



Why a 60/40 Portfolio isn't Diversified

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Maintaining a balanced portfolio is critical, especially when predictions of growth and inflation vary as widely as they do today. Investors are always better off spreading risk than aggressively betting on one economic outcome, and that's especially true when the range of possible economic outcomes is so wide.

This article will discuss the benefits of an "environmentally balanced" portfolio – one that's truly prepared for any outcome. Using statistical analysis, we'll assess this strategy's usefulness by comparing historical returns, and we'll also consider how to put these ideas into practice. But first it's important to understand the concepts that underpin such a portfolio, and how to think about constructing one.

Building a balanced portfolio

Before discussing what is environmentally balanced, let us briefly discuss what is not. Surprisingly, the classic asset allocation – 60% equities and 40% bonds – is not a balanced mix. In fact, from an environmental risk perspective, it's not much better than an equity-only portfolio.

That's because the correlation between 60/40 and 100% in equities is 98%.¹ That is not a typo. These two portfolios, most investment professionals are surprised to learn, go up and down in near-perfect tandem. Equities are so much more volatile than bonds that they drive the entire portfolio's returns. Consequently, 60/40 is not environmentally balanced, because it does well only in economic environments where equities generally outperform (i.e., during periods of rising growth and/or falling inflation).

The economic environment drives asset class returns. Economic growth and inflation are the two key factors that influence how stocks, bonds and other asset classes perform. For instance, an economy that experiences rising growth (or grows faster than the market has

¹ Correlation is calculated using monthly returns since 1926. Equity returns consist of the S&P 500 Index. Bond returns use a combination of the Barclays U.S. Aggregate Bond Index from its inception on 1/1/76 through 12/31/10 and the U.S. Treasury constant 10-year maturity index from 12/31/26 to 12/31/75. Data provided by Bloomberg.



discounted²) is generally bullish for equities, as their profits and margins rise. Falling inflation also helps stocks by improving margins, lowering costs, and reducing borrowing costs and interest rates. Bonds do well when growth is weak because of their safe-haven status and the increasing likelihood of falling interest rates. Lower inflation also benefits bonds, because interest rates decline. Similarly, the returns of other asset classes, such as commodities and inflation-linked bonds, also depend strongly on the economic environment.

Grasping the concepts behind a balanced portfolio must begin with understanding the relationship between asset class returns and the economic environment, as well as with two key decisions: which asset classes to own, and what percentage to allocate to each.

As to the question of which asset classes to own, it's important to have a combination of asset classes that perform well in different economic environments. The following four asset classes provide a good starting point:

- Equities
- Long-term Treasury bonds
- Long-term inflation-linked bonds (TIPS or Treasury Inflation-Protected Securities)
- Commodities

Stocks and commodities tend to outperform when growth is rising; long-term Treasuries and TIPS do well when growth is falling; TIPS and commodities produce strong results when inflation is rising; and stocks and Treasuries do well when inflation is falling. Two of these four asset classes tend to outperform in each of the four economic environments (rising/falling growth and inflation), as displayed in table 1.

² Asset class prices reflect a set of expected outcomes. The key driver of security price performance is how the future plays out relative to those expectations. For example, if 6% gross domestic product (GDP) growth is priced into the equity market over the next year and we experience only 4% GDP growth during that period, then equity prices may decline as this reality becomes apparent. This may be true in spite of the fact that 4% GDP growth still may reflect relatively strong growth. In reality, growth is “rising” above expectations about half the time and “falling” below discounted measures about half the time. Likewise, inflation is “rising” about half the time and “falling” about half the time.

TABLE 1: ASSET CLASS RETURNS BY ECONOMIC ENVIRONMENT		
Economic Environment	Asset Class	Average Return
Rising Growth	Equities	+13.9%
	Commodities	+10.2%
	TIPS	+8.4%
	Bonds	+1.1%
Falling Growth	TIPS	+9.4%
	Bonds	+8.8%
	Equities	+5.8%
	Commodities	+1.2%
Rising Inflation	TIPS	+19.4%
	Commodities	+11.5%
	Equities	+5.9%
	Bonds	+3.9%
Falling Inflation	Equities	+12.9%
	Bonds	+7.1%
	Commodities	-0.9%
	TIPS	-1.4%

Long-term Treasuries and TIPS are included, rather than more traditional fixed-income strategies, for the sake of having more interest rate and inflation sensitivity and less dependence on credit. The bond portfolio should do well when growth is weak, and if the allocation has a heavy credit component then the bonds may underperform at the same time as the equities are lagging. Core bond strategy results in 2008 provided an excellent example. Many of these funds were down in 2008 while long-term Treasury securities were up more than 40%.

