

What Price Certainty?

*This is a condensed version of a blog published in April 2018.
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As humans, we have a fundamental, biological need for certainty. This is particularly true in our financial lives, where we require certainty of income to create household budgets and prudently plan for retirement.

And what's not to love about bonds, particularly those issued by the U.S. Treasury, in this regard? Safety of principal? Check. Fixed and predictable interest payments? Check.

Common stocks, in sharp contrast, are quite uncertain in the short run. Stock prices usually fluctuate widely—although 2017 was an outlier, with extremely low volatility. Optimism can lead to excessive valuations, dampening return potential in the future, and dividend yields have been declining for decades. Averaging just under 2%, dividend yields are currently as low as they have ever been over the past 90 years.

Given all these uncertainties, investors may seek the perceived safety of the certainty offered by bonds. The catch, of course, is the high price of this certainty. And the biggest behavioral challenge for all investors is to *practice rationality in the face of uncertainty*.

Given the fear and loathing of the current equities bull market that turned nine years old in March 2018, bonds may be an appealing alternative asset class to some. But before you buy, consider the price of three huge problems with bonds based on current market metrics.

Three Problems With Bonds

1. **Today's yield is likely your total return.** Two prominent Princetonians, Vanguard founder John Bogle and economics professor Burton Malkiel, independently researched the predictive power

of current bond yields on 10-year future returns and reached the same conclusion: "Over the long run, the yield that a bond investor receives is approximated by the yield to maturity of the bond at the time it is purchased" (Malkiel, *A Random Walk Down Wall Street*, 11th edition). Bogle's research looked at rolling 10-year



periods going back to 1906 and determined that about 90% of the subsequent returns on bonds are explained by their initial yields. Based on historical probabilities, today's yield is also likely to be the average total annual return for 10-year notes over the coming decade.

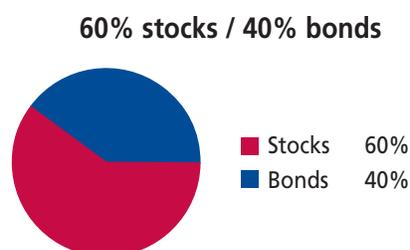
2. **There is no such thing as a "normalized" interest rate environment.** As the chart on page 4 illustrates, 10-year Treasury yields peaked just above 15% in 1981. Then, bonds enjoyed a historically unprecedented 30-year bull market—which is now over. Average yields are calculable over any historical period, but what interest rate and corresponding return assumption should a planner use when modeling a three- or four-decade time horizon, as would prudently be required in creating a financial plan for a 50-year-old? Good luck.

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Too Little, Too Much, Too Many

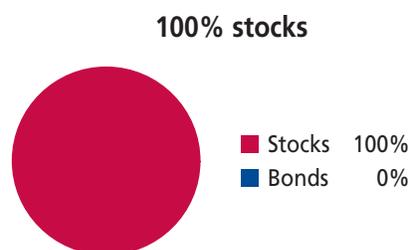
“Balanced” portfolios seek to reduce volatility by including income-generating investments and accepting moderate growth of principal. In these uncertain times, what’s wrong with a portfolio that balances 60% stocks with 40% bonds? Before we answer, let’s set the stage with some historical data.

Based on data from Vanguard going back to 1926, the results look pretty good for a balanced portfolio, with an average annual return of 8.7% and losses in 21 years out of 91.



Historical Risk/Return (1926–2016)	
Average annual return	8.7%
Best year (1933)	36.7%
Worst year (1931)	-26.6%
Years with a loss	21 of 91

As one would expect, a 100% stocks portfolio during the same period had a higher average annual return (10.2%) and higher volatility (losses in 25 years out of 91).



Historical Risk/Return (1926–2016)	
Average annual return	10.2%
Best year (1933)	54.2%
Worst year (1931)	-43.1%
Years with a loss	25 of 91

On the other end of the spectrum, a 100% bonds portfolio had an average annual return of 5.4% and losses in only 14 years out of 91.

The fundamental problem with the 60%/40% portfolio allocation is that it’s a model designed to reduce volatility, which is not the same as risk, and which is not a rational objective for the multidecade investor. Effectively, it’s a palliative prescription and comes at the expense of forgoing significant life-time returns.

To illustrate, investing \$1 million in a balanced portfolio value compounding at 8.7% generates a value of \$12.2 million after 30 years. By contrast, \$1 million invested in a 100% stocks portfolio compounding at 10.2% over the same 30 years yields \$18.4 million—50% more.

But notice that neither of these portfolios includes any allocation to cash. With 10-year Treasurys currently yielding about 3%, a retiree with a \$1 million portfolio and a 40% allocation to bonds would generate about \$12,000 of annual interest income. The corresponding reliance on annual withdrawals from the equity portfolio to fund living expenses leaves this person dangerously exposed to the impact of a bear market, especially should one occur in the early years of retirement.

In the real world, the typical “balanced” portfolio owned by the average investor consists of *too little cash, too much exposure to bonds, and too many types of equities*.

