasoned” equity when they need more capital from investors.

Cash-financed merger and acquisition deals are another component of cash flows to the investor that could be included in a broad yield measure. The literature on this issue is diverse, however, and hardly conclusive. In computing the net buyback-adjusted yield, net payout yield, and change in Treasury stock, somewhat different data are used to adjust dividend yields, but the intent of all of them is the same: to estimate total cash flow from the company to the investor (see Allen and Michaely 2003; Boudoukh, Michaely, Richardson, and Roberts 2007; Fama and French 2001).

Figure 3 plots one estimate of broader cash flow yield, the dividend yield, and the buyback yield over a quarter century. This broad yield estimate has not been systematically higher than the dividend yield; buybacks and issuance have roughly canceled out over time. Other estimates imply higher cash flow yields, especially since the mid-1990s, so I stay with the 0.75 percent addition over D/P . Some may deem this adjustment too high; others, too low. More empirical research is clearly needed.

Equity Cash Flow Growth. Some studies use growth estimates based on analyst expectations for earnings growth or on P/Es, for which they use analyst forecasts of next-year operating earnings. Both approaches embed analyst overoptimism and result in upwardly biased estimates of the ERP.

Figure 3. Equity Market Yield Measures, 1984–2009



Sources: Haver Analytics; Nomura.

A more conservative approach is to use the trend of the rate of growth in real GDP or corporate profits.⁵ Even this approach turns out to be overoptimistic. Although many practitioners think that the GDP growth rate is a *floor* for earnings and dividend growth, the rate has historically been a *ceiling* that has been broken only during benign decades. Arnott and Bernstein (2002), Bernstein and Arnott (2003), and Cornell (2010) showed that growth rates of per share earnings and dividends have, over long histories, lagged the pace of GDP growth and sometimes even per capita GDP growth. As Table 2 shows, between 1950 and 2009, growth rates of earnings and dividends per share almost matched the 1.9 percent real growth rate of GDP per capita but clearly lagged real GDP growth (3.1 percent).

Table 2. Average Real Long-Term Growth Rates (Geometric Means), 1900–2009

Period	Real GDP	Real GDP per Capita	Real EPS	Real Dividends per Share
1900–1949	3.2%	1.8%	1.0%	1.0%
1950–2009	3.1	1.9	1.5	1.3

Sources: Arnott and Bernstein (2002); Haver Analytics.

Taking even longer histories does not help. The first half of the 20th century looked even worse for earnings and dividend growth. When I looked at shorter histories, I saw a prettier picture for a while. Between 1988 and 2007, U.S. real EPS growth averaged 3.7 percent a year—clearly larger than the real GDP growth rate (2.4 percent). This period was an exceptionally benign one, however, for capital markets; for example, the share of GDP represented by corporate profits rose from 8 percent to 11 percent. After 2008, the trailing 20-year real EPS growth rate was negative; after the 2009 recovery, it was still only 1.3 percent.

Studying the global evidence also does not help to raise the growth estimate. Dimson, Marsh, and Staunton (2002) showed that between 1900 and 2000, growth in real dividends per share lagged growth in real GDP per capita in 15 of the 16 countries they examined. Across countries, real dividend growth averaged nearly zero and lagged growth in real GDP per capita by 2.4 percentage points. U.S. dividend growth was somewhat better but still lagged growth in real GDP per capita by 1.4 percentage points.

⁵Some analysts use the trend in the growth of nominal earnings (say, 7 percent). By doing so, they conveniently forget that such nominal growth occurred over a period when inflation averaged 4 percent, whereas the current expected inflation is closer to 2 percent.

MSCI Barra (2010) has contrasted (real) EPS growth and GDP growth between 1969 and 2009 in 16 countries. The researchers found that, averaged across all the countries, annual GDP growth was 2.4 percent—compared with 0.1 percent EPS growth. (Comparable figures in the United States are 2.8 percent and 1.3 percent.) The gap in growth rates between GDP and EPS was positive (0.5–5.0 percent) in all the countries studied except Sweden.

Why? These patterns seem puzzling. In the long run, GDP and profits should have similar trends in growth rates; otherwise, the corporate sector would eventually dominate the economy. (Admittedly, this argument is only relevant over extremely long periods.) An important distinction must be made, however, between aggregate earnings growth and EPS growth. Aggregate earnings growth has matched GDP growth quite closely during the post–World War II era; EPS growth has not.

Investors in existing listed stocks capture only part of aggregate profit growth because a portion of this growth is financed with newly issued equity. Arnott and Bernstein (2002) stressed that new entrepreneurs and labor (including top management) capture a large share of economic growth at the expense of shareholders in existing companies. Stock market indices (made up of listed stocks) miss the most dynamic growth in the economy, which comes from unlisted start-up ventures, other small businesses, and sole proprietorships—all of which count toward total business profits.

