

## Is Equity Risk Premium Still Thriving, or a Thing of the Past?

by Mimi Lord, CFA, CFP

One of the hallmarks of financial theory is that equities are expected to provide higher returns than bonds because of the greater risk involved. And, indeed, the historical record over the past 75 years has shown this to be the case. But is it reasonable to expect future returns to resemble past returns? We turned to two highly respected experts with significantly different outlooks to help us examine the issues involved in projecting relative returns of stocks and bonds.

Roger Ibbotson, finance professor at Yale School of Management, chairman of Ibbotson Associates, and author (along with Rex Sinquefeld) of the famed [Stocks, Bonds, Bills and Inflation Yearbook](#), believes that equities over the long term will continue to outperform government bonds by a significant margin.

On the other hand, Robert Arnott, managing partner of First Quadrant, visiting professor at UCLA, and a widely published author on topics such as asset allocation and investment valuations, believes that, based on current valuations and yields, stocks cannot be expected to provide any excess return over that of government bonds.

The following interview was led by Mimi Lord, financial writer at the TIAA-CREF Institute, and was carried out by e-mail exchange with Ibbotson and Arnott.

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**Lord: I find it fascinating that two renowned experts of financial markets can have such different expectations for the equity risk premium. It seems as though a big part of the difference relates to whether you think historical equity returns and risk premiums are relevant in forecasting future returns. Roger, would you explain the proxies that are used for the inflation rate, the risk-free rate and the equity return rate, and then give a brief history of stock and bond returns?**

**Ibbotson:** In principle, we could use a variety of measures for inflation, the risk-free rate and the equity return. But so that we can all compare apples to apples, let's use the Consumer Price Index (CPI) for inflation, the long government bond yield and the S&P 500 returns. We can also express the equity risk premium as either a geometric (compound) annual return, or an arithmetic average return. I suggest the former.

Over the last 75 years, 1926–2000, inflation has been 3.1 percent per year, stocks have returned 10.7 percent per year and the realized equity risk premium (stock returns minus long-term government bond yields) has been 5.24 percent per year. Looking ahead, my forecast of the equity risk premium is slightly below 4 percent, or about 1.25 percent below the historical realization.

**Lord: Rob, you're forecasting a zero percent equity risk premium, meaning that you're basically expecting stock and bond returns to be the same. What causes such a big difference in your forecast compared with Roger's forecast?**

**Arnott:** One difference between Roger's view and mine is that his is largely independent of market valuation levels, due to an efficient-markets leaning, while mine is not. Roger has steadily suggested a four percent to six percent risk premium for the past 25 years. If one wants to seek a steady hand at the tiller, it would be hard to find a steadier one than Roger's. I was strongly bullish during much of the quarter century of my own career. But I am less sanguine that markets are wise enough or efficient enough in forecasting future earnings growth to deliver the same returns from a P/E ratio of 40 as they do from a P/E ratio of 10. Show me a P/E ratio of ten and a dividend yield of six percent, and I'll be way more optimistic than Roger!

**Lord: Roger, I understand that you use an earnings model for analyzing equity returns and risk premiums. How does that model explain past returns and how do you use it for forecasting?**

**Ibbotson:** The total returns that equity investors have earned over the past 75 years reflect three components: (1) the realized earnings growth that corporations have supplied over the last 75 years (4.9 percent); (2) the income that was

paid out by these same corporations (4.3 percent); and (3) the increase in valuation levels as reflected in the change in the price/earnings ratio. The increase in P/E multiples accounted for about 1.25 percent of the total return over that period, and the three components combined essentially explain the 10.7 percent annualized returns. Any differences in the total are caused by the approximation of adding compound numbers together. But I don't think it is reasonable to expect further P/E multiple expansions; therefore, going forward, we should focus on earnings growth and dividend yield. That's why I am forecasting an equity risk premium of 4 percent, which is 1.25 percent-per-year less than the historical realized risk premium.