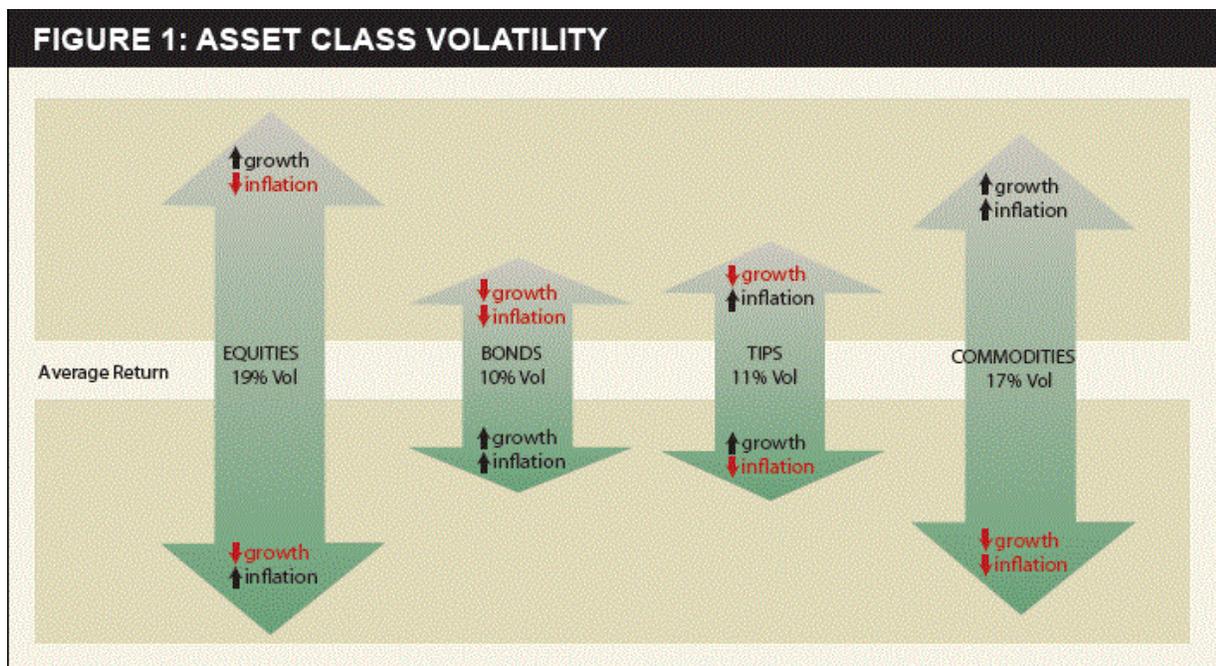
Even more importantly, since bonds are much less volatile than equities and commodities, longer-duration bonds produce better environmental balance in a portfolio. That is, more volatility in some asset classes is better than less volatility for some environmentally balanced portfolios. Though that may sound counterintuitive, volatility is a key component of environmental balancing. The favorable assets need to go up enough to offset the losses in other classes. Therefore, longer-duration Treasuries and TIPS offer excellent diversification benefits within an environmentally balanced portfolio.

As for weighting the assets, recall that the objective of building a balanced portfolio is to achieve a mix of asset classes that keeps any economic environment from overly skewing the portfolio's returns. With that goal in mind, the volatility of the asset classes becomes a

crucial factor in determining the appropriate weighting for each. Essentially, one must understand *when* and *how much* each asset class tends to outperform and underperform. The environmental bias summarized in Table 1 tells us *when* each asset class is likely to do well or poorly. The volatility of the asset class tells us *how much* the price tends to move. With this information, the allocation decision can be more measured.

The goal is to balance risk in each of the four economic environments, such that the two asset classes that do well go up enough to balance the underperformance of the other two asset classes. As such, more-volatile asset classes (like equities) should receive less weight than less-volatile asset classes (like bonds).

The trick, then, is to use each asset class' specific volatility to determine its appropriate weight. Because stocks and commodities have roughly similar volatility, and because long-term Treasury securities and TIPS each have about two-thirds the volatility of stocks (as shown in Figure 1),



a balanced portfolio would have an allocation of roughly 30% Treasury bonds, 30% TIPS, 20% equities and 20% commodities. (Let's call this portfolio the "eBalanced" portfolio.) This mix allocates 50% more to the less-volatile asset classes – Treasuries and TIPS – in order to equalize the disproportionate impact stocks have on a portfolio.