Total corporate profit growth is, therefore, effectively diluted by net equity issuance. Cornell (2010) showed that the annual dilution rate (mainly through new business creation but also through net issuance by existing companies) between 1926 and 2008 was 2 percent and reasonably stable over time. Subtracting the 2 percent dilution effect from 3 percent real aggregate earnings growth makes 1 percent real EPS growth a realistic long-run prospect. Some evidence indicates, however, that the dilution effect has flattened during the past decade, perhaps reflecting the increasing use of buybacks.

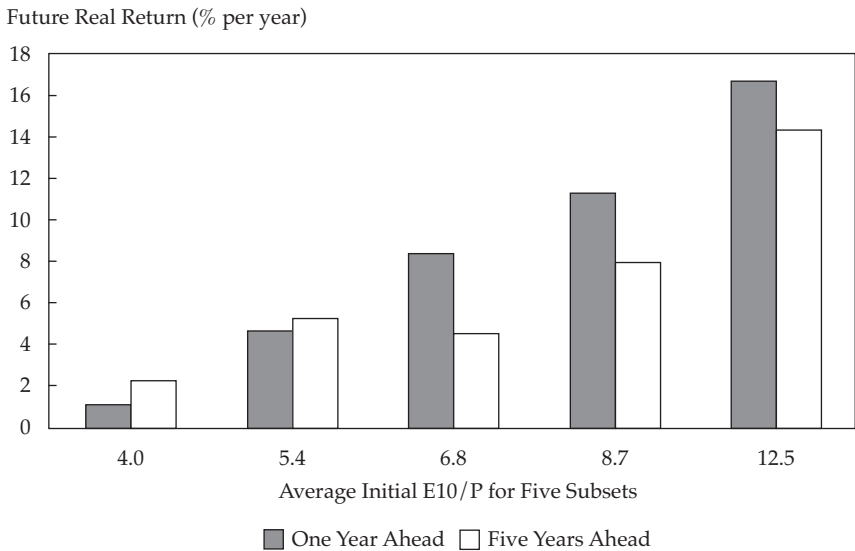
Although several studies confirm these patterns, the crucial distinction between aggregate earnings growth and EPS earnings growth is not widely appreciated, and many ERP estimates rely on at least a 3 percent real trend in EPS growth. As Upton Sinclair said, “It is difficult to get a man to understand something, when his salary depends upon his not understanding it.” Still, it is true that over a single decade, real EPS growth may deviate significantly from its long-run trend, so this building block can be subject to very vigorous debates.

Valuation Change. I have assumed here unchanged market valuations over the coming decade. It is often a good base assumption in normal circumstances.

One can argue, however, that current equity markets are expensive in an absolute sense. The Shiller P/E10 is near 23, more than 40 percent above its long-run average. The smoothed real earnings yield is only 4.3 percent ($100/23$), not far from the average of the bottom quintile over a 110-year history. **Figure 4** shows that real stock market returns have typically been modest in years following low starting yields (and high following high starting yields). Generally, Figure 4 indicates that this valuation ratio has the useful ability to predict future market returns.⁶

Other market valuation indicators suggest that equity markets are fairly valued. And in comparison with even more expensive Treasuries, the equity market may appear to be cheap.

Figure 4. Average Level of E10/P and Subsequent Returns by Periods, 1900–2009



Notes: The graph was created by sorting each month into one of five buckets based on the level of real E10/P at the beginning of the month and then computing the average level for E10/P (x-axis labels) and subsequent one-year and five-year real stock market returns (y-axis values) in five subsets of the sample history. Real return is the S&P 500 return.

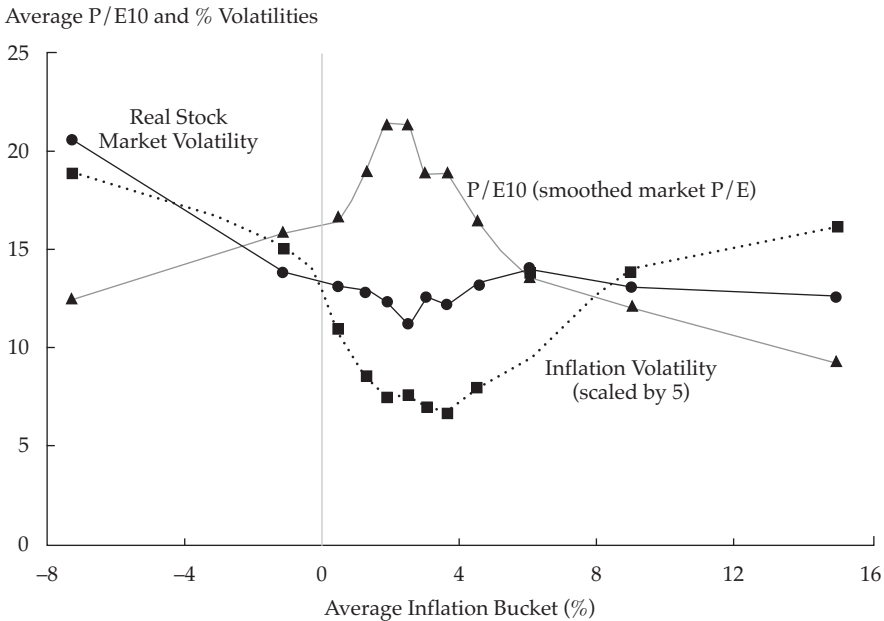
Sources: Shiller website (www.econ.yale.edu/~shiller/data.htm); Haver Analytics.