**Lord: So does that mean you're expecting the current price/earnings ratio to remain about where it is? What does that say about expected earnings growth?**

**Ibbotson:** The current price/earnings ratio—which is what goes into the forecast—is about 26, compared with the average P/E over that long period of about 14 (calculated as the inverse of the average E/P ratio). I do not expect it to stay where it is; it will either go up or down. However, the reason that it is so high today is because the market is forecasting higher-than-historical growth in earnings per share. The extra growth may occur in the near term or in the distant future, but the market is betting that it will eventually happen.

**Lord: Rob, you have written that investors have been "lucky" over the past 75 years and that they should not have expected the levels of returns that they received. Why did stocks return so much more than bonds over all those years?**

**Arnott:** We have seen three "happy accidents" for stocks: (1) no wars on U.S. soil (our stock market survived, whereas several others—Russia, China, Egypt and Argentina, to name a few—suffered 100 percent total loss at least once in the past century); (2) an immense run-up in market valuation levels; and (3) regulatory reform, which now requires management to act in the best interests of the shareholders. We have seen one "unhappy accident" for bonds. When we were on the gold standard, there was no difference between the nominal yield on a bond and the real yield; since then, bonds have had to add an inflation premium to the yield in order to earn an acceptable real yield. That jump in nominal bond yields cost bondholders dearly.

**Lord: Anything you'd like to comment on, Roger?**

**Ibbotson:** The equity risk premium is calculated as an excess return over the bond yield and has nothing to do with realized bond returns in the past. Thus, we avoid any effects of the unusual bond returns—Rob's "unhappy accident." And, as noted, we have already corrected for the change in valuation levels—the change in P/E ratio. It could still be argued that the earnings and income supplied by U.S. corporations over the last 75 years were unusual, but we believe it is reasonable to assume that those long-term historical results will be indicative of the future earnings power and growth of corporations.

**Lord: Rob, I understand that your model for equity returns basically consists of the current dividend yield plus an expected dividend growth rate. What numbers are you using for the current yield and the growth rate, and why do you prefer a dividend model instead of an earnings model?**

**Arnott:** The dividend model is simpler. Long-term returns consist of the dividend yield, plus dividend growth, plus or minus changes in the price/dividend ratio, which is the amount that the marketplace will pay for one dollar of dividends. A similar earnings-based model consists of the earnings yield, times the payout ratio, plus the earnings growth rate, plus or minus changes in the price/earnings ratio. For long-term returns, unless we want to rely on some forecast for changing valuation levels, this last term drops off. And today's dividend yield and earnings yield are simple facts, easy to look up in *The Wall Street Journal* any day we choose.

So, for a dividend-based model, we have to forecast one "moving part," while for an earnings-based model, we have to forecast two. The problem is that history suggests that earnings or dividends can grow about one to two percent faster than inflation, and cannot grow as fast as the economy at large. When yields are as low as they are today, this leads to a rather wretched forward-looking return.

**Lord: Does your model imply any change in the dividend yield toward its historical average of over four percent?**

**Arnott:** We deliberately choose *not* to assume a change in the dividend yield towards its historical average. We do so both to simplify the problem to a single "moving part," and in deference to the efficient markets crowd, who believe that the best guess for future valuation levels is unchanged from the current valuation level. If we were to assume a return to past dividend yield levels, the picture becomes gloomy indeed.

**Lord: Roger, why do you prefer the earnings model to the dividend model for forecasting equity returns?**

**Ibbotson:** Contrary to what Rob believes, the dividend model is only deceptively simple. This is because it implicitly assumes a constant payout ratio and explicitly ignores another important "moving part." In contrast, the earnings model explicitly takes into account the payout ratio, which, as we all know, has been in a long-term secular decline. By using today's low dividend yield and payout ratios, Rob's dividend model ignores the extra earnings retention as a source of future earnings growth. This violates the basic Miller and Modigliani dividend proposition for which they won Nobel prizes. I know Rob seems to believe that this is okay, that corporations just waste their retained earnings, but that would be a rather extreme result.

