

STRATEGIC RESEARCH

The Investor's Challenge

Nominal Bonds: "Running on Empty"¹

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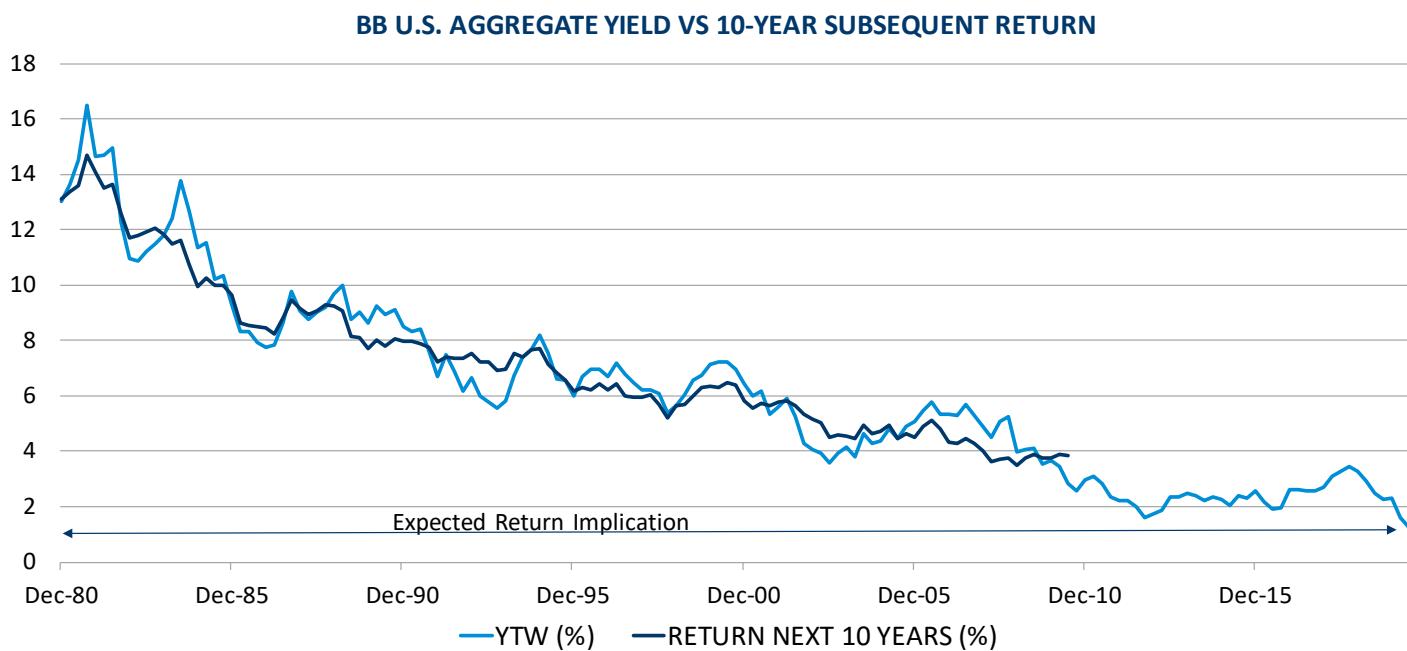
Introduction: "Running on Empty"¹

In a recent research note, we discussed the challenges current market and economic conditions present to investors as they approach asset allocation decisions. Much like the period following the 2008 global financial crisis (GFC), today's challenges begin with 0% yields on cash and cash equivalents. However, as mentioned in that earlier note, unlike the post-GFC period, today's challenges are made considerably more daunting by the anemic yield spreads between these zero cash yields and the market yields priced into longer-term, high-quality fixed income instruments. This portfolio component is the "40" in the proverbial and traditional "60/40" equity/bond portfolio. The investor's challenge is defined by a muted long-term expected return for this important fixed income portfolio allocation, but is further compounded by legitimate concerns that the bond return pattern itself – and not just its final destination – may be changing in a way that fundamentally alters the segment's utility within institutional portfolios. In this note, we briefly review the history of bond returns and yields, discuss the potential changing portfolio role of high-quality nominal bonds, and explore some potential alternative return streams to supplement the defensive risk characteristics investors have long collected and depended upon from nominal bonds.