The conceptual framework of how to construct the environmentally balanced portfolio, however, is more important than the exact percentages used. The process of balancing the risks across multiple asset classes that perform differently in various economic environments is the key to building a truly balanced portfolio. This portfolio may seem



uncomplicated, but, in a world of ever-increasing complexity, sometimes the best solutions are the simplest ones.

More bang for your buck: eBalanced vs. 60/40

The data in Table 2 – which displays, side-by-side, the long-term returns of the 60/40 portfolio and the eBalanced portfolio over various time horizons – cover monthly returns since 1926, encompassing a wide range of economic environments, including the Great Depression, the inflationary 1970s, the bull market of the 1990s and the credit crisis of 2008.³ These and other comparisons using historical data suggest that the very-long-term returns of the eBalanced portfolio are nearly identical to those of the traditional 60/40 mix. Crucially, however, the eBalanced portfolio achieved its returns with less volatility and better downside protection.

As of December 31, 2010	1 Yr.	5 Yrs.	10 Yrs.	25 Yrs.	50 Yrs.	Since 1926
eBalanced	12.0%	5.5%	7.9%	10.5%	9.8%	8.1%
60/40	11.2%	4.8%	3.9%	9.4%	9.0%	8.2%

eBalanced mix: 20% S&P 500, 30% long-term Treasuries, 30% long-term TIPS, 20% S&P Goldman Sachs Commodity Index 60/40 mix: 60% S&P 500, 40% Barclays Aggregate

The reason eBalanced and 60/40 can have similar long-term total returns, even though an eBalanced investor owns only 20% equities, is because it offers enhanced downside protection – fewer and less-severe drawdowns lead to improved total returns over time. For this same reason, for example, eBalanced has achieved returns similar to 60/40 even though the weighted average return of the component asset classes was lower.⁴

³ In this article, the following indexes were used to calculate returns: U.S. equities are represented by the S&P 500 Index as reported by Bloomberg; the return series for commodities, long-term Treasuries (constant 30-year maturity), and long-term TIPS (constant 20-year duration) were provided by Bridgewater Associates using various market indexes; Index returns for TIPS go back to the inception of U.S. TIPS in 1997; returns for prior periods were simulated by Bridgewater Associates using actual Treasury returns, actual inflation rates, and Bridgewater’s proprietary methodology; the Barclays U.S. Aggregate Bond Index returns since 1/1/76 and the U.S. Treasury constant 10-year maturity index returns as provided by Bloomberg for the period 12/31/26–12/31/75 were used for the bond component of the 60/40 portfolio. The total returns of the eBalanced portfolio and 60/40 portfolio assume that the portfolio is rebalanced back to its target allocation once every January 1. Note that total portfolio returns are greater than the weighted average returns of the asset classes used because of the benefits of rebalancing. The eBalanced portfolio receives a greater benefit from rebalancing than 60/40 because of its superior diversification characteristics.