⁶The predictive ability is somewhat overstated because the sorting of months into quintiles uses in-sample information. Investors know only with hindsight that 4 percent earnings yields would be among the lowest and 12 percent yields among the highest during the full sample. The mean-reversion effect is, therefore, overstated.

In addition to market valuations, many other determinants of the outlook for growth and valuation can be considered. Bearish observers focus on debt problems, deleveraging, and unfavorable demographics. Bullish observers note that technological progress has tended to surprise on the upside and that widening knowledge and access to information may benefit from increasing returns to scale, unlike traditional capital, which tends to exhibit decreasing returns to scale.

I highlight one bearish consideration. High inflation tends to hurt equity markets, but so does deflation. Steady and low, but positive, inflation appears to be the optimal environment for real growth and risky-asset valuations. **Figure 5** shows a sombrero-shaped relationship between equity market valuation levels (P/E10) and inflation levels over the past 110 years. The sweet spot of peak valuations occurs with inflation in the 1–4 percent range. One mechanism behind this nonlinear relationship is that economic uncertainty—here measured by inflation volatility and equity market volatility—tends to be higher amid deflation and high inflation. Thus, inflation may not directly influence

Figure 5. U.S. Equity Market Valuations and Inflation, 1900–2009



Note: The graph was created by sorting each month into 1 of 12 subsets on the basis of the level of inflation during the month and then computing the average level for inflation (*x*-axis), the P/E10 valuation ratio, and the two volatility series (*y*-axis) in the 12 subsets of the sample history.

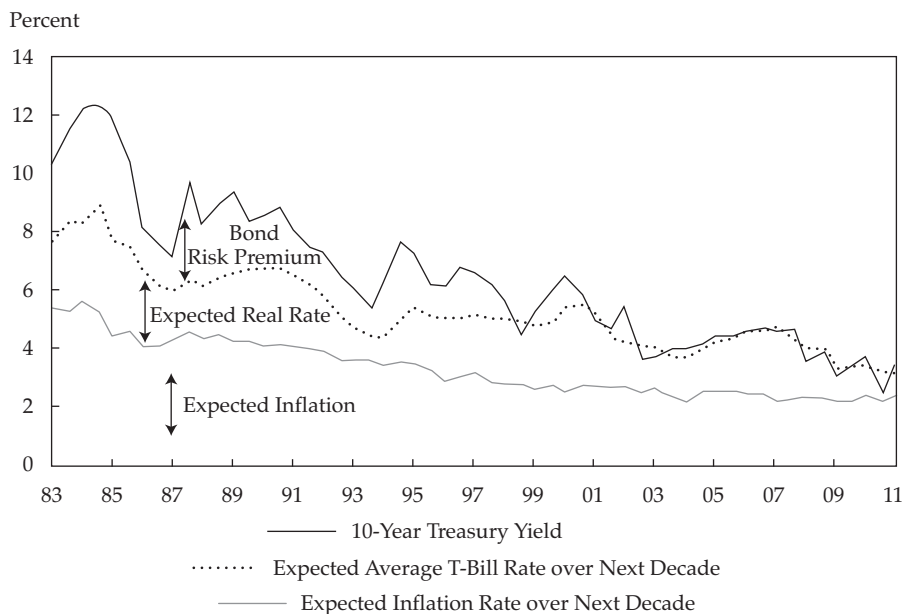
Sources: Haver Analytics; Shiller website (www.econ.yale.edu/~shiller/data.htm); author’s calculations.

equity market valuations, but it affects the market through its impact on economic growth and uncertainty. Whatever the reason, the pattern is bad news for market valuations because two decades have been at the sweet spot, so the likelihood of both deflation and high inflation for the coming decade has substantially increased.

