Robert D. Arnott
Editor

The Meaning of a Slender Risk Premium

To achieve "success" for our clients, we often focus, with their full assent, on the trees of asset selection—the little decisions—and ignore the forests—the big decisions. Sometimes, this focus leads to costly errors. So, even if our clients are focused on the trees and reward us to do the same, we owe them our continued awareness of the forests. We cannot take the easy way out.

I will address a number of the neglected forests in future issues, including

- demographics, the million-acre forest that too few investors consider in constructing their portfolios,
- quality of earnings, which has ripple effects on prospective earnings growth and investor confidence, and
- an overly narrow definition of risk.

But for now, let's explore one forest in which many investors lose their way—reliance on a healthy equity risk premium and on dividend growth to make stocks the winner over bonds in the long term.

For those who are "circumferentially challenged" (which includes your humble editor), "slender" is an attractive goal. For investors, a slender return or a slender risk premium is not at all attractive. For those seeking investments that are priced to offer material benefits in compensation for risk—a solid risk premium—bigger is better.

The equity risk premium is unknown. We can estimate it (and all too often, we do so badly by merely extrapolating the past). *Should* a risk premium exist? Of course. Is its existence written into contract law for any assets we buy? Of course not. A 5 percent risk premium is often taken as fact, but it is only a hypothesis. The temptation is that if we treat a 5 percent risk premium as a fact, we are free to focus on asset selection. Our assumption has dispensed with any need to question the risk premium and, therefore, diminishes the need to make an asset-mix decision.

Few serious observers of the capital markets argue that the future risk premium for stocks relative to bonds can rival the lofty excess return that stocks have delivered in the past. In the 78 years covered by the Ibbotson data,[1] stocks delivered a real return of 7.1 percent, against 2 percent for bonds. That's terrific!

A big part of this return, however, is attributable to the tripling of P/Es in this 78-year period. Most observers, at a minimum, subtract that rise in market valuations from future return expectations.

The constituent parts of returns form a picture of the future that differs greatly from the picture of the past. Dividend income provided 4.2 percent of the 7.1 percent real return for stocks; real dividend growth provided 1.3 percent; and rising valuations provided another 1.5 percent. If we set aside the 1.5 percent that stemmed from rising P/Es and falling dividend yields, we are down to a 5.6 percent premium. If we recognize that the current dividend yield is only 1.5 percent (rather than 4.2 percent), we are down to 2.7 percent. If the future real return on government bonds is 2 percent, then we need pretty heroic growth assumptions to assume a risk premium of more than 2 percent.

Stocks for the Long Run?

If stocks offer a 5 percent risk premium relative to bonds, then it makes no sense for long-term investors to invest in less risky assets. With this premium, the long-term investor, if prepared to wait 20 years, has almost a 95 percent chance of winning with stocks. But if the margin of stock returns over bonds is smaller than 5 percent, the arithmetic quickly makes the argument for stocks for the long run less compelling.[2]

Figure 1 shows a graph depicting the worst reasonable wealth outcomes—that is, the 5th percentile outcomes—which you have a 95 percent

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Figure 1. Relative Wealth for Various Risk Premiums: Projected 5th Percentile Outcomes, 2004–29

5th Percentile Outcome (%)
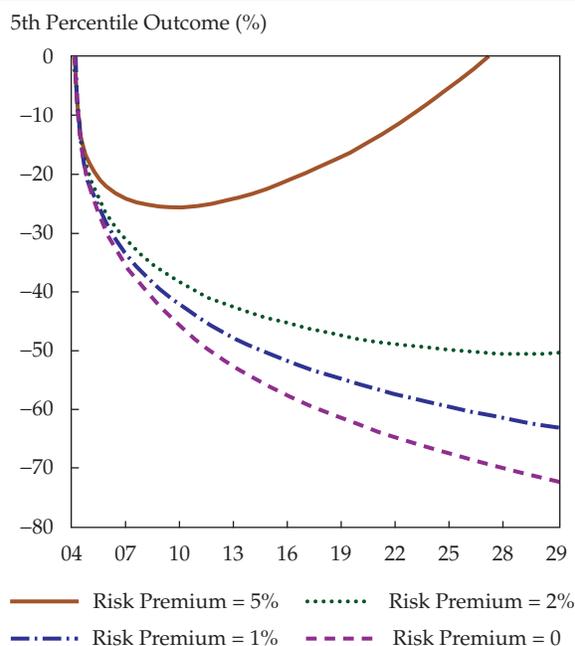
Note: Stock returns have 15 percent volatility relative to bond returns.

