Boost the gain of Morningstar's ETF portfolio

By Brian Livingston, President, AAII Puget Sound Chapter, May 21, 2016

EXCHANGE-TRADED FUNDS (ETFs) have taken the world by storm. Since the launch in 1993 of the first ETF — SPY, which tracks the total return of the S&P 500 index — US investors have moved a total of $2 trillion into ETFs. Older, clunkier mutual funds suffered outflows of $680 billion from 2007 through 2014, although mutual funds still held more than $18 trillion.[1]

ETFs have many advantages. For just one example, mutual funds are required to distribute capital gains in most years. Investors who hold mutual funds in taxable accounts must pay tax on these "phantom gains," even if no shares were sold.

ETFs have no such requirement. Most ETFs have *never* made an involuntary distribution.

The popularity of ETFs is soaring in both taxable and tax-deferred portfolios, such as 401(k) and IRA accounts. Many investment advisers now promote menus of ETFs that investors are to hold in specific percentages. You allocate 20% of your money to *this* ETF, 25% to *that* ETF, and so forth.

To get the benefit of diversification, these lists typically specify five or more types of securities, also known as *asset classes.* Most ETFs track a specific asset-class index: US stocks, emerging-market stocks, Treasury notes, corporate bonds, real estate, commodities, gold, and others.

Many plans never change the percentages investors should devote to each ETF (except possibly giving a larger allocation to bonds as an investor ages). These unvarying portfolios are known as *passive investing* or *static asset allocation* (SAA).

Some of the most-detailed SAA portfolios have been designed by Christine Benz, director of personal finance at Morningstar, a well-known data provider and investment management service. One of several menus she's posted at the Morningstar site is the "Aggressive ETF Bucket Portfolio."[2] It holds 10 ETFs in slices that range from 3.3% to 28.7%.

In 1993, two UCLA professors published the first rigorous study showing that a simple Momentum Rule could greatly improve an SAA portfolio.[3] By 2014, a meta-survey showed that more than 300 papers had verified this.[4] Even University of Chicago economist Eugene Fama, who long ago inspired "efficient market" theories, agreed in 2007, writing: "The premier anomaly is momentum."[5]

Can a Momentum Rule improve the Aggressive ETF Bucket Portfolio? The answer is "yes."

Executive summary

1. Investment advisers often recommend lists of exchange-traded funds (ETFs) representing multiple asset types that investors should hold in specific, unchanging percentages. These portfolios, typically including five or more ETFs, are called *passive investing* or *static asset allocation* (SAA).
2. Morningstar's director of personal finance, Christine Benz, has posted several lists, notably the 2012 "Aggressive ETF Bucket Portfolio," an SAA formula that holds 10 funds.
3. Testing historical performance from 1973 through 2015 shows that Benz's SAA portfolio after expenses would have delivered a 9.1% return — virtually the same as the S&P 500's 10.0% but with smaller declines during bear markets.
4. Benz's portfolio demonstrates that achieving market-like returns with bond-like volatility is not impossible, as many people assume. It's well documented and easy to manage.
5. Since 1993, finance experts have published over 300 peer-reviewed studies on enhancing an SAA portfolio with a simple Momentum Rule — what traders for centuries have called "trends" — improving gains and reducing losses. Such enhanced portfolios are referred to as *mechanical investing, asset rotation,* or *tactical asset allocation* (TAA).
6. The TAA version of Benz's ETF portfolio would theoretically have delivered after expenses a 13.2% return — a significant *four percentage points more* per year than SAA — with a maximum decline less than *half* that of the S&P 500.
7. The TAA portfolio can be followed free of charge, needs only five position changes in an average year, does not require timing the S&P 500, and avoids *active investing* (trading that's based on an investor's market opinions).

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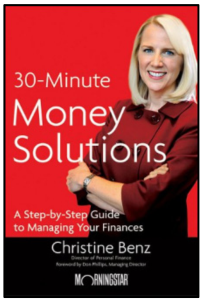

CHRISTINE BENZ
Author of
30-Minute Money Solutions
(Wiley, 2011)
and other books

Using the Momentum Rule improves gains and reduces losses

THE SIMULATIONS IN THIS REPORT were conducted using the Quant backtester. This testing engine was built atop an Excel front end by Mebane Faber, co-author of *The Ivy Portfolio* and other books. The tool may be downloaded by subscribers to his Idea Farm investing newsletter.[6]

The Quant backtester includes historical data for more than 40 asset classes. However, it doesn't precisely match some ETFs in the bucket portfolio. Figure 1 compares Benz's preferred ETFs vs. the asset classes that I entered into the backtester to produce this report.

IMPORTANT: A backtest is not historical fact. For instance, no investor could have bought ETFs in 1973. (They hadn't been invented yet.) And investors in 1973 couldn't enjoy today's ultra-low ETF fees and round-trip trading costs below 0.1%. (In the 1970s, round-trip friction could be 2%.)

