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When it all goes south

Rob Brown, PhD, CFA

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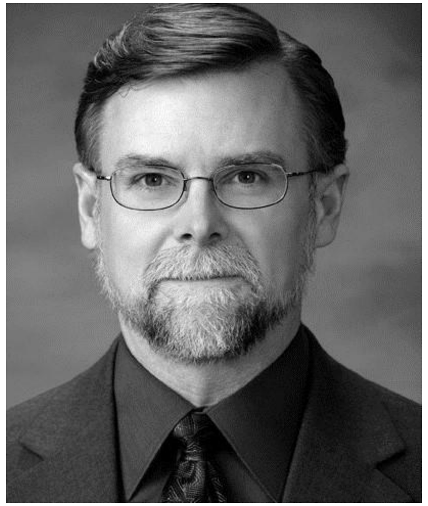

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"Everybody is worried about inflation. Inflation is a positive for common stocks because inflation in companies' costs works its way into selling prices, which lift the nominal level of revenues and earnings. Inflation becomes a problem for the market when the central bank is moving to curb inflation"

Leon Cooperman

“South” . . . ain’t just one direction

- Bear market
- Recession
- Inflation
- Interest rates
- War
- Civil unrest
- Real estate crash
- Global pandemic
- Terrorist attack

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PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

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What happens when interest rates rise?

How does TAA perform during rising/falling interest rate environments?

To answer this question, we must:

- Identify a time period to examine,
- Specify how we define rising and falling interest rate environments,
- Identify a simple transparent TAA portfolio that anyone could replicate, and
- Provide comparative passive index benchmarks.

Identify a time period to examine - Historically, interest rates proceeded through long "40-year" bull and bear markets, i.e., through multi-decade long regimes of rising and then falling interest rates. Therefore, any useful answer must examine the long span of time. Here, we examine the period from 12/31/1919 through the present. This allows use to identify performance during remarkably different interest rate environments. Our definition of "interest rates" is the current yield on the 10-year US Treasury bond.

Specify how we define rising and falling interest rate environments - The time period examined provides monthly returns. We broke these months into four equal-sized groups identifying periods of rapidly rising, moderating rising, moderately falling, and rapidly falling interest rates. Each group covers 25.3 years.

Identify a simple transparent TAA portfolio that anyone could replicate - Our TAA thought-experiment portfolio was constructed from 32 asset categories and had an average asset mix of: 21.7% US stocks, 25.6% international stocks, 13.5% US Treasury bonds, 33.6% US investment grade corporate bonds, 0.6% US high yield corporate bonds, 1.6% international bonds, 1.2% gold, and 2.1% other commodities. The thought-experiment portfolio is passive in that it eschews forecasts, predictions, or estimates of the future. Instead, it makes use of a simple observation, i.e., relative winners have a tendency to repeat for just one more month. And the same is true for relative losers. As a consequence, the thought-experiment portfolio heavily

Interest rates rise - a lot

When interest rates were . . .		TAA thought-experiment portfolio	Narrow U.S. benchmark 25% S&P 500 Index, 75% 10-year US Treasury bonds	Broad U.S. benchmark 25%/75% mix broadly diversified across all US stocks and bonds	Broad global benchmark 25%/75% mix broadly diversified across all US and int'l stocks and bonds
Rising the fastest	304 months (25% of the time) when interest rates rose the fastest	8.2%	-4.7%	-1.4%	0.2%
Rising a little bit	303 months (25% of the time) when interest rates rose only modestly	10.8%	4.9%	5.5%	4.1%
Falling a little bit	304 months (25% of the time) when interest rates fell only modestly	13.1%	9.7%	9.7%	8.8%
Falling the fastest	303 months (25% of the time) when interest rates fell the fastest	16.5%	18.8%	15.6%	13.3%

Inflation rises - a lot

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Falling a little bit	304 months (25% of the time) when inflation fell only modestly	12.8%	7.6%	7.6%	7.0%
Falling the fastest	303 months (25% of the time) when inflation fell the fastest	12.8%	7.0%	7.0%	6.5%

40 years of rising interest rates - probably *!!*

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PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

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But has TAA worked better than bonds?

Is TAA versus bonds the right comparison?

Probably not. But to answer this question, we must first identify the all-important investment timeframe. I'm assuming here that the investor is targeting needs arriving between 5 and 20 years in the future. Therefore, their investment holding period or time horizon is 5 to 20 years.

For such an investor, a pure 100% bond portfolio won't work. It won't be able to generate the needed returns. Similarly, a pure 100% stock portfolio won't work. It'll be too volatile, exposing the investor to an undue likelihood of having to liquidate at an unfortunate point in time (when their account value is down).

The common-place solution has been the balanced portfolio. A portfolio that maintains an allocation to both stocks and bonds. Within such a portfolio, the role that bonds play is **NOT** to generate current income. Such suggestions are misleading and counter-productive. They're just plain wrong.

Instead, the role that bonds must play within a balanced portfolio is to adequately tame the unruly behavior of stocks . . . during the periodic and inevitable stock bear markets that come along. When bonds play their role successfully, it allows the balanced portfolio investor to feel relatively confident that their needs will be well met.

Thus, the relevant comparison is TAA versus a balanced portfolio containing both stocks and bonds. Moreover, the comparison needs to focus on what happens during stock bear markets - who did better, TAA or the balance portfolio alternative. The following analysis assumes a relatively short investment time horizon of just 5 to 10 years.

Does it matter whether interest rates are rising or falling - Yep, it sure does!

Recall the inverse relationship between interest rates and bond prices. When interest rates are rising, bond prices are falling. For this reason, it becomes much more difficult for bonds to play their necessary role within a balanced portfolio during a rising interest rate environment. In fact, much harder!

Fortunately, since 1981 interest rates have been falling. Since 1981 bond prices have been rising. This has made it much easier for bonds to successfully play their necessary role. Unfortunately, after approaching zero, interest rates are now rising, and bond prices are falling. Historically, interest rates have either risen or fallen over long multi-decade episodic periods. The following graphic depicts recent history for the current yield on a simple vanilla 10-year U.S. Treasury bond.

40 years of rising interest rates - probably !!

When interest rates rose for 36 years (ending in late-1981)

Bear market started	Lasted (months)	U.S. stocks fell (%)	TAA thought-experiment portfolio (%)	Narrow U.S. benchmark 25% S&P 500 Index, 75% 10-year US Treasury bonds	Broad U.S. benchmark 25%/75% mix, broadly diversified across all US stocks and bonds	Broad global benchmark 25%/75% mix, broadly diversified across all US and Int'l stocks and bonds
5/31/1946	21	-37	-2.1	-5.7	-3.4	-2.5
11/30/1968	19	-35	1.9	-10	-10.2	-3.2
12/31/1972	21	-52	23.5	-11.4	-10.7	-6.3
Average			**+8%**	**-7%**		

Nine bear markets, one after another

PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

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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.

Nine bear markets, one after another

Portfolio A	**TAA thought-experiment portfolio**	
Portfolio B	Narrow U.S. benchmark	25% S&P 500 Index, 75% 10-year US Treasury bonds
Portfolio C	Broad U.S. benchmark	25%/75% mix, broadly diversified across all US stocks and bonds
Portfolio D	Broad global benchmark	25%/75% mix, broadly diversified across all US and Int'l stocks and bonds

Nine bear markets, one after another

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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**

and the absolute worst 7 ½-year period that EVER happened !!

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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