Nominal Bond History: "Looking back at the years gone by like so many summer fields"¹

The following chart of historical yields and 10-year subsequent rolling returns for the Bloomberg Barclays U.S. Aggregate Index makes two points vividly clear: 1) yields on high-quality bonds have been in a steady and dramatic secular decline for nearly 40 years and 2) the "going in" yield is a very strong indicator of the subsequent total return period. In short, the yield represents our investment destiny, and today's levels leave the primary diversifier in most traditional portfolios "running on empty." This is not to suggest that high-quality nominal bonds no longer have a role in institutional portfolios, but rather that they may need some assistance from other return sources in buffering overall portfolio risk.

¹ Jackson Browne, "Running on Empty," Running on Empty, 1977

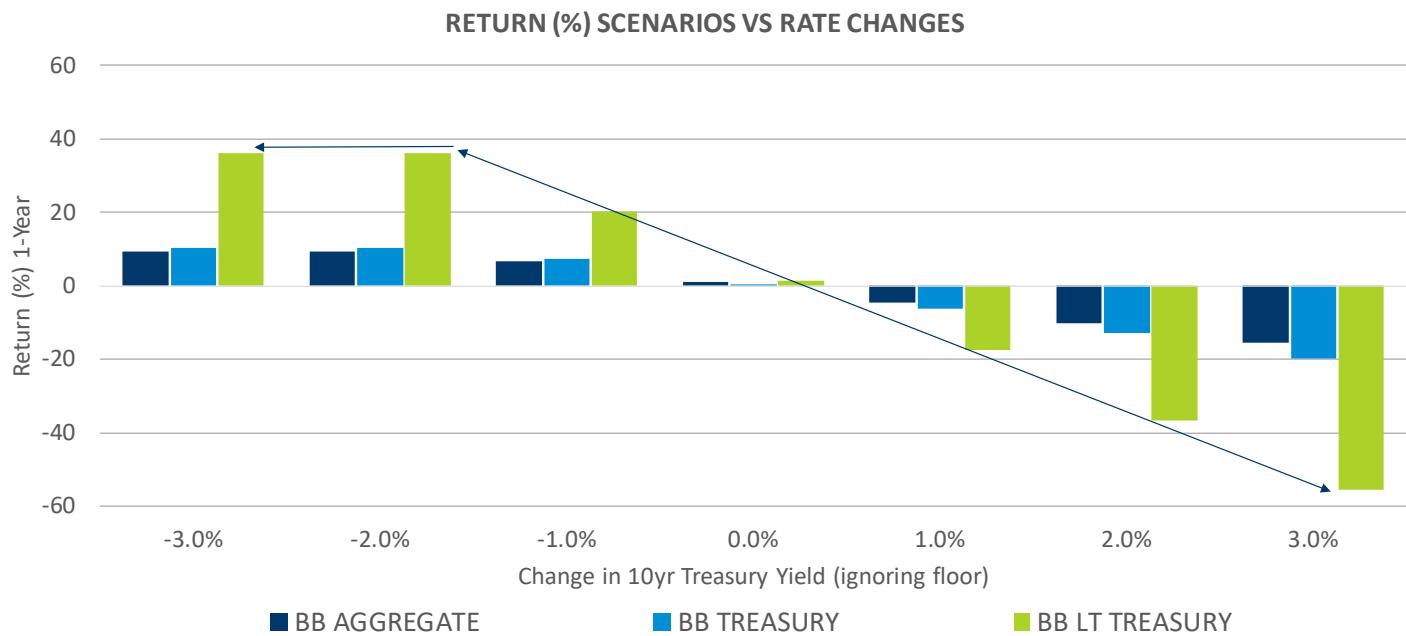


Source: Bloomberg

Bond Expectations: "I don't know when that road turned into the road I'm on"¹

As we have highlighted, the most recent yield-to-worst plots on the previous chart project a 10-year return expectation below 2%; there is little hope of escaping that reality for investors. Unfortunately, dedicating meaningful portfolio allocations to assets with such return prospects, especially for investors with return objectives in the range of 7%-plus, reveals only one aspect of today's challenge. Other growing concerns for nominal bonds are the risk characteristics of their return pattern and their potentially diminished ability to serve as a trusted portfolio diversifier. As yields approach their theoretical floor, their potential return pattern risks becoming asymmetric in shape, with