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Which portfolio is lower risk?

We care most about risk when the sky is falling

When the market is going up, we don't care about risk. But when it's collapsing, we do. Since 1920, there have been nine stock bear markets. Let's compare how four hypothetical portfolios performed during these nine traumatic events.

Performance for Portfolios A, B, C, and D
During the last nine stock bear markets

Bear market started	8/31/1929	2/28/1937	9/30/1939	5/31/1946	11/30/1968	12/31/1972	8/31/1987	8/31/2000	10/31/2007	Average
Lasted (months)	33	13	31	21	19	21	3	25	16	
U.S. stocks fell (%)	-79	-50	-39	-37	-35	-52	-30	-47	-52	
Portfolio A	-19.9	-11.0	29.9	-2.1	1.9	23.5	-11.2	6.7	-1.6	**1.8**
Portfolio B	-31.7	-12.0	3.1	-5.7	-10.0	-11.4	-6.0	5.3	-4.1	**-8.1**
Portfolio C	-36.8	-17.8	0.4	-3.4	-10.2	-10.7	-6.2	1.4	-10.3	**-10.4**
Portfolio D	-27.1	-11.3	16.3	-2.5	-3.2	-6.3	-2.7	1.5	-14.1	**-5.5**

In all but one of the declines, Portfolio A delivered a more comfortable ride. Most investors would conclude that Portfolio A was the lower risk portfolio.

If our investment time horizon is 7½ years, how should we define risk?

Defining risk by what happens during the inevitable stock bear market is helpful. But it also provides an incomplete view. What if we're investing for a need located five to ten years in the future (let's take the mid-point of that, 7½ years). This investment objective allows us to define risk as the worst that could happen during any possible 7½ year period.

The following table answers this question for our four hypothetical portfolios over the last 102 years. The first column shows the single worst 7½ year period to have occurred. The remaining columns show the "unlikely," but possible outcomes - the percentile results. For example, the 99th percentile for Portfolio A was 6.0%. This means that 99% of all possible 7½ year periods returned more than 6.0% and 1% of the periods returned less than 6.0%.

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Performance for Portfolios A, B, C, and D
Annualized performance over rolling time windows of 7 1/2 years in length

	Worst that ever happened	99th percentile	98th percentile	97th percentile	96th percentile	95th percentile
Portfolio A	5.0	6.0	6.4	6.7	7.0	7.1
Portfolio B	1.6	2.9	3.1	3.2	3.4	3.5
Portfolio C	0.5	2.7	3.2	3.5	3.6	3.8
Portfolio D	0.8	2.1	2.2	2.3	2.4	2.5

Based on these results, every investor would agree, Portfolio A is the lowest risk portfolio.

So, what's the rest of the story?

Conventional "wisdom" is that a higher allocation to stocks is associated with greater risk, and a lower allocation is associated with lower risk. But is this true? The investment industry has many conventions that sound interesting, but lack basis or foundation. The following table provides the asset allocations for Portfolios A, B, C, and D, and their respective definitions.

Asset allocations for Portfolios A, B, C, and D
Average, min, and max over the last 102 years

			Allocation to stocks (in %)			Allocation to commodities (in %)		
			Average	Minimum	Maximum	Average	Minimum	Maximum
Portfolio A	**TAA thought-experiment portfolio**		**47.9**	**0.0**	**70.0**	**3.2**	**0.0**	**34.6**
Portfolio B	Narrow U.S. benchmark	25% S&P 500 Index, 75% 10-year US Treasury bonds	25.0	25.0	25.0	0.0	0.0	0.0
Portfolio C	Broad U.S. benchmark	25%/75% mix, broadly diversified across all US stocks and bonds	25.0	25.0	25.0	0.0	0.0	0.0
Portfolio D	Broad global benchmark	25%/75% mix, broadly diversified across all US and Int'l stocks and bonds	25.0	25.0	25.0	0.0	0.0	0.0

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Portfolio A is a hypothetical TAA portfolio that we refer to as our though-experiment portfolio. It allocates 21.8% to U.S. stocks, 26.0% to international stocks,12.9% to U.S. Treasury bonds, 34.4% to liquid investment grade U.S. corporate bonds, 0.6% to high-yield bonds, 1.1% to international bonds, 1.3% to gold, and 1.9% to other commodities. But since it's a TAA portfolio, it overweights recent relative winners and underweights recent relative losers - this dynamic-weighting is the inherent essence of all TAA portfolios. The disclosure language at the end of this discussion provides greater detail on the TAA thought-experiment portfolio's construction.