chance of beating. If stocks have 15 percent volatility relative to bonds and a normal excess return of 5 percent, the 5th percentile outcome in the first year is a 19 percent shortfall.[3] That is, you would have a 5 percent chance of stocks underperforming bonds by 19 percent or more in a year. In the second year, your 5th percentile outcome is *not* another loss of 19 percent. Because risk expands with the square root of time, your 5th percentile outcome in the second year is 34 percent below the mean, which has now grown another 5 percent, to a 10 percent gain. So, your 5th percentile outcome is a loss of only 24 percent, barely 5 percent worse than the one-year case.

Indeed, with a 5 percent risk premium, your worst reasonable outcome bottoms out at a 26 percent shortfall after five years. In other words, if stocks can reasonably be expected to deliver 5 percent more than bonds, your worst reasonable outcome is that you will be under water relative to bonds by 26 percent after five years. After five years, the picture quickly becomes brighter. And after 25 years, you have better than a 95 percent chance of winning with stocks relative to bonds. In a nutshell, the top line of Figure 1 shows the basis for the "stocks for the long run" thesis.

How realistic is this 5 percent premium? If bonds yield 5 percent, you need a long-term return

of 10 percent from stocks to get a 5 percent risk premium. If stocks yield 1.5 percent, a 5 percent premium requires stocks to deliver long-term earnings and dividend growth of 8.5 percent. That's a lot to ask: EPS growth in the 20th century (no slacker for growth, as centuries go) averaged just over 4 percent, of which fully 3 percent was inflation.

Instead, let's suppose EPS growth is 5.5 percent, 4.5 percent, or 3.5 percent. Those data correspond to, respectively, a 2 percent, a 1 percent, and a 0 risk premium, for which the 5th percentile graphs are shown in the descending lines in Figure 1. In these circumstances, after 25 years, you are 50 percent, 60 percent, or 70 percent behind the bonds and still headed south. These outcomes, although among the lowest percentiles, are well within the realm of possibility.

Suppose you had a 2 percent risk premium. Then, the worst reasonable outcome would never get much worse than that 50 percent shortfall; it would finally surpass bonds in a bit under 150 years. At about that same time, the worst reasonable outcome with a 1 percent risk premium would hit its low point, at 77 percent less wealth than the bond investors, and begin to slowly creep upward. After 200 years, with only a 1 percent premium, you would still be way behind bonds.

Notably, both of these scenarios require faster EPS growth than has occurred over a century of steadily rising prosperity. With EPS growth of 3.5 percent, we'd have no risk premium for which the worst reasonable outcome could ever hit bottom and turn up.

The "normal" risk premium over the past two centuries has probably been about 2.4 percent.[4] So, 100-year investors can expect their stocks to beat their bonds with 95 percent confidence. If the current risk premium is lower than 2.4 percent, a longer horizon will be needed for investors to have that much confidence in the superiority of their stock holdings.

Naturally, if you're willing to settle for a 60 percent likelihood of success, the span you need to wait is considerably shorter. But the wait for stocks to assuredly outpace bonds is *not* a reasonable span for patient investors unless stocks are priced to deliver a large risk premium relative to bonds.[5]

Dividends and a Slender Risk Premium

Many investors think that dividends don't matter if the growth is sound. After all, dividends grow over time; bond coupon payments do not. Eventually, the dividends surpass the coupons, which provides another basis for the superiority of stocks—for the long-term investor.