A backtest is only a *simulation* of what might happen going forward, given today's low costs and fees. It assumes that markets will continue to have bubbles and crashes, just as they always have.

- **The bucket portfolio (SAA)** holds the 10 ETFs in Figure 1. Investors rebalance each ETF back to its original allocation near year-end. (The "bucket" concept is intended to help retirees ignore crashes, since two years' cash is set aside to live on.)
- **The TAA portfolio** obeys a Momentum Rule: Hold each month an equal weight of the three assets that have the highest 12-month total return. (Using a more-complex rule provides no benefit.)
- **No market timing.** The TAA portfolio does not time the S&P 500 or any other index. The portfolio remains fully invested in three ETFs at all times.
- **No moving averages.** Some strategies hedge, buying no asset whose price is below its own 10-month moving average. The TAA portfolio doesn't need this. Having four bond ETFs to rotate into provides plenty of "safe harbors" in bear markets.
- **Realistic current expenses.** The TAA portfolio was charged 0.17% (the 10 ETFs' average fee) and a generous 0.1% round-trip friction. The SAA portfolio paid 0.14% (the ETFs' weighted average), and the S&P 500 paid 0.05% (Vanguard's VOO fee). But neither static portfolio was charged any friction, though rebalancing does incur small trading costs.

Figure 1. The Aggressive ETF Bucket Portfolio and the Quant backtester's asset classes

BUCKET #1: Cash meets investor's withdrawal needs in years 1 and 2

Asset name	ETF	Fee	Allocation	Quant asset class	Allocation
Money-market fund or CDs	SHV	0.15%	8.00%	Short-term US govt. T-bills	8.00%

BUCKET #2: Bonds replenish Bucket #1 in years 3 through 10

Asset name	ETF	Fee	Allocation	Quant asset class	Allocation
Vanguard Short-Term Bond ETF	BSV	0.10%	6.67%	US government bonds 10 yr. US corporate bonds *(This blend simulates BSV)*	4.50% 2.17%
Vanguard Total Bond Market ETF	BND	0.10%	10.00%	US government bonds 10 yr. US corporate bonds *(This blend simulates BND)*	6.50% 3.50%
iShares iBoxx Investment-Grade Corporate Bond ETF	LQD	0.05%	3.33%	US corporate bonds	3.33%
Vanguard Treasury Inflation-Protected Securities ETF	VTIP	0.08%	6.67%	TIPS	6.67%

BUCKET #3: Stocks and other assets fund Bucket #2 in year 11 and later

Asset name	ETF	Fee	Allocation	Quant asset class	Allocation
Vanguard Dividend Appreciation ETF Vanguard Total Stock Market Index ETF	VIG VTI	0.10% 0.05%	28.67% 13.33%	US stocks S&P 500 *(VIG and VTI correlate 97–100% with SPY)*	42.00%
Vanguard Total Intl. Stock Market ex-US ETF	VXUS	0.13%	13.33%	Foreign developed stocks Foreign emerging stocks *(This matches VXUS's holdings)*	10.66% 2.67%
iShares Barclays Capital High-Yield Bond ETF	JNK	0.40%	5.00%	US corporate bonds *(Quant has no junk-bond asset)*	5.00%
Greenhaven Continuous Commodity ETF	GCC	0.85%	5.00%	Commodities GSCI	5.00%