Too Little Cash

Most investors simply have too little cash. Retirees should set aside an amount sufficient to cover two years’ worth of living expenses, so they can suspend their equity withdrawals if a long and/or steep bear market strikes relatively early in retirement. Those still accumulating funds for retirement should set aside one year’s worth of expenses as an emergency reserve.

Too Much Exposure to Bonds

To be sure, there is an important role for bonds in investors' portfolios. Bonds are suitable for funding known future commitments that will become due and payable within five years. When purchasing bonds for this purpose, match the duration of the asset with the corresponding maturity of the liability. But buying bonds to diversify against the perceived risk of owning stocks—where volatility is falsely equated to risk—inevitably depresses portfolio growth in the long run. One of the iron rules of the capital markets is that anything that suppresses volatility commensurately suppresses return.

Too Many Types of Equities

The remainder of an investor's portfolio should be invested in equities, preferably through a highly diversified, low-cost, tax-efficient vehicle such as an equity index fund. In fact, when it comes to building a fully diversified equity portfolio, an investor needs to own just two broad-based equity index funds.

As an illustration, consider the two Vanguard exchange-traded funds shown in the table below. Based on their combined holdings as of May 31, 2018, an investor in these funds would own shares in 9,956 of the leading companies in the world while benefiting from some of the lowest expense ratios in the industry—typically 90% less than comparable actively managed funds.

Asset Class	ETF	Ticker Symbol	Number of Stocks ¹	Expense Ratio ²
Domestic Equities	Total Stock Market	VTI	3,629	0.04%
International Equities	Total International Stock	VXUS	6,327	0.11%

¹ As of May 31, 2018. (Source of all information: Vanguard.)

² VTI expense ratio as of April 25, 2018; VXUS expense ratio as of February 22, 2018.

Unfortunately, the typical investor owns either too many common stocks (though still a tiny fraction of the number in the two-fund Vanguard portfolio)



and/or too many actively managed mutual funds. The result is a leaky equity bucket, where a combination of management fees, transaction costs, capital gains taxes resulting from active trading, and underperformance siphon off returns that are otherwise available to the index investor who simply buys and holds.

The first step in designing a portfolio is to get the asset allocation mix right—which most individual investors fail to do. (For a quick tutorial, see our guide, **Asset Allocation Made Easy**.) Second, investors need to know what they own and why they own it. Why own a basket of common stocks or expensive actively managed mutual funds—with the unlikely goal of outperforming the market—when highly diversified, low-cost, tax-efficient equity index mutual fund alternatives are the superior and easier choice?

The key distinction is that your percentage allocations to cash, bonds and stocks will align with your individual circumstances based on a formula-driven methodology rather than being an arbitrary mix designed to reduce volatility or define a label such as “moderate” or “balanced.”

Behavioral Takeaway

In psychology, **heuristics** are simple, efficient rules that people often use to make judgments and decisions. They are mental shortcuts that usually involve focusing on one aspect of a complex problem and ignoring others. The 60% stocks/40% bonds balanced portfolio concept

is an example of a finance heuristic. It has intuitive appeal but is deeply flawed because it is too simplistic for the real-world needs of individual investors.

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3. Inflation eats more than half of bond returns.

Since 1926, the total return from large-cap stocks has been about 10%, and the return from investment-grade corporate bonds has been about 6% (source: Morningstar). Over that same period, inflation has averaged 3%. So equities have delivered a 7% return after inflation, which is more than double the 3% real return for bonds. With today's 10-year Treasury yield of 3% and a core inflation rate of about 2%, the current real return for bonds is about 1%.

Redefining Risk in Terms of Purchasing Power

The fundamental planning challenges for individuals are no different than those faced by pension and endowment investors. With three- and four-decade retirements, individuals must define risk *not just in terms of principal but in terms of purchasing power*.

To be sure, there is an important role for bonds in investors' portfolios. Bonds are suitable for funding known future commitments that will become due and payable within five years. But buying bonds to diversifying against the "risk" of owning stocks, and where risk has been deceitfully equated to **volatility**, inevitably depresses portfolio growth in the long run.

The essential character of the future is its unknowability. Uncertainty—in the markets and in the world—is the only certainty. We don't move from periods of uncertainty to periods of certainty; rather, we move from one uncertainty to the next.

Therefore, we believe that history is the best guide—perhaps the only guide—to the long-term future. We'll never have all the information we want regarding what's about to happen, because the future is indeed unknowable. Therefore, the rational investor thinks in decades rather than days, relies on historical, long-term average returns to guide asset allocation decisions, and makes changes infrequently.

10 Year Treasury Yields: 1926-2017



Source: Robert Shiller, annual update of data shown in Chapter 26 of *Market Volatility, 1989, and Irrational Exuberance, 2015*

Investing is an activity in which consumption today is foregone in an attempt to allow great consumption at a later date. "Risk" is the possibility that this objective won't be obtained... I want to quickly acknowledge that in any upcoming day, week or even year, stocks will be riskier—far riskier—than short-term U.S. bonds. As an investor's investment horizon lengthens, however, a diversified portfolio of U.S. equities becomes progressively less risky than bonds, assuming that the stocks are purchased at a sensible multiple of earnings relative to then-prevailing interest rates.

— Warren Buffett, 2017 Letter to Berkshire Hathaway Shareholders

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