

# PORTFOLIO

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## New Look for a Classic Portfolio

The conventional wisdom is that a 60/40 mix is highly effective. But there could be a better partner for large-cap U.S. stocks than U.S. bonds.

BY CRAIG L. ISRAELSEN

### LET'S TALK ABOUT THE VENERABLE 60/40 PORTFOLIO.

This is the conventional way to provide moderate-risk long-term growth in a retirement portfolio. The classic mix is 60% large-cap U.S. stocks and 40% U.S. bonds.

At the moment, I won't mess with the 60% stock portion, but how about the 40% component? If you were building a 60/40 model from scratch, you might wonder if that 40% piece has to be U.S. bonds. Or is there another asset class that would work even better?

The chart "Potential Large-Cap Partners" shows the return and risk metrics for large-cap U.S. stocks and for 11 other major asset classes that could be partners for large-cap U.S. stocks in a 60/40 portfolio. Included among the 11 are U.S. aggregate bonds, the typical 40% partner for large-cap U.S. stocks. In this analysis, the performance of large-cap U.S. stocks is represented by the S&P 500.

The 11 major asset classes are listed in order of their 15-year correlation with large-cap U.S. stocks – from lowest to highest. The first potential partner is U.S. TIPS, with a 15-year correlation with large-cap stocks of 0.02; 15-year average annualized return of 5.3% from 2002-2016; a 15-year standard deviation of annual returns of 6.69%; and a 2017 YTD return of 1.94% through Oct. 31, 2017.

Recall that in most cases the desired correlation coefficient is zero (or close to it), indicating a completely random correlation. So, a coefficient of 0.02 is a very low correlation.

The asset class with the next lowest correlation with large-cap U.S. stocks over the past 15 years was U.S. cash at minus 0.04. Cash produced a 15-year return of 1.25% with very little volatility (the standard deviation was 1.64%). Next were non-U.S. bonds with a 15-year correlation of 0.06, then

U.S. bonds with a 15-year correlation of minus 0.09, and finally commodities with a 15-year correlation of 0.32 and a 15-year return of 4.85%.

Unlike the fixed-income asset classes (TIPS, cash, bonds, and non-U.S. bonds), commodities had a very large standard deviation of return at 21.68%. But the 2017 YTD return of commodities was only 1.19% as of Oct. 31.

The remaining six asset classes in the chart all have much higher correlations with large-cap U.S. stocks. All but one of the higher-correlation asset classes outperformed large-cap U.S. stocks in 2002-2016.

The exception was developed non-U.S. stocks (MSCI EAFE index). However, it is worth noting that as of Oct. 31, 2017, the year-to-date performance of the EAFE Index was 21.78% – well ahead of the 16.9% return of the S&P 500. The 2017 YTD performance of emerging market stocks, however, was the clear winner at 32.64%.

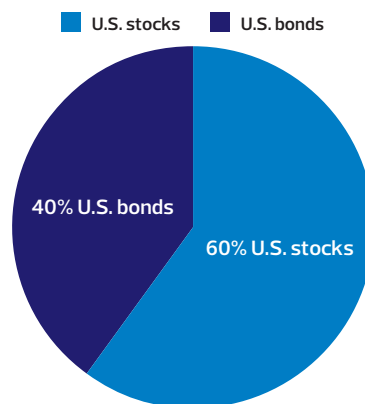
The correlation of non-U.S. developed stocks and large-cap U.S. stocks over the past 15 years was 0.86 – only slightly lower than the 0.91 correlation between large-cap U.S. stocks and mid-cap U.S. stocks.

This suggests that non-U.S. stocks – particularly in developed non-U.S.

economies – are no longer a reliable diversifier for U.S. investors. In the 1970s and 1980s, developed non-U.S. stocks had much lower correlation with U.S. equity markets and, as such, were a useful diversifier for U.S. investors. However, the economic intertwining of the globe has synchronized markets to a high degree over the past 10 to 15 years.

Now, on to the real issue: Which of these 11 asset classes was the best partner when teamed with large-cap stocks over the last 15 years? The answer depends on your goal: Do you

Standard 60/40 Portfolio



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want lower volatility or enhanced performance? A summary of the 15-year risk and return measurements for various 60/40 portfolio combinations is provided in the table “60/40 Combos.”

If your goal was to reduce volatility below that of the S&P 500, the five low-correlation asset classes (U.S. TIPS, cash, non-U.S. bonds, U.S. bonds and commodities) achieved that.

For example, a portfolio that consisted of 60% large-cap U.S. stocks and 40% TIPS had a 15-year standard deviation of return of 10.92%, compared with 18.16% for large-cap U.S. stocks by themselves. Yet, the 15-year return dropped by only 4 basis points – from 6.69% to 6.65%.

Note in the previous table that the

15-year return of TIPS alone was 5.3%, so you might think that adding TIPS as the 40% component would have degraded performance by far more than 4 bps. The key is in the 0.02 correlation of TIPS to large-cap U.S. stocks. TIPS and large-cap U.S. stocks do not march to the same drummer – and that’s a good thing.

## LOW CORRELATION

Thus, the performance of a teammate of large-cap stocks can have a lower return than large-cap U.S. stock, but if it also has a low correlation to U.S. stocks, the net result can be a 60/40 portfolio that has nearly same return as large-cap stocks by themselves – but with far less volatility.

If your objective was to maximize return, the high correlation ingredients accomplished that goal – with the exception of developed non-U.S. stocks. In fact, let’s examine the impact of blending developed non-U.S. stocks with large-cap U.S. stocks in a 60/40 portfolio. You will notice that developed non-U.S. stocks (specifically the MSCI EAFE Index) had a 15-year return by themselves of 5.28% – almost identical to the 15-year return of TIPS.