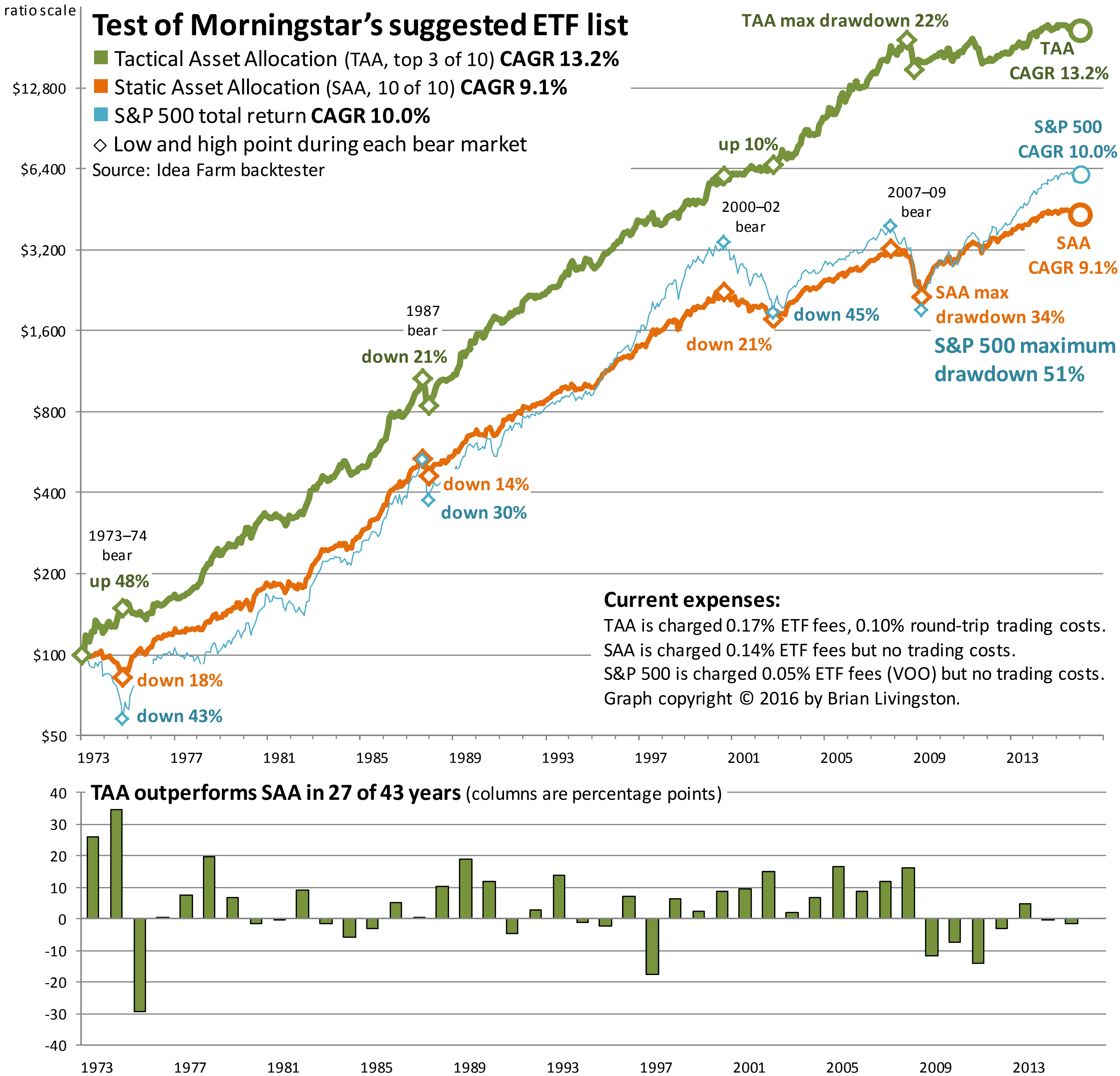

Figure 2. The Momentum Rule boosts the TAA portfolio's return over SAA by 4 points per year.

- **The S&P 500 CAGR** (compound annual growth rate) including dividends was 10.0%, Jan. 1, 1973, to Dec. 31, 2015. However, the index's severe drawdowns — 30% or worse in four cases — made many investors throw in the towel.
- **The SAA portfolio** matched the S&P 500 after every bear market, returning an almost identical 9.1% CAGR. Unfortunately, SAA in 2009 subjected investors to a 34% loss of their life savings, more than most people would tolerate.
- **The TAA portfolio** won with 13.2% CAGR. More importantly, it never hit investors with a month-end drawdown of more than 22%. Most investors can handle that, especially since it avoided the S&P 500's massive declines.

In 63% of calendar years — *but not in every year* — the TAA portfolio outperformed SAA. Investors who cannot accept the inevitable hot streaks and cold streaks of an asset-rotation formula should restrict themselves to SAA.

How to follow SAA or TAA for free

HUMAN BEINGS SEEM TO HAVE a “25% pain point.” People’s survival instincts compel them to start liquidating their holdings after their life savings have dropped 20%, 30%, or more.

Selling near the bottom of a bear market, of course, locks in your losses. You also miss the explosive initial bounce that typifies bull markets.

One goal of portfolio design is to keep drawdowns below 25%. But another important goal is to make investing easy for mere mortals. Most people can’t program a spreadsheet or compute mathematical formulas. Simplicity is a must.

■ **To follow the SAA portfolio,** purchase Benz’s 10 preferred ETFs in the percentages shown in Figure 1. (Exception: For commodities, I like PDBC, a new ETF with a lower annual fee than GCC.)

■ **To follow the TAA portfolio,** enter this Web address into any browser (all on one line):

stockcharts.com/freecharts/perf.php?SHV,BSV,BND,LQD,VTIP,VIG,VTI,VXUS,JNK,PDBC

Then take the steps below, keyed to the numbered bullets that are shown in Figure 3:

Step 1. Double-click the default “200 days” label. Enter **253** (this shows the previous 252 trading days). Press Enter to see the 12-month total returns.