**Lord: Rob, do you think Roger's expectations for earnings growth are too high? What's your view about past and expected earnings growth, and how does it differ from GDP (gross domestic product) growth?**

**Arnott:** I do think Roger's expectations are too high. He assumes earnings growth (from recent peak earnings levels!) will exceed GDP growth. That's a tough hurdle. Extrapolated into the future, it would mean that earnings eventually would exceed GDP. Total earnings should keep pace with GDP growth. But we can't invest in the total earnings of the market without adding new investment capital for new enterprises: a dollar invested in today's stocks cannot be invested in the new companies that don't yet exist. And the creation of new companies, "entrepreneurial capitalism," is an important engine for GDP growth. History suggests that earnings on existing enterprises tend to grow about two percent-a-year slower than GDP. I think future growth in earnings on existing companies will likely match GDP growth, less a one percent to two percent "haircut" for entrepreneurial capitalism.

**Ibbotson:** Let me make a distinction here: earnings-per-share growth is expected to exceed GDP growth, but aggregate corporate earnings growth is not. Corporations are paying out their earnings in different forms today. Investors receive their payouts through dividends, share repurchases, and buyouts (M&A activity) from other corporations. Since there are so many other ways for investors to get their cash out of corporations, dividend yields have little meaning today. Earnings per share can grow at faster rates than GDP without affecting aggregate corporate America's share of GDP.

**Lord: Rob, how do you respond to this?**

**Arnott:** Roger's suggestion that earnings per share will grow faster than aggregate earnings would be a first, ever, in history. Even in the past decade, with share repurchases at a record pace, new share issuance steadily exceeded repurchases. Normally, based on 200 years of evidence, the gap is about two percent a year. I hope Roger is right, but I fear he's wrong.

An earnings-based model has another problem. When payout ratios are low, Roger assumes that the subsequent earnings growth will be faster than normal. His assumption, which he correctly observes is consistent with Miller/Modigliani, is that the larger retained earnings will fund projects that will lead to faster earnings growth. Fair enough. Miller and Modigliani earned their Nobel Prize appropriately, for propounding a sound theory based on rational management behavior. The problem is that history provides no support for this view. None whatsoever. In fact, historically, the fastest earnings growth has occurred when payout ratios are high, and earnings growth is wretched when payout ratios are low. This holds true over every 20-year span in the last 130 years, with no exceptions.

Recent payout ratios were at unprecedented low levels. So, history would suggest low earnings growth—or even negative earnings growth—from the recent peak levels. It would take a 50 percent drop in earnings for payout ratios to resemble historical norms. And history would suggest that these, supposedly depressed, earnings should grow at the normal rate of one percent to two percent above inflation.

**Ibbotson:** I disagree that history refutes Miller and Modigliani. For example, payout ratios were relatively low in the

1990s, and growth was very high. Payout ratios are now at an all-time low, and they will likely never return to historical levels, except during recessions when earnings temporarily drop. Corporations no longer need to pay out their returns as dividends, subjecting their taxable investors to an extra layer of taxation.

**Arnott:** Not true...payout ratios at the start of the 1990s, before the rapid earnings growth of the 1990s, were at the highest levels seen in the past half-century.

**Ibbotson:** Payout ratios were high at the start of the decade because of the earnings drop associated with the early 1990s recession, but then went to record low rates during the booming latter part of the decade.

**Lord: Rob, you're projecting that real stock returns and real bond returns are going to be similar, in the area of two to four percent. What is the implication of this for investors? Should they stay away from equities altogether, in the hope that there will be more attractive opportunities later?**

**Arnott:** That hinges on too many issues to give a simple answer. If one believes, as I do, that stocks are overvalued, then the answer is "yes." In my long-term portfolio (for example, my 401(k) money), I've been out of stocks since mid-1999, and I see no reason whatsoever, even after a moderately serious bear market, to change that stance.