In contrast, Portfolios B, C, and D are conventional fixed-weight balanced stock/bond portfolios, allocating a constant 25% to equities. An equity weighting of this size is generally considered appropriate for an investment time horizon of 7½ years.

So, how do we understand the observation that Portfolio A with its higher average allocation to stocks actually delivered lower risk? The answer is simple, straight-forward, and easy to confirm. TAA's high level of sensitivity to and subsequent reflection of Mr. Market's likes and dislikes, serves to reduce realized portfolio risk (in general).

Or to put it differently - the conventional approach that adopts a fixed and never-changing allocation to stocks, serves to magnify risk. This happens because it forces the portfolio to ride a stock bear market all the way down. Worse yet, such fixed-weight approaches miss out on the opportunity to ride Mr. Market's enthusiasm for a particular area as it relatively excels.

Conclusions

Being well-protected during the next stock bear market - Utilizing a portfolio that reflects the market's likes and dislikes has historically provided an improved level of risk-mitigation during stock bear markets.

Trust but verify - One of our nation's past presidents often used the phrase "trust but verify." This is a prudent approach when dealing with all investment strategies. Thankfully, the portfolio construction rules and the underlying data that define the thought-experiment portfolio are fully transparent and readily available. It is a simple and straightforward exercise to confirm the validity of the numbers presented above. And we will help anyone who would like to give it a try.

Next steps

Your financial advisor has a menu of possible investment solutions. The solution that is most appropriate to your unique needs and circumstances can only grow out of a meaningful discussion with your advisor. Reach out to them, talk with your advisor.

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All performance appearing in this document is hypothetical and back-tested. Any hypothetical back-tested information provided herein is illustrative only and derived from a proprietary model designed with the benefit of hindsight based on certain data (which may or may not correspond with the data that someone else would use to back-test the portfolio) and assumptions and estimates (not all of which may be specified herein and which are subject to change without notice). The results obtained from different models, assumptions, estimates and/or data may be materially different from the results presented herein and such hypothetical back-tested information should not be considered indicative of the actual results that might be obtained from an investment or participation in a financial instrument or transaction referencing the portfolio.

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The data underlying the results, is monthly total return index data. This index data starts on 01/31/1919 and ends on 2/1/2021 and was provided by Global Financial Data, Inc., San Juan Capistrano, CA on 2/24/2021. Global Financial Data, Inc. can be reached at www.globalfinancialdata.com.

Narrow U.S. benchmark - is 25% the S&P 500 Index and 75% 10-year U.S. Treasury bonds. This benchmark uses monthly rebalancing at month-end values.

Broad U.S. benchmark - is 25% U.S. stocks and 75% U.S. bonds. U.S. stocks are defined as an equal-weighted mixture of the seven indices that are listed below under U.S. Stock Indices. U.S. bonds are defined as an equal-weighted mixture of the ten indices that are listed below under U.S. Bond Indices. This benchmark uses monthly rebalancing at month-end values.

Broad global benchmark - is 25% global stocks and 75% global bonds. Global stocks are defined as an equal-weighted mixture of the sixteen indices that are listed below under U.S. Stock Indices and International Stock Indices. Global bonds are defined as an equal-weighted mixture of the eleven indices that are listed below under U.S. Bond Indices and International Bond Indices. This benchmark uses monthly rebalancing at month-end values.

The thought-experiment portfolio was constructed as follows:

- The portfolio consists of the seven best performing asset classes, as measured over the prior eleven months, just completed (plus a fixed/permanent 0.7% allocation to cash equivalents (using the GFD Indices USA Total Return T-Bill Index) and a fixed/permanent 29.3% allocation to liquid investment grade U.S. corporate bonds (using the Dow Jones Corporate Bond Return Index)).