Treasury Yield. This component is subtracted. Bonds appear at least as expensive as stocks when measured by historical yardsticks, especially in comparison with the past 30 or 60 years of experience. Moreover, the debt and demographic problems make many expert observers worry about inflation reaching levels not seen since the 1980s.

A perhaps surprising phenomenon is that current bond yields do not contain much of a risk premium. **Figure 6** clarifies this statement by decomposing the 10-year Treasury yield into three components: expected average inflation, expected average real T-bill rates, and the required bond risk premium over bills. The decomposition is based on consensus forecasts of next-decade average inflation and average T-bill rates. The current 10-year yield of 3.4

Figure 6. Decomposition of the 10-Year Treasury Yield Based on Survey Data, 1983–2011



Note: Each year measurement is as of March and October.

Sources: Bloomberg; *Blue Chip Economic Indicators*.

percent is close to the average expected T-bill rate, implying a bond risk premium of nearly zero. Simply put, the yield curve is exceptionally steep, but all this steepness seems to reflect the market's expectation of short rates rising sharply from the abnormal near-zero level. The expected real yield on the nominal 10-year bond is slightly more than 1 percent, well below the past 30-year average of 3 percent. The 10-year TIPS has a yield slightly under 1 percent, but this yield is an average reflecting negative real yields at the front end and clearly higher real yields further out.

The reasons for Treasuries' continued richness include still-modest inflation; the exceptional safe-haven role of Treasuries in recessions, deflations, and financial crises (which has been extremely valuable in the past decade but may not work as well in the next decade); and various exceptional sources of demand (large asset purchases by the Fed, reserve accumulation by other central banks, and purchases by pension funds seeking close asset/liability matching).

I simply assume a 1 percent real bond return for the next decade, which is broadly in line with the current market pricing of both nominal and inflation-linked Treasuries. These yields are known today.

An alternative way of computing the ERP involves comparing stock returns with the returns of constant-maturity bonds (or of long-term bond indices) over time. If such a method is used, the results thus depend on future yield changes. Unexpectedly bond-bearish outcomes would probably also hurt equity market valuations. They might leave the realized excess return of stocks and bonds broadly unchanged, but with both asset classes earning real returns lower than the now expected, respectively, 4 percent and 1 percent.

Concluding Thoughts

In this paper, I focus on the prospects of the equity risk premium over the next decade. However, it is worthwhile to think about the *term structure* of such premiums. A world of time-varying expected returns contains more than one premium number. The short-run and long-run premiums can differ significantly. How would the forecast beyond 2021 differ from the prediction for the next decade?

- The term structure effects are more obvious on the bond side of the premium. Short-dated TIPS yields are currently negative (consistent with short-dated nominal Treasuries yielding nearly zero while headline inflation is nearly 2 percent and rising). At the same time, the 10-year TIPS yield is 0.9 percent and the 20–30 year TIPS yields are approaching 2 percent. Together, these yields imply a 2.7 percent forward TIPS yield for the decade starting in 2021.

- Abnormally high (or low) starting valuations for equity markets and related mean-reversion potential have strong implications for expected stock market returns for the next few years. When considering prospective equity returns *after* the next decade, however, it is impossible to know what the starting valuation levels will be in 2021. Thus, if one assumes below-average equity market returns for the next decade because of an expected normalization of the currently high Shiller P/E10, the best forecast for real equity market returns beyond 2021 should be close to the “unconditional” long-term return forecasts. That is, these “forward forecasts” should largely ignore starting valuations (or at least allow future higher starting yields in 2021 than in 2011).
- Many indicators in addition to valuation measures can be used to predict stock market returns. Regressions and other econometric techniques can be used to forecast returns over any investment horizon (admittedly, they have fewer independent data points in long-horizon regressions). Thus, we can estimate a full term structure of expected returns. (Such forecasts are always model specific, but such a situation is no worse than the situation with informal and judgmental forecasts.)

The following empirical fact is worth emphasizing: Although beta risk has been well rewarded across asset classes (in the sense of the capital asset pricing model, in which the stock market, with a beta near 1, has outperformed the bond market, with a beta near 0, by 3–4 percent over long time periods), the same is not true *within* stock markets. High-beta and high-volatility assets in most stock markets have hardly outperformed their low-volatility peers in the long run; often, the reverse has occurred. Such risk without reward has increasingly attracted investor attention.

This paper focuses on the equity risk premium, but I want to finish with this exhortation: LOOK MORE BROADLY! A key theme in my recent book (Ilmanen 2011) is that relying exclusively or primarily on the ERP as the source of long-run returns causes portfolios to be inadequately diversified. Investors should broaden their horizons beyond asset class perspectives to consider various dynamic strategies (value, carry, trend, volatility, illiquidity) as well as underlying risk factors. The result for investors will be smarter portfolios than they currently have and better long-run performance.

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