I think clients generally should be cautious. For a pension fund manager who is compared against other funds with a 60/40 stock/bond mix, it wouldn't make sense to go out of stocks completely. One year with stocks up 25 percent and the manager will be sacked, since the board won't tolerate that sort of opportunity cost relative to peers. But staying ten percent lighter in stocks than most funds is probably not a bad place to be, on a normal basis, with forays into a heavier stock position when, as was true last September, fear grips the markets. For the individual investor who doesn't have clients or boards to satisfy, a more venturesome answer may make sense.

The two percent to four percent real returns that you cite are long-term returns over the next 20 years or more. It's very easy to imagine a situation such as last fall where one could be very concerned on a long-term basis, but bullish on a short-term tactical basis. One key implication is that stocks are no longer the simple choice for those who want higher long-term returns; they are just another asset class to use for diversification.

**Lord: Roger, how do you view the equity risk premium in the context of investors' asset allocations?**

**Ibbotson:** The four percent risk premium is just high enough to induce enough investors to hold all the equities that are already out there in the marketplace. It is just a clearing price for risk. Most investors would benefit from having long-term strategic asset allocations, which take into account the long-term differences between stock and bond returns. Stocks are riskier and have higher expected returns. Very few investors have been successful at timing overall markets. Generally, those with longer time horizons and an appetite to take risk will hold larger equity positions. But there are also many investors who would want to hold little equity because of their emotional or financial inability to handle large swings in the stock market, even at a fair risk premium.

**Lord: Roger, you have stated that you believe the market is efficient, and that, therefore, current valuations are generally accurate. How do you reconcile this efficient-market view with technology valuations back in March 2000? After the huge run-up in the late 1990s, weren't the overall equity markets—and particularly the technology sector—mispriced in early 2000?**

**Ibbotson:** I am sure there are inefficiencies from time to time, and I certainly believe there was a technology bubble. Nevertheless, my forecast assumes market efficiency, which for the most part is a very good assumption, especially for the market as a whole.

There is very little evidence that tactical asset allocation has had much success in predicting overall market movements. Tactical asset allocation has not only had a poor record in general, but it adds risk to the portfolio. For example, it is much less risky to hold a constant 50 percent stock/50 percent bond portfolio than to swing back and forth from all stocks to all bonds. Using leverage or shorting only exacerbates this risk. The vast majority of investors will not profit by making large swings in their allocations based on changing valuations. It may be fun to always have an opinion on the market, but it is a reckless strategy to recommend for clients.

**Arnott:** If markets are inefficient, the only way to add value is to make bets. I believe markets are a bit inefficient, so I believe in making tactical bets from time to time.

**Lord: Roger, do you think that investors should just buy a total market index fund and quit trying to find star performers?**

**Ibbotson:** I believe the overall market is quite efficient, but I am not saying each sector or security is efficiently priced. Still, index investing is a reasonable strategy for a lot of investors. The market is a relative zero-sum game, so that for each dollar invested that outperforms the market, there is a dollar that underperforms. Even if the market were inefficient, many investors would be better off in index funds, especially after taxes, fees and transaction costs.

**Lord: I'm going to try to summarize your differing views and you can let me know if I'm off base. Roger's model basically incorporates long-term historical return data into a model for the future, except for omitting further expansions in equities' price/earnings multiple. Rob's model, on the other hand, is very sensitive to current valuations, as measured by the current dividend yield, and thus projects lower future returns due to the current lofty valuations. Is that a fair representation, Rob?**

**Arnott:** I wouldn't say "very sensitive." I would say that my model acknowledges valuation levels, without assuming that they're going to change back to historical norms. I assume that higher valuation levels mean lower returns, all else equal. Which I think makes sense.

