WHEN DO CAPITAL-EFFICIENT STRATEGIES DISAPPOINT?

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Two questions often come up about our <u>capital-efficient</u> family of ETFs: "How do I use these in a total portfolio context?" and "When will they break down or underperform/disappoint investors?"

These two questions are related. How one uses capital-efficient strategies in a portfolio will dictate when things go wrong.

<u>The Efficient Core family of ETFs</u>—now with options for U.S., developed international and emerging markets and having recently surpassed the \$1 billion milestone for assets invested across the family—is structured so that for every \$1 invested, we have \$1.50 of asset exposure: 90 cents of equities and 60 cents of bond futures.

Efficient core stands for "capital efficient" at the core of your portfolio—designed to allow you to put up less capital to get the same desired total exposure.

In that context, investors are replacing both traditional stock and bond exposures with WisdomTree Efficient Core ETFs —freeing up capital and room in their portfolios for other strategies.

For example, if you held a portfolio with two assets—\$60 of <u>S&P 500</u> stocks and \$40 of bonds (the classic <u>60/40</u>)—you could instead put \$66.67 in our capital-efficient core ETFs and achieve the approximate 60/40 allocation with \$33.33 left to be allocated elsewhere.

Holding cash has the value of choice. The cash can be used for spending—while preserving your overall portfolio allocations—or it can be used to fund other private investments or alternative strategies.

So, when asked, "When will capital efficient strategies disappoint?" I deflect the question back to, "What else did you do with your portfolio?" Because it really is meant to proxy the core equity/bond portfolio betas, and it is all about what are you doing with that \$33.33 of freed-up capital.

What about the 100% Equities Comparison?

The original Cliff Asness research behind a levered 60/40 compared a 155% levered 60/40 to a 100% equities allocation—and here, the question of "When will it fail to work?" comes down to what happened to interest rates and bond returns.

When we launched the <u>WisdomTree U.S. Efficient Core Fund (NTSX)</u> more than three years ago, <u>we replicated the results of the Cliff Asness 1996 paper</u> that compared a 155% levered 60/40 to a 100% equities allocation.

Asness had evaluated returns from 1926-1993 and determined the leverage ratio when applied to a 60/40 that would equate risk levels of a 60/40 with a 100% equities allocation.

In Cliff's original work, the levered 60/40 added about 80 <u>basis points (bps)</u> over a 100% equities allocation. From January 1994 to December 2021, the levered 60/40 actually did 280 bps better than the 100% equities allocation. That is, the research worked better after he published his original results than in the prior 67 years. That almost never happens in the research world, where studies "fail to replicate" out of sample.



Asness Replication, 1/31/1926-12/31/1993

Portfolio	Annualized Total Return	Annualized Volatility	
100% Stocks	10.3%	20.0%	
100% Bonds	5.6%	6.8%	
100% Cash	3.7%	0.9%	
60% Stocks, 40% Bonds	8.9%	12.9%	
Levered 60/40	11.1%	20.0%	

Extended, 1/31/1926-12/31/2021

Portfolio	Annualized Total Return	Annualized Volatility	
100% Stocks	10.5%	18.6%	
100% Bonds	6.1%	7.6%	
100% Cash	3.3%	0.9%	
60% Stocks, 40% Bonds	9.2%	12.1%	
Levered 60/40	11.8%	18.8%	

Extension, 1/1/1994-12/31/2021

Portfolio	Annualized Total Return	Annualized Volatility	
100% Stocks	10.7%	14.8%	
100% Bonds	7.2%	9.2%	
100% Cash	2.2%	0.6%	
60% Stocks, 40% Bonds	9.7%	10.0%	
Levered 60/40	13.5%	15.5%	

But coming back to when did the Asness levered 60/40 "not work"?

- Only in 21 out of 95 years (22%) and seven of the last 40 years (18%) was the bond return negative—the worst year was -8.09% in 1969
- Only in five years was the bond return down more than 5% (1956, 1969, 1994, 1999, 2013)
 - Just once (1979–1980) was the two-year return down more than 5% when combining the negative return year with the following year's return
- There have been four years of negative bond returns in the past 20 years
 - o 2013: 100% Bonds down 7.07%, Levered 60/40 up 24.22%
 - o 2015: 100% Bonds down 1.02%, Levered 60/40 up 0.93%
 - o 2018: 100% Bonds down 4.73%, Levered 60/40 down 7.67%
 - o 2021: 100% Bonds down 2.66%, Levered 60/40 up 24.39%

Calendar Year Returns



Below is a table of all 21 negative return years for the 100% bonds allocation.

2021 shows up on this list in the 12th spot—with a decline of 2.66%.

Does that say anything about the future?



Following these negative return years—with 20 observations, since 2022 returns are unknown—in 16 of the next 20 (80% of the time), bond returns were positive and made up for the losses in 14 of the 20 (70% of the time).