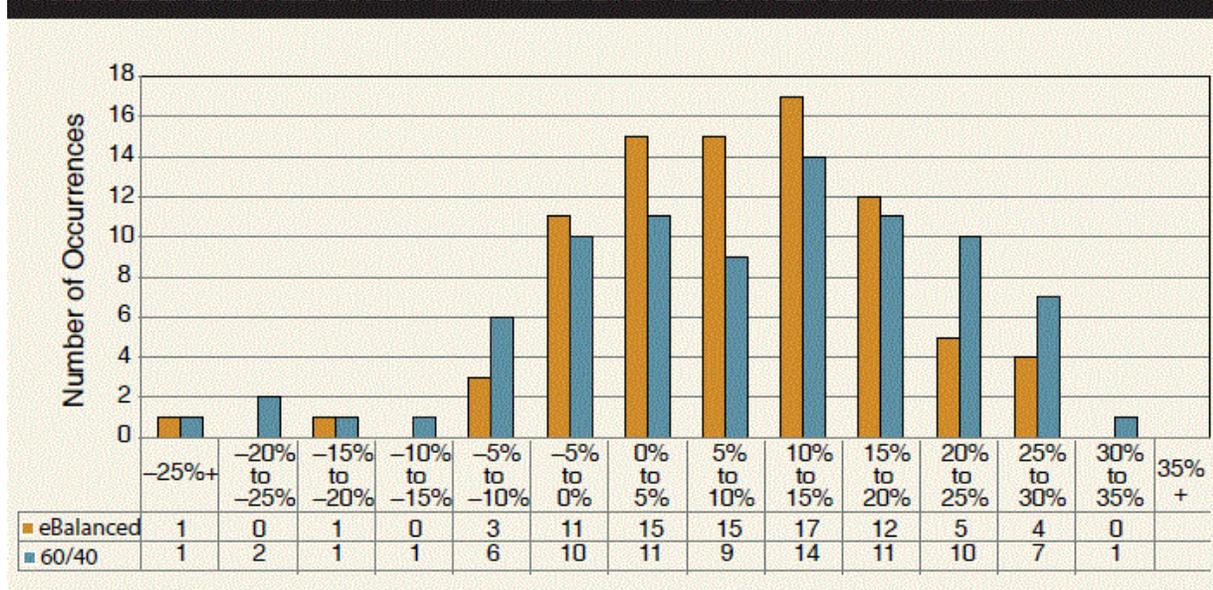
⁴ The weighted average return of a portfolio is calculated by weighting the returns of each asset class by the allocation used. For example, the weighted average return of a 60/40 portfolio since 1926 was roughly 7.7% (calculated using 9.3% equity returns and 5.3% core bond returns weighted 60% to equities and 40% to bonds). The weighted average return of the eBalanced portfolio during the same time period was only 7.1%. The difference between these weighted average returns and the actual returns achieved by these portfolios may be termed the “diversification premium” (i.e., the excess return a diversified portfolio of multiple asset classes may achieve by rebalancing). Using asset classes that perform differently in different economic environments creates a rebalancing and diversification benefit that enables a portfolio of lower-performing

In addition to a better risk-return ratio, eBalanced has offered more consistent returns over the long run. Table 3 summarizes volatility data since 1926, and Figure 2 summarizes the distribution of calendar-year returns. It shows that eBalanced has produced fewer periods in the “tails” of the distribution – fewer lows and fewer highs. Table 4 illustrates returns by decade since the 1930s, showing that eBalanced has been more consistent, whereas 60/40 has spent more time exhibiting either significant outperformance or marked underperformance.

TABLE 3: RETURNS, VOLATILITY, RISK/RETURN RATIOS

1926–2010	eBalanced	60/40
Annualized Return	8.1%	8.2%
Annual Standard Deviation	8.3%	11.7%
Return to Risk Ratio	0.98	0.70

FIGURE 2: DISTRIBUTION OF CALENDAR YEAR RETURNS 1926–2010



components to achieve a higher return over time.

TABLE 4: RETURNS BY DECADE

Decade	Outperformers	Underperformers	eBalanced	60/40
Depressionary '30s	Bonds, TIPS	Equities, Commodities	2.9%	0.8%
War Dominated '40s	Equities, TIPS, Commodities	Bonds	10.6%	7.1%
Postwar Recovery '50s	Equities	Bonds, TIPS, Commodities	4.1%	12.1%
Accelerating '60s	Equities, TIPS	Bonds, Commodities	4.0%	6.0%
Stagflationary '70s	Commodities, TIPS	Equities, Bonds	12.7%	6.5%
Disinflationary '80s	Equities, Bonds	TIPS	12.3%	15.6%
Roaring '90s	Equities, Bonds	Commodities	10.4%	14.1%
Depressionary 2000s	Bonds, TIPS	Equities	8.8%	2.7%

TABLE 5: BEAR MARKET RETURNS

1926–2010	Worst Year Since 1930s	2008 Credit Crisis	2000–2002 Bear Market	October 1987 Crash	1973–1974 Bear Market	1929–1932 Great Depression
eBalanced	–7.0% in '08	–15.5%	+35.4%	–1.5%	+30.7%	–53.7%
60/40	–20.1% in '08	–30.7%	–16.9%	–18.5%	–21.3%	–64.5%

All returns are cumulative. Specific time periods covered are detailed in footnote 5.

eBalanced not only offers lower volatility, however – it also has done better in down markets. Table 5 provides a comparison between 60/40 and eBalanced during several of the most significant bear markets in history.

The results are quite clear: eBalanced outperformed 60/40 in every major bear market since 1926, including both equity and bond bear markets. In weak equity markets, the eBalanced portfolio's lower allocation to equities helped better protect the downside. On the other hand, the weakest bond market in history occurred during 1963–1981, when long-term interest rates rose from 4% to 16%. During that time, eBalanced significantly outperformed 60/40 with an annualized 7.9% total return compared to 6.3%, even though it maintained a higher allocation to bonds.⁵ Interest rates went up because inflation rose, and outperforming inflation hedges – TIPS and commodities – provided the balance in the portfolio.