Suppose bond yields tumble from 10 percent to 5 percent, producing a 20 percent return. The naïve investor sees a 20 percent return and says, "I'm going to expect 20 percent." Roger's approach is to say, "Ten percent of that return came from rising valuation levels, so we'd better subtract that out, and expect ten percent." My approach is to say, "True, but the higher valuation levels (lower yields) have a consequence, so we'd better adjust for that and expect five percent." I'm oversimplifying, because a stock is not a bond and, in theory, lower stock yields can be offset by faster dividend growth. But there's no evidence in history to support the notion that lower yields will be offset by faster growth; indeed, the evidence contradicts this view.

**Ibbotson:** Rob misinterprets my approach because, as he says, "A stock is not a bond." In fact, the recent academic evidence seems to show that stock dividend yields are not predictive of stock total returns—for example, see a recent working paper by Goyal and Welch—whereas bond yields are very predictive of bond returns.

Dividend growth is slow and steady, so that dividend yield changes are primarily caused by stock price changes. Dividends grow more slowly than earnings, stock returns and the economy, so that dividend yields tend to drop over time and are not very useful in forecasting.

It is only logical to believe that low dividend yields and high earnings retention lead to higher future growth. If corporations keep the money, they have to do something with it. Rob thinks they just waste it. I have a far more positive view of corporate America.

**Lord: So is it true to say that Roger's model quite consistently would be projecting equity premiums of somewhere close to four percent, regardless of recent stock behavior and current valuations, whereas Rob's projections would vary more, depending on changing valuations?**

**Arnott:** That's correct. For instance, if yields for stocks rise one percent, my expected long-term return would rise by about one percent. Unfortunately, from current market levels, that would mean a 40 percent drop in stock prices. But this need not happen in a single bear market. We could easily see an extended period of uninspired returns, like late-1965 to mid-1982, when the Dow started at 1000 and ended below 1000, after almost 16 years. Adjusted for inflation, stocks actually fell by half, to below 1929 levels, a 53-year span of zero real price gains for stocks. We'll still have bull and bear markets, but the old pattern of new highs with every bull market isn't a birthright for today's investors. It's a pattern we've seen only since 1982!

The reality could be a bit more daunting if we assume that valuation levels need to return to a four percent risk premium. That would probably require at least a four percent dividend yield, even assuming that real bond yields fall to two percent or less. That, in turn, would point to market levels one-third their current levels. I'm not anywhere near

that bearish, not even long-term, but that's what it would take for my model to show a four percent risk premium.

**Ibbotson:** In my latest paper, with Peng Chen, we assume a constant risk premium and efficient capital markets. We do not literally believe the risk premium is constant, but given the high estimation error surrounding any estimate of the risk premium, it is reasonable to assume a constant and to try to determine the value of that constant.

This is also the reason I am making very long-term forecasts, rather than attempting to make ever changing short-term forecasts. One could think of the long-term forecast as the starting point for anyone who wants to make short-term or tactical forecasts. Thus, I am forecasting returns assuming today's market is efficiently priced. I regard it as a separate discussion as to whether today's price is too high or too low.

Actually, Rob is betting that the stock market today is extremely overvalued, so much so that even a long-term investor would not expect stocks to outperform bonds. There is no doubt that stocks are far riskier than bonds, so that if today's market is anywhere near reasonably priced, stocks would be expected to outperform bonds.

**Lord: How many years do we have to wait to find out whether Rob's zero percent or Roger's four percent expected risk premium is more accurate? Rob?**

**Arnott:** A long time! With 15 percent to 20 percent volatility in the market, it will take around 25 years to say who is right with even 90 percent confidence, let alone with any real certainty. By then, I'll be 72, and I expect to be retired on a fishing boat on Bora Bora. But of course, early evidence is that I'm right!

**Lord: Roger?**

**Ibbotson:** It will take a long time, just as it took 25 years (from 1976 to 2000) to verify my initial forecast.

**Lord: Well, if any of us are still around, it will be interesting to look back at this discussion. Thanks to both of you for sharing your insights and differences.**