- The seven best performing asset classes are revised once each month at month-end closing values.
- The portfolio is rebalanced monthly, and uses scaled weights (as opposed to equal-weights) at all times (in addition to the constant 0.7% allocation to cash equivalents and the 29.3% allocation to liquid investment grade U.S. corporate bonds).
- The seven best performing asset classes are selected from the 32 passive indices listed below under the sections titled: U.S. Stock Indices, U.S. Bond Indices, International Stock Indices, International Bond Indices, and Commodities.

- The term "seven best performing" is defined as which seven asset classes (drawn from the 32 passive indices) had current month-end index values that were the furthest above (in proportionate percentage terms) their respective average levels over the just completed eleven months (using month-end total return index levels).
- The seven best performing asset categories are not equal-weighted, instead, they use scaled weights. Scaled weights are used because this increases the probability (or likelihood) of the portfolio generating at least 4.0% compound annual return over a randomly selected 7½-year rolling time window. For example, liquid investment grade U.S. corporate bonds are weighted more heavily than are international stocks. Similarly, commodities other than gold are weighted more lightly than are international stocks.
- You may request to receive the:
  - Historical monthly asset class weightings for the portfolio from your advisor. This data shows the exact composition of the portfolio, month-by-month, throughout its entire history.
  - Average weightings to the eight major asset categories comprising the portfolio since inception. These major asset categories are defined as: U.S. stocks, International stocks, U.S. Treasury bonds, Liquid investment grade U.S. corporate bonds, U.S. high yield bonds, International fixed income, Gold, and Other commodities.
  - Assumed one-way transactions costs for each of the 32 asset categories. These range from a low of 0 basis points for the GFD Indices USA Total Return T-Bill Index to a high of 36.84 basis points for Palladium. Therefore, the round-trip transactions costs would be double these numbers.

U.S. Stock Indices - (1) S&P 500 Total Return Index (w/GFD extension), (2) S&P 500 Utilities Total Return Index 55, (3) Dow Jones Industrials Total Return Index, (4) Dow Jones Transportation Average Return Index, (5) S&P 500 Industrials Total Return Index 20, (6) Energy (Fama French, Market value-weighted portfolio, Total returns, Market broken into 10 industry portfolios), and (7) HiTech (Fama French, Market value-weighted portfolio, Total returns, Market broken into 10 industry portfolios).

U.S. Bond Indices - (1) GFD Indices USA Total Return T-Bill Index, (2) USA 30-year Government Bond Return Index, (3) USA 5-year Government Note Total Return Index, (4) USA 3-year Government Note Return Index, (5) GFD Indices USA 10-year Government Bond Total Return Index, (6) BofA Merrill Lynch US Inflation-Linked Treasury Total Return Index, (7) Dow Jones Corporate Bond Return Index, (8) GFD Indices USA Total Return AAA Corporate Bond Index, (9) Bloomberg Barclays US Aggregate Bond Index, and (10) Bank of America Merrill Lynch US High Yield Master II Total Return Index Value.

International Stock Indices - (1) UK FTSE All-Share Return Index (w/GFD extension), (2) Japan Topix Total Return Index, (3) Germany CDAX Total Return Index (w/GFD extension), (4) Australia ASX Accumulation Index-All Ordinaries, (5) OMX Helsinki All-Share Gross Index - Finland, (6) OMX Stockholm Benchmark Gross Index (GFD extension - Sweden, (7) OMX Copenhagen All-Share Gross Index - Denmark, (8) France CAC All-Tradable Total Return Index, and (9) Brussels All-Share Return Index (w/GFD extension) - Belgium.

International Bond Indices - (1) GFD Indices World x/USA Countries Government Bond GDP-weighted Return Index.

Commodities - (1) Gold Bullion Price-New York (US$/Ounce), (2) A basket of precious metals consisting of gold (0.030oz), silver (1.100oz), platinum (0.004oz), and palladium (0.006oz), (3) Reuters CRB Total Return Index (w/GFD extension), (4) Silver Cash Price (US$/Ounce), (5) Palladium (USD per Troy Ounce).

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