

## The Bond Hedge

For the long-term investor, risk is not about volatility - it is about a long-drawn-out period of dismal stock returns. Investors in U.S. equities are suffering the full brunt of this reality, as evidenced by the following graph that depicts the cumulative value of \$1.00 invested in the S&P 500. Investors have endured eleven years of ups and downs to find they are back to where they were in March 1998.





And mind you, this gloomy performance is before the performance drag of costs and taxes. For retirees living on investment returns, the result has been nothing short of catastrophic.

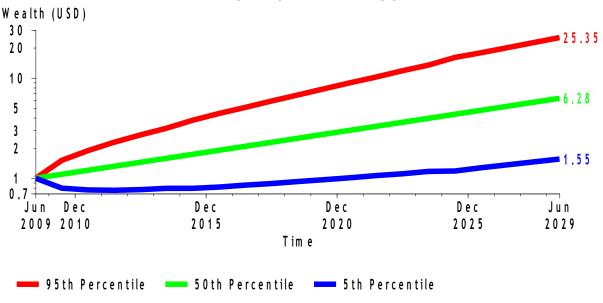
However, the risk of protracted bleak performance has always been a facet of equity investing. The nexus of excessive stock valuations and a massive economic shock that leads to plunging stock prices, monetary instability and subpar growth can result in years of disappointing returns.



This risk becomes apparent when you look at the range of stock values that could arise in the future. The following graph is a simulation of potential values of the S&P 500 over the next 20-years starting with an initial value of 1.00. Based on the average return and volatility of the S&P 500 since 1926, it uses long-term historic experience to extrapolate a range of possible outcomes.

The median outcome as shown in green (i.e. the 50 percentile) is the reason growth-oriented investors emphasize equities in their asset mix - \$1.00 invested today could grow to \$6.28 in 20 years. On the upside shown in red, there is a 5 percent chance (i.e. the 95<sup>th</sup> percentile), \$1.00 could grow to \$25.35 or more. Equity investors in January 1980 actually enjoyed such a rare and fortuitous outcome.

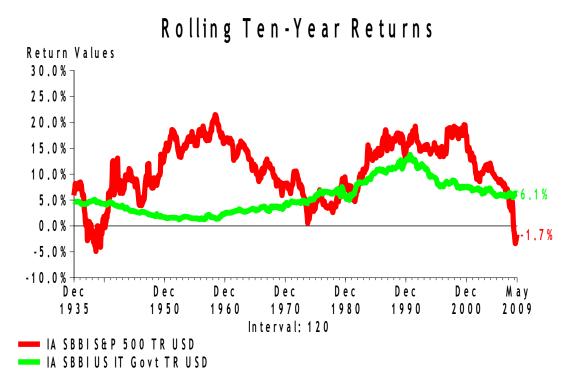




On the downside shown in blue, there is a 5 percent chance that \$1.00 could grow to a mere \$1.55 or less in twenty years. In this gloomy scenario, stock returns are deeply in the red for seven years and barely turn positive after twelve long years. It is this potential outcome of long-term poor equity returns that must concern investors, particularly retirees, in their portfolio planning.



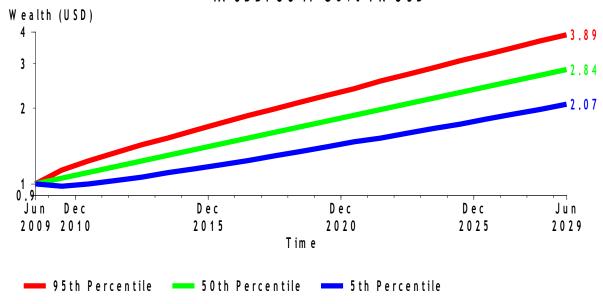
The antidote to this risk is diversifying into high quality bonds; in particular, bonds backed by "the full faith and credit" (i.e. the full taxing authority) of governments. The following graph depicts the ten-year rolling returns of U.S. intermediate-term government bonds (in green) compared to those of the S&P 500 (in red). It illustrates that there have been lengthy periods in the late 1930's/early 1940's and the mid 1970's/early 1980's where the ten-year return of government bonds outperformed that of stocks. Most recently, government bonds had a ten-year average annual return of 6.1%, a decided contrast to the -1.7% return of stocks.



There are two reasons that government bonds offer a portfolio downside protection. One is self-evident; government bonds offer a high certitude of future cash payments due to their negligible default risk - taxing authority is a powerful instrument in a wealthy society. The result is a much lower downside, as illustrated in the following graph which depicts a simulation of potential values of intermediate-term government bonds over the next twenty-years based on an index value of 1.00 as of June 2009.



## Sim ulated Wealth Percentiles



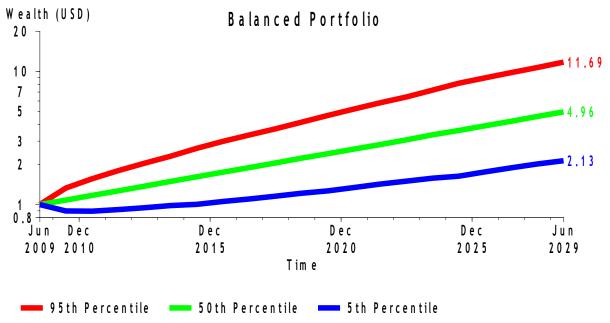
In the reasonable "worst case" scenario depicted in blue (i.e. the 5<sup>th</sup> percentile), the government bond value turns positive in just over two years and after twenty years has a final wealth index value of \$2.07 - significantly higher than stocks at \$1.55. The opportunity cost, however, is material - the higher return potential of stocks is entirely foregone.

The second reason is more subtle. On average, government bond returns are not correlated to stock returns - there is no real pattern of co-movement. Bonds will sometimes do well when stocks are doing poorly and vice versa but other times they will perform in unison. However, correlations are not constant and during periods of extreme economic contraction and deflation, the correlation between government bonds and stocks goes deeply negative - government bonds do well and stocks do poorly.

The result is that when government bonds are combined with stocks you get a more diversified portfolio that provides superior downside protection with a reasonable opportunity for growth. This is evidenced in the following graph that depicts a simulation of the potential values of a balanced portfolio comprised of 60 percent stocks and 40 percent intermediate-term bonds over the next 20-years.



## Simulated Wealth Percentiles



In the reasonable "worst case" scenario depicted in blue (i.e. the 5<sup>th</sup> percentile), the balanced portfolio value suffers only moderate losses initially, turns positive in six years and after twenty years has a final wealth index value of \$2.13 - higher than both bonds at \$2.03 and stocks at \$1.55. Yet, the median outcome results in a twenty-year wealth index value of \$4.96, nearly 80 percent of the much riskier stock median value of \$6.28, and significantly ahead of the bond median value of \$2.84.

In short, in normative markets, the balanced portfolio captures much of the upside of stocks. Only during extreme long-term bull markets like the 1980's and 1990's is the opportunity cost of a balanced portfolio high.

In investment jargon, a hedge is a position in one asset that offsets the price risk of another asset. For the long-term investor, government bonds are an essential hedge against a long-drawn-out period of dismal stock returns. The current robust rally should not blind investors to this fundamental reality.



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