In the devastating environment of 2008, economic growth collapsed and deflation fears dominated. As a result, stocks, TIPS, commodities and most other asset classes suffered severe losses. Treasury bonds, on the other had, enjoyed their second-best year in history, with a 42% gain both because of a flight to safety during a period of great uncertainty and expectations of rapidly falling interest rates to stimulate a very weak economy. As a result, the eBalanced portfolio was down just 7% in 2008 (a result most investors would have accepted gladly).

True to the eBalanced portfolio's design, the data show that there here have been only two calendar years since 1926 during which equities, long-term Treasury bonds, long-term TIPS and commodities all lost money in the same year: 1931 and 1953. In 1931, nothing

⁵ The 2008 credit-crisis period was 10/31/07–2/28/09 (equities returned a cumulative –50.9% during this period). 2000–2002 bear market: 3/31/00–2/28/03 (equities returned –41.5% cumulative return). October 1987 crash: 9/30/87–11/30/87 (equities returned –28.0%). 1973–1974 bear market: 12/31/72–12/31/74 (–37.3% cumulative equity return). 1929–1932 Great Depression: 8/31/29–6/30/32 (–86.0% cumulative equity return). Rising interest rate environment: 1/31/63–8/31/81 (equities gained an annualized 7.5%).



was safe as investors facing the Great Depression sold every asset class to raise cash. In 1953, all four asset classes were down, but only very slightly.

The calendar-year returns have been steady as well. In fact, since 1932, the worst calendar-year return for the eBalanced portfolio was just -7.0%, in 2008.

That said, eBalanced has been susceptible to moderate losses during those periods when cash was among the best-performing asset classes. Historically, that's been the case during two types of events: when the Federal Reserve has unexpectedly increased short-term interest rates (i.e., in 1980–1981 and in 1994), and during periods of deleveraging in which investors had to raise cash to pay down debt (i.e., in 1929–1932 and in 2008). In both such periods, the demand for cash rose dramatically, and therefore investors sold most other asset classes, causing general price declines. Consequently, the typical benefits of diversification during these rare, short-lived periods were diminished. That said, eBalanced generally still has outperformed 60/40 during these difficult periods, thanks to its lower equity weighting and greater diversification.

Implementing eBalanced

Conceptually, eBalanced makes sense. Statistically, eBalanced is compelling. Practically, however, it is challenging to implement. The obstacle lies not in the difficulty of investing in these strategies, which is minimal, but rather in the courage it takes to be different from one's peers. Indeed, the eBalanced portfolio is much simpler and more cost effective to implement than nearly every other portfolio. A simple eBalanced portfolio may be constructed by using as few as four liquid and low-expense exchange-traded funds and/or mutual funds.⁶ However, the fact that so few investors embrace the benefits of eBalanced initially makes it more difficult to adopt.

The investment strategy favored by the majority of investors is an evolving reflection of what has worked well in the recent past. Before 60/40 became popular, equities had underperformed for nearly two decades between the late 1960s to the early 1980s, and few wanted to own them. Investors tend to chase returns, and current convention is not a reliable guide when looking to the future.

Portfolios do not have to be perfectly balanced to be successful. But the more environmentally balanced a portfolio, the more efficient the tradeoff between risk and return. Because the starting point for most portfolios is extreme imbalance (98%, if your allocation is 60/40), then any step toward environmental balance is beneficial.⁷

⁶ The eBalanced portfolio described here has been simplified to emphasize the core concepts. In practice, investors potentially may improve results by adding additional diversifying asset classes such as international stocks and bonds, emerging markets, real estate, etc. Moreover, active strategies as opposed to market indexes may be utilized to potentially increase the expected return.

⁷ For comparison purposes note that the correlation of the eBalanced portfolio to equities since 1926 has been only 62%. This correlation is not materially different from the correlation of eBalanced to long-term TIPS (67%), long-term Treasury bonds (55%), or commodities (58%).



The huge debt problems currently facing the developed world create a material risk that economic growth will be weak and inflation will rise, but traditional portfolios are biased to do well during the opposite environment – strong growth and low inflation. Investors seeking the peace of mind that a more balanced portfolio affords should add TIPS and commodities, as well as modify the core fixed-income allocation to have a longer duration and less credit exposure.

The lessons that underlie eBalanced are timeless – but also timely. There’s never been a better time to add more balance – true balance – to your portfolio.

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