Negative Return Years for 100% Bonds

			Absolute Calendar Year Returns				Relative Return
Rank	Year	100% Stocks	100% Bonds	100% Cash	60% Stocks, 40% Bonds	Levered 60/40	Levered 60/40 vs. 100% Stocks
1	1969	-8.50%	-8.09%	6.58%	-8.17%	-15.74%	-7.23%
2	1999	21.04%	-7.45%	4.68%	8.97%	11.07%	-9.98%
3	2013	32.39%	-7.07%	0.02%	15.21%	24.22%	-8.17%
4	1956	6.56%	-6.81%	2.46%	1.30%	0.37%	-6.18%
5	1994	1.32%	-5.76%	3.90%	-1.51%	-4.65%	-5.97%
6	1967	23.98%	-4.95%	4.21%	11.62%	15.48%	-8.49%
7	2018	-4.38%	-4.73%	1.81%	-4.18%	-7.67%	-3.29%
8	1979	18.61%	-4.18%	10.38%	9.06%	7.75%	-10.86%
9	1974	-26.47%	-3.06%	8.00%	-17.50%	-29.88%	-3.42%
10	1980	32.50%	-2.76%	11.24%	18.06%	21.06%	-11.45%
11	1951	24.02%	-2.69%	1.49%	12.72%	19.04%	-4.97%
12	2021	28.71%	-2.66%	0.04%	15.38%	24.39%	-4.32%
13	1947	5.71%	-2.34%	0.50%	2.52%	3.50%	-2.21%
14	1958	43.36%	-2.22%	1.54%	23.28%	36.89%	-6.47%
15	1931	-43.34%	-1.85%	1.07%	-27.39%	-41.67%	1.67%
16	1981	4.92%	-1.24%	14.71%	-3.23%	-12.65%	-7.73%
17	2015	1.38%	-1.02%	0.02%	0.77%	0.93%	-0.45%
18	1959	11.96%	-0.97%	2.95%	6.70%	8.70%	-3.25%
19	1965	12.45%	-0.46%	3.93%	7.20%	8.91%	-3.54%
20	1987	5.25%	-0.27%	5.47%	4.52%	2.63%	-2.63%
21	1978	6.57%	-0.07%	7.18%	4.12%	1.98%	-4.60%

The current macro environment: more <u>rising rates</u>?

Our current house <u>macro</u> view—best told by our Senior Investment Strategy Advisor, Jeremy Siegel—is that <u>inflation</u> will run hot for an extended period, and this will likely pressure traditional bond portfolios.

We have advocated that the legacy 60/40 should morph toward a 75/25 for many investors.

We believe our capital-efficient strategies are best used to free up capital for other diversifiers and not just to layer bond beta risk on top of your equities.

But for those 60/40 investors who want to take the 75% equity risk and not sacrifice the bond exposure and potential portfolio diversification benefits, capital-efficient strategies can allow allocations like 75/40—or 115% total asset exposure of the capital invested.

Bonds have historically provided a ballast to portfolio diversification, and one of the reasons we see bond yields being so depressed is that the hedge bonds provide to traditional equity portfolios make them a desirable asset to hold for some investors. Our capital-efficient ETFs use bond futures in exactly that diversifying way.

Sources for all tables and chart: WisdomTree, Ibbotson, Morningstar Direct, as of 12/31/21. "Asness Replication" based on 1996 article by Cliff Asness titled "Why Not 100% Equities?" and published in The Journal of Portfolio Management. 100% Stocks measured by Ibbotson US Large Stock Total Return Index. 100% Bonds measured by Ibbotson Long-Term Corporate Total Return Index. 100% Cash (the borrowing rate used for leveraging 60/40) measured by Ibbotson 30-Day T-Bill Index. Past performance is not indicative of future results. You cannot invest directly in an index. Index performance does not represent actual fund or portfolio performance. A fund or portfolio may differ significantly from the securities included in the index. Index performance assumes reinvestment of dividends but does not reflect any management fees, transaction costs or other expenses that would be incurred by a portfolio or fund, or brokerage commissions on transactions in fund shares. Such fees, expenses and commissions could reduce returns. WisdomTree, its affiliates and their independent providers are not liable for any informational errors, incompleteness or delays or for any actions taken in reliance on information contained herein. The research shown is not a back test or hypothetical representation of NTSX.

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DEFINITIONS

Capital efficiency: The ability for an investment strategy to gain exposure to a particular market while using fewer assets.

S&P 500 Index: Market capitalization-weighted benchmark of 500 stocks selected by the Standard and Poor's Index Committee designed to represent the performance of the leading industries in the United States economy.

60/40 Portfolio: A portfolio of 60% equities and 40% fixed income.

Basis point: 1/100th of 1 percent.

Macro: Focused on issues impacting the overall economic landscape as opposed to those only impacting individual companies.

Inflation: Characterized by rising price levels.