However, developed non-U.S. stocks had a high correlation of 0.86 with large-cap U.S. stocks. Thus, unlike TIPS, combining the MSCI EAFE Index with the S&P 500 resulted in a 15-year return of 6.23% – or 42 basis points below the return of a

## Potential Large-Cap Partners

15-year performance and volatility of major asset classes (2002–2016)

Asset Class	Representative Index	15-Year Correlation with Large Cap U.S. Stock (2002–2016)	15-Year Average Annualized Return (2002–2016)	15-Year Standard Deviation of Return (2002–2016)	2017 Year-to-date performance (through Oct. 31)
Large-Cap U.S. Stock	S&P 500	1.00	6.69	18.16	16.90
<b>Asset Classes with Low Correlation to Large-Cap U.S. Stock</b>					
U.S. TIPS	Barclays U.S. Treasury U.S. TIPS Index	0.02	5.30	6.69	1.94
U.S. Cash	U.S. T-Bill 90 Day	-0.04	1.25	1.64	0.68
Non-U.S. Bonds	Barclays Global Treasury Index	0.06	4.78	7.33	5.56
U.S. Bonds	Barclays U.S. Aggregate Bond Index	-0.09	4.58	2.99	3.20
Commodities	Deutsche Bank Liquid Commodity Optimum Yield Diversified Commodity Index Excess Return	0.32	4.85	21.68	1.19
<b>Asset Classes with Higher Correlation to Large-Cap U.S. Stock</b>					
Global Real Estate	S&P Global REIT Index	0.63	10.10	22.24	4.14
Natural Resources	S&P North American Natural Resources Index	0.66	7.64	25.07	-5.71
Emerging Stock	MSCI Emerging Market Index	0.76	9.85	32.64	32.64
Small-Cap U.S. Stock	S&P Small Cap 600 Index	0.83	10.17	19.66	9.96
Developed Non-U.S. Stock	MSCI EAFE Index	0.86	5.28	21.12	21.78
Mid-Cap U.S. Stock	S&P Midcap 400 Index	0.91	9.73	19.73	11.88

Source: Data from Steele Systems Mutual Fund Expert, calculations by author

60% U.S. large stock/40% TIPS portfolio.

Here is a key take-away: In building portfolios, we need to know if a fund we are considering will be a good teammate to the other funds in the portfolio, rather than its stand-alone performance.

Understandably, correlation in the past is not a perfect predictor of correlation in the future, but it is a logical starting point to evaluate when you are building multiasset portfolios.

Note that the Barclays U.S. Treasury U.S. TIPS Index and the MSCI EAFE Index had nearly identical returns in 2002-2016. But, the TIPS index was a better fit for large-cap U.S. stocks due to its lower correlation with the S&P 500. Blending low-correlation funds isn't a guarantee that performance will improve, but it almost always results in a reduction of volatility. And that alone makes it worth doing.

As a final note, as shown in the last row of the chart, if all 12 asset classes (large-cap U.S. stocks through mid-cap U.S. stocks) were blended together in equal portions of 8.33% and rebalanced annually, the 15-year standard deviation of return was 13.22% (27% lower than the S&P 500 by itself), the 15-year return was 7.6% (91 bps higher than the S&P 500 by itself), and the performance in 2008 was minus 25.5% (31% better than the 37% loss experienced by the S&P 500).

Moreover, the 12-asset portfolio (which

## 60/40 Combos

Risk and return measurements of various 60/40 portfolios over the past 15 years (2002–2016)

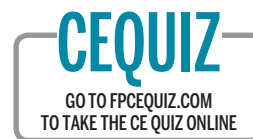
Large-Cap U.S. Stock vs. 60/40 Combinations vs. 12-asset model	15-Year Standard Deviation (2002–2016)	15-Year Annualized Return (2002–2016)	Performance in 2008	2017 YTD Performance (through Oct. 31)
100% Large-Cap U.S. Stock	18.16	6.69	-37.00	16.90
60% Large-Cap U.S. Stock 40% TIPS	10.92	6.65	-23.14	10.71
60% Large-Cap U.S. Stock 40% Cash	10.81	4.97	-21.64	10.16
60% Large-Cap U.S. Stock 40% Non-U.S. Bonds	10.14	6.56	-18.11	12.27
60% Large-Cap U.S. Stock 40% U.S. Bonds	10.43	6.36	-20.10	11.26
60% Large-Cap U.S. Stock 40% Commodities	15.85	6.60	-34.95	10.43
60% Large-Cap U.S. Stock 40% Global Real Estate	18.40	8.31	-40.22	11.65
60% Large-Cap U.S. Stock 40% Natural Resources	19.34	7.40	-39.22	7.48
60% Large-Cap U.S. Stock 40% Emerging Stock	22.02	8.51	-43.47	23.03
60% Large-Cap U.S. Stock 40% Small U.S. Stock	18.46	8.13	-34.63	14.17
60% Large-Cap U.S. Stock 40% Developed Non-U.S. Stock	18.80	6.23	-39.55	18.86
60% Large-Cap U.S. Stock 40% Mid-Cap U.S. Stock	18.60	7.94	-36.69	14.89
All 12 asset classes, 8.33% to each, rebalanced annually	13.22	7.60	-25.49	8.40

Source: Data from Steele Systems Mutual Fund Expert, calculations by author

is a 65% growth/35% fixed-income model rather than 60/40) outperformed the traditional 60/40 model by 124 bps in 2002-2016, albeit with somewhat higher volatility (13.22% standard deviation versus 10.43% standard deviation).

Now, as for my core question, is there a better partner for U.S. large-cap stocks in a 60/40 portfolio? Depending on your objectives, there are several that you might find better. But, beyond that, consider more than two asset classes.

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