Step 2. Click the “Show Histogram Chart” button at the lower left. Vertical columns (histograms) are much easier to compare than the jagged shapes of the standard line chart.

Step 3. On the last day of each month — or on whatever consistent day of the month you prefer — find the three ETFs with the greatest return over the past 12 months. Sell any ETF you own that is not in the top three. Use the cash to buy any new top-three ETF (even if it has a negative 12-month return, since top ETFs tend to recover). If you already own all three ETFs from a previous month — which will be true about six times each year — do nothing.

Upon retirement, as a rule of thumb, you can annually withdraw 4% of the portfolio’s starting value. Adjust your stipend each year for inflation.

That’s it. Take your pick. The SAA portfolio requires 15 minutes’ worth of work *each year.* The TAA portfolio offers greater gains and smaller drawdowns in exchange for 15 minutes’ work *each month.* You can’t make investing much simpler than that! ■

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See BrianLivingston.com for other whitepapers.

Footnotes

1 www.ici.org/pdf/2015_factbook.pdf
2 news.morningstar.com/articlenet/article.aspx?id=638885
3 onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1993.tb04702.x/full
4 imca.org/sites/default/files/current-issues/Award Recipients/JIC151_MultiStyleGlobalInvesting.pdf
5 researchgate.net/publication/4769783_Dissecting_Anomalies
6 theideafarm.com/about/

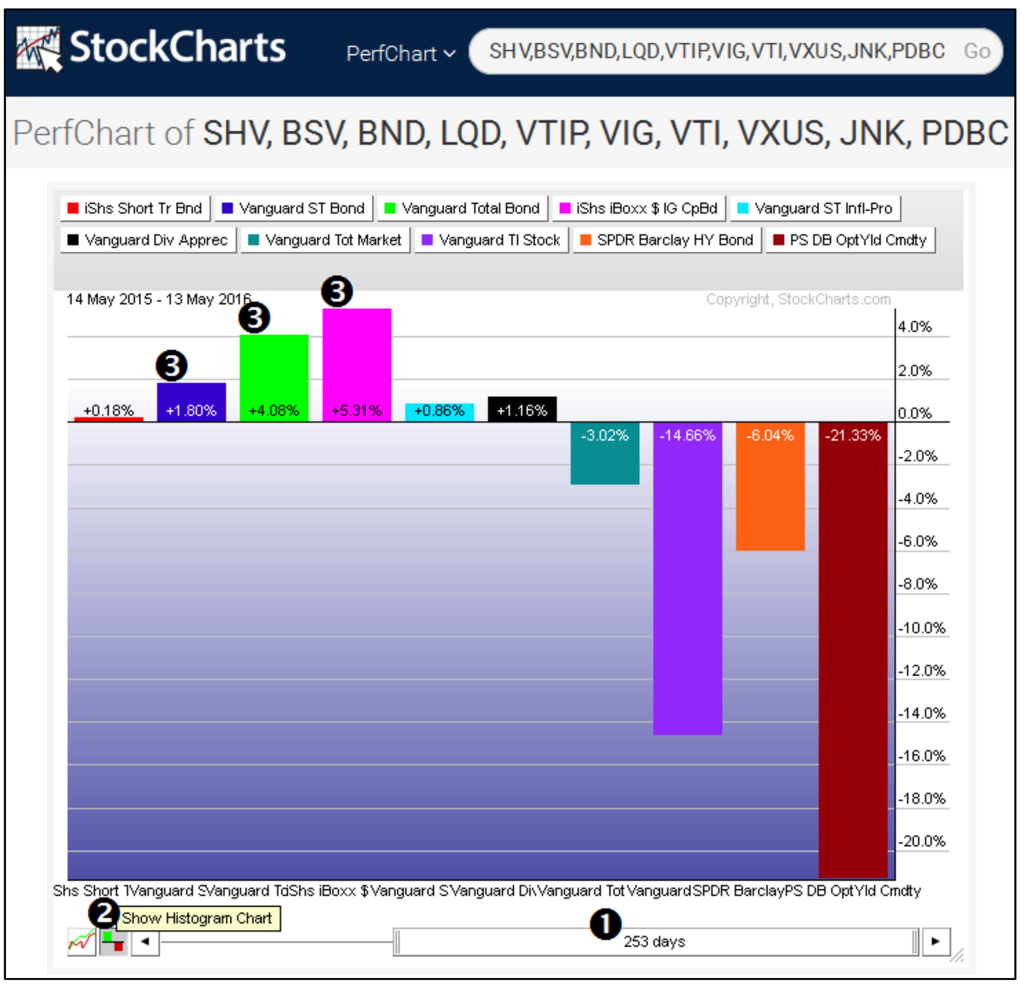

Figure 3: It’s easy as 1-2-3 to see the top ETFs with a free PerfChart.