diminished upside properties to their return distribution. So, while today's historically low bond yields provide a reliable picture of the long-term destination of bond returns, the path they follow in realizing that destiny is less certain and has important implications on overall portfolio risk. The chart below attempts to paint this picture by showing the hypothetical expected returns to the Bloomberg Barclays U.S. Aggregate, U.S. Treasury and U.S. Long Treasury indexes given various assumed changes in yields one year in the future (i.e. from their August 31, 2020 YTWS of 1.15%, 0.49%, and 1.34%, respectively). In scenarios where the yield change would otherwise fall below the assumed floor, we substitute the yield floor to compute the resultant index return.²

² The scenario analysis establishes minimum floor YTWS for each index based on -1% yield floor for the 10-year U.S. Treasury (implying yield floors of -0.34% for the U.S. Aggregate, -1.00% for the Treasury index and -0.50% for the LT Treasury Index) While a discussion of the practical floor on bond yields is beyond the scope of this discussion, a level near -1% seems to be generally representative of such a floor. At lower levels, investors would choose the storage cost of holding cash over the penalty of holding bonds with yields below -1%. Furthermore, the exact level does not materially impact the general point that a floor exists and implies bond return asymmetry as it is approached. The floor for the LT Treasury index was set to provide a 50 bps yield premium above the Treasury index, while the yield floor for the U.S. Aggregate was established by maintaining its 8/31 yield spread of 66 bps over the Treasury index.