How long must you wait before your income from stocks matches your income from bonds? **Figure 2** shows that in 2004, $100 invested in bonds is delivering $5 of income; in stocks, it is delivering about $1.50. If dividend growth matches the 4 percent rate of the 20th century, in 32 years, dividend income catches up with the income provided by bonds. If growth is more robust, 5 percent or 6 percent, the wait is shorter—26 or 22 years. That is still a long wait, but so far so good: The patient investor wins with stocks.

How long do you need to wait for the *cumulative income* from stocks to catch up with cumulative bond income?[6] If dividend growth is solid at 5 percent or 6 percent, you need 44 or 37 years. If dividend growth merely matches the 4 percent growth of the 20th century, you need a startling 54 years for your cumulative income to have kept pace. In those 53 years, your $100 bond investment will have paid you $270 (assuming you could reinvest at the same 5 percent when today's bonds mature) and stocks will have finally paid you $274. The long-term investor eventually wins, but it's a daunting wait.

The risk premium rules of thumb we've relied on are shaky. Indeed, the risk premium is a skinny hook to hang our futures on. Should we rely on the risk premium for profit, or should we look more aggressively for other paths to profit? I think the latter is by far the more sensible route.

Figure 2. Projected Income for Each $100 Invested: Bonds vs. Stocks, 2004–39
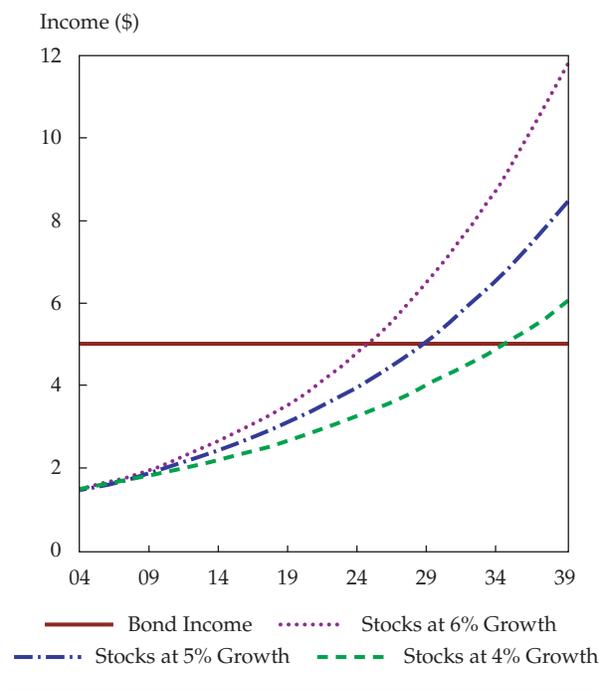
Notes

1. See *Stocks, Bonds, Bills, and Inflation* by Ibbotson Associates (Chicago: Ibbotson Associates).
2. I am indebted to Andre Perold for pointing out that if the risk premium falls by half, the time required to have a high confidence of winning with stocks quadruples. The arithmetic is simple but compelling.
3. The 5th percentile is 1.6 standard deviations below the mean. The standard deviation of 15 percent times 1.6 means that you would have a 5 percent chance of having stocks perform 24 percent below this 5 percent mean outperformance, for a shortfall of 19 percent relative to bonds.
4. See Robert D. Arnott and Peter L. Bernstein, "What Risk Premium Is 'Normal'?" *Financial Analysts Journal* (March/April 2002):64-85.
5. It is important to acknowledge that this arithmetic assumes that returns are random lognormal, not mean reverting. Jeremy Siegel's most important finding in *Stocks for the Long Run* (New York: McGraw-Hill, 2002) is that the dispersion of returns falls faster with long horizons than a random lognormal return would. This finding implies mean reversion. Thus, my conclusions are probably gloomier than reality. Mean reversion provides scant comfort, however, for an investor looking back on the best 20-year span in U.S. capital markets history!
6. I am indebted to Peter Bernstein for this simple but powerful tool for understanding the nature of the equity risk premium.