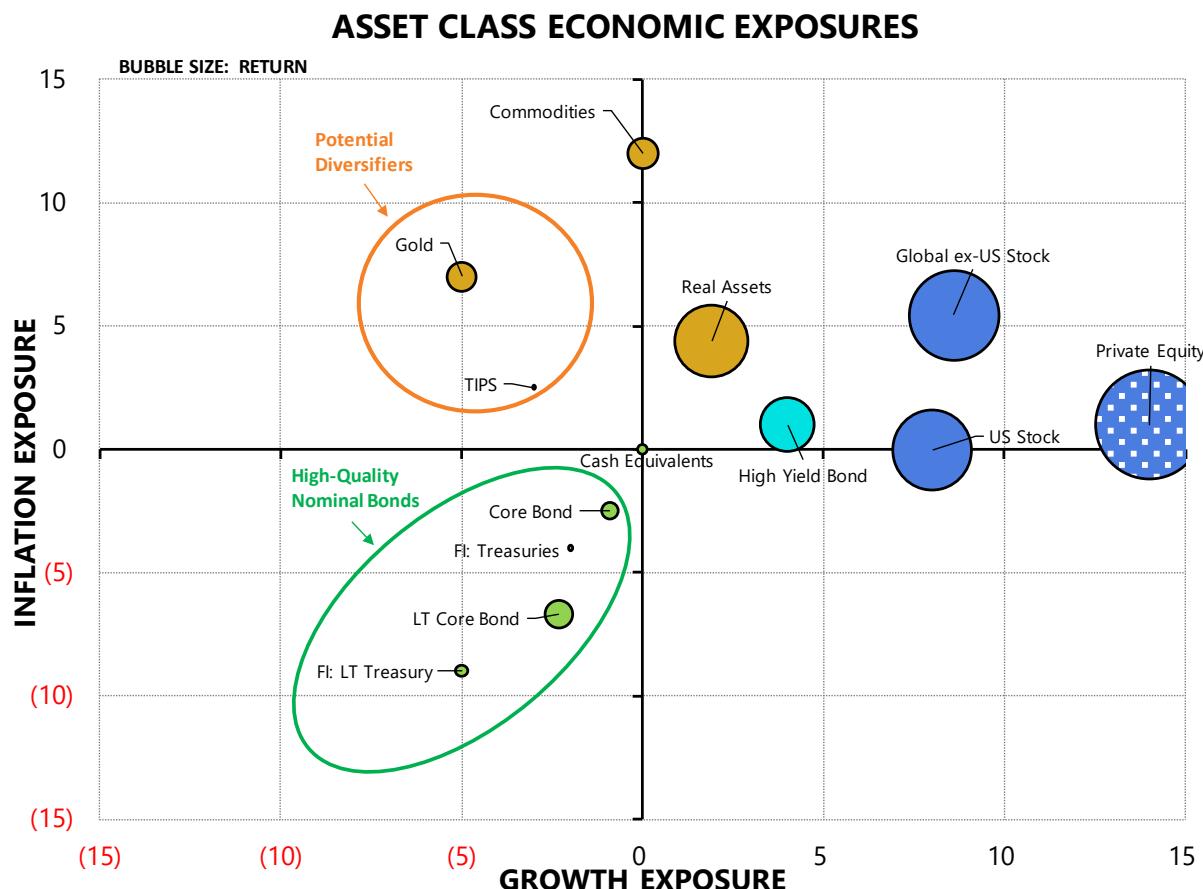


Source: Bloomberg, Wilshire

Though they say nothing about the probabilities of various future interest rate movements, as such forecasts are notoriously difficult to make with any degree of accuracy, the lines in the above chart assist in observing the downside return asymmetry around possible rate changes; with larger downside scenarios possible versus capped upside potential. Focusing on each side of the chart above – the left-hand side for return scenarios in a falling rate environment and the right-hand side for estimated returns in a rising rate environment – we attempt to glean an understanding of the potential environment that might drive such rate outcomes. From there, we are in a better position to assess where bonds may need some assistance in providing portfolio diversification and what specific asset segments might be able to contribute to greater prospective portfolio resilience.

Economic Regimes: “Looking out at the road rushing under my wheels”¹

We begin with the truncated returns at the left of the chart above, representing scenarios with falling rates. Since interest rates reflect investor pricing of economic conditions as they relate to economic growth and inflation expectations, the most likely backdrops producing rates below those priced into markets today would be lower growth and/or inflation expectations versus what markets are currently discounting. The chart on the following page provides a schematic of expected asset class sensitivities to growth and inflation through the lens of Wilshire’s economic factor model (with growth exposures on the horizontal axis and inflation on the vertical axis). The chart’s bubble sizes represent relative expected returns and bubble shading simply added as a convenience in grouping asset classes by their potential portfolio role (i.e. blue: growth assets, green: defensive assets, gold: real assets, etc.). The cluster of high-quality nominal bond asset classes (green bubbles) in the lower-left quadrant of the chart demonstrates their defensive properties of providing protection against recessionary and deflationary environments. Falling growth environments and the historically strong returns of high-quality bonds during these recessionary regimes underscore the concern regarding the potentially reduced ability for future bond returns to offset equity and equity-like asset class drawdowns. Nominal bonds have also delivered strong performance during deflationary periods, a role that might also be diminished going forward. As the left side of the chart above shows, we have not fully reached the end of nominal bond portfolio utility, as there is still some modest upside to these investments in scenarios where yields fall to or below zero percent. This is not a prediction of such a rate outcome, but simply an acknowledgement that such outcomes are possible and would propel attractive bond returns. In the next section, we will explore asset class candidates that might be expected to supplement some of the lost return potential of nominal bonds in a falling rate environment.



Source: Wilshire

Turning to the righthand side of the yield scenario exhibit on page two, we now contemplate likely economic regimes that might drive rates higher. Contrariwise to the discussion above, these environments would likely be driven by rising growth and/or inflation expectations. A growth-driven increase in interest rates is obviously the most favorable for traditional portfolios, whose heavy equity risk allocations would likely rally, leaving little reason to search for other assets that might perform well during such an environment (note the concentration of commonly held asset classes plotted on the right-hand side of the economic factor exposure chart above). However, if rates were to rise due to an increase in realized or discounted inflation, equity and other growth assets might also struggle. After decades of inflation being managed at very modest levels, and with the key secular disinflationary forces of technology and globalization still at play, many dismiss the potential concern of future inflationary regimes. The current economic disruption from COVID-19 and its related impact on elevated unemployment numbers further bolster that case.

However, while Wilshire is not predicting a short or even intermediate-term spike in inflation, we would push back against inflation complacency in institutional portfolios and suggest that the risk of an inflationary regime has increased. There are some factors slowing some of the disinflationary forces noted above (e.g. a potential slowdown in globalization as countries assess some of the global supply chain vulnerabilities that were exposed during the early months of the COVID-19 outbreak), and, more importantly, the current aggressive actions, agendas, and intents of global central bankers. The logical path out of the global economic slowdown is to 1) have central banks print money to provide an abundant supply of liquidity, 2) have governments spend via fiscal stimulative policy, and 3) allow steps 1 and 2 to drive the required long-term level of growth necessary to pay back that accumulated debt. The growth noted in step 3 of this process requires nominal growth (i.e. the combination of real and inflationary growth), so policy makers are comfortable running, or at least tolerating, elevated levels

of inflation in future years. The Federal Reserve's recently announced change in policy related to its inflation mandate supports this acceptance.³

Asset Considerations:

"Look around for the friends that I used to turn to to pull me through"¹

As we think through the potential vulnerabilities of nominal bonds, the economic risk regimes discussed above and their collective impact on overall portfolio diversification, we identify the potential portfolio need for assets that can provide some form of protection against recessionary environments and/or during periods of rising inflation. We refer to the left-hand side of the economic factor chart on page three to identify asset classes that might be able to contribute to portfolio diversification via their negative expected sensitivity to growth. Treasury Inflation-Protected Securities (TIPS) and gold stand out as possible investment candidates, while also potentially providing protection against inflationary environments. Below we provide a high-level discussion of each asset's risk profile and potential inclusion within institutional portfolios, particularly considering the reduced utility of high-quality nominal bonds.

As represented by their relative bubble size, neither TIPS nor gold provide lofty long-term expected return potential. In this regard, neither provides much assistance in addressing the investor's challenge. However, their return path and sensitivities to various economic regimes differ from nominal bonds and, as a result, may provide attractive risk characteristics at the total fund level. Despite also suffering from very low yields (i.e. 10-year TIPS real yield of -1.10% as of August 31, 2020), TIPS are unlike nominal bonds in that they should be able to maintain symmetry around their expected return pattern. This is the result of real yields having no theoretical or practical floor, which allows symmetrical yield volatility of future discounting of inflation expectations to flow into TIPS yields (and by extension, their returns). As such, while their long-term return potential in the expected case remains low, TIPS can provide outsized returns should we encounter a period of rising inflation. For example, even if nominal Treasury yields reached their floor, there is no floor preventing the real yield on TIPS to reflect that nominal floor minus the market's expected inflation rate. As such, as inflation expectations rise, those increases would push directly through to a lower and lower real yield on TIPS, which would drive TIPS returns higher. By maintaining the potential for symmetry around the future return pattern, TIPS can provide a strong risk offset, making them worthy of consideration as a supplement to high-quality nominal bonds.

Gold can also provide a growth offset during times of stress, as investors turn to the precious metal as a safe-haven asset. However, unlike bonds with reliable cash flows, the positive risk characteristics of gold are less reliable (i.e. they have basis risk) and are entirely dependent on how investors price the metal. Gold neither creates any direct economic activity nor does it produce income payments. Nonetheless, used independently or in conjunction with TIPS, gold can provide additional diversification properties to supplement those that have been dampened with nominal bond exposures. There are also implementation challenges to harnessing the potential risk benefits of gold within institutional portfolios, as they are most efficiently included via the commodity futures market. Many investors will lack the appetite to take on the investment and implementation complexities involved in maintaining exposure to gold, but for those who can get comfortable with these additional considerations, gold has the potential to play a valuable role in addressing the diversification aspects of the investor's challenge through a more balanced set of risk exposures.

As we conclude this section, it is important to note that neither TIPS nor gold can replace the ability of nominal bonds to deliver attractive returns in a deflationary, depression environment. In fact, both assets are likely to suffer in such an environment, particularly relative to the returns of high-quality nominal bonds. Unfortunately, beyond nominal bonds, there is a dearth of assets that can supplement this risk offset (there are assets that might hold their value, such as cash, but none that can be expected to provide a deflation-risk offset during such extreme periods). As this risk becomes more difficult to manage through traditional asset class diversification, it is worth noting that above all other environments, it is a deflationary downturn that central bankers will attempt to offset with all their available tools. Furthermore, whatever political stalemates currently exist in preventing additional fiscal support for the COVID-19 slowdown are likely to be quickly resolved should the prospects for a downward economic spiral increase. Investors may ultimately need to either accept the low probability risk of

³ During his August 27, 2020 virtual speech at the Federal Reserve's annual Jackson Hole Symposium, Chair Jerome Powell announced the Fed's agreed upon policy to move from its 2% inflation target to a new policy of "average inflation targeting." The move indicates that the Fed will be more comfortable allowing inflation to run above 2% provided the average inflation rate over time is consistent with its 2% objective.

these extreme outcomes or, for those with low tolerance for such risks, explore other, sometimes more costly, forms of portfolio protection such as tail-risk hedges. As the costs of traditional diversification increase, due to, for example, the concepts discussed within this note, the relative cost of direct insurance via tail-risk hedging becomes a more attractive means to manage overall portfolio risk (i.e. by shifting a portion of nominal bond exposure into higher returning, growth asset classes and using some of the expected return premium to purchase explicit downside insurance).

Final Thoughts: "I'd love to stick around, but I'm running behind"¹

There are some points related to this discussion that are worth noting as we conclude. Wilshire has spent many years advocating for greater balance in institutional portfolios, which often meant providing a rigorous defense for holding high-quality bonds despite their low yields. With yields now having taken another significant step lower – and, importantly, having moved much closer to their practical yield floor – we find ourselves less sanguine about advocating for more significant risk contributions from high-quality bonds. That being said, and as the yield scenario chart on page two displays, these investments have not yet lost (and may never lose) their potential return benefits and value to diversified portfolios. At the same time, maintaining significant exposure to such assets, particularly for investors with return targets near 7%, may require more sophisticated portfolio construction techniques. As we alluded to in discussing gold implementation, the consideration of modest leverage and efficient implementation via futures and other derivative instruments may prove beneficial in maintaining reasonable exposure to these low return, highly diversifying investments. In this regard, we would still find risk parity and other similar construction approaches to offer value in addressing today's challenges.

However, should yields continue to fall from today's level and eventually reach their lower floor, many of the concepts discussed herein would be magnified. In such an environment, the asymmetry around nominal bond returns could deteriorate to the point of behaving like cash on the upside (i.e. limited to no upside), while still maintaining their historical downside return pattern in the face of rising interest rates. Such an environment would have a significant impact on most institutional portfolios and would likely require a meaningful allocation response.

We present the discussion above to advocate some additional tools for consideration in addressing the investor's challenge when reviewing asset allocation policy. Unfortunately, today's challenges are significant to the extent that there are no simple responses or universally accepted approach to navigating through the environment. Like all investment decisions, the options available to investors in managing significant portfolio risk often introduce new risks. The ultimate determination of whether the options presented above are appropriate should be driven by individual organizational and portfolio circumstances and based on each investor's tolerance for these various risk trade-offs. We recognize how difficult the upcoming decision-making process will be for many institutions and look forward to providing thoughtful guidance in supporting customized asset allocation decisions that are appropriate for your organization's unique goals, resources, and risk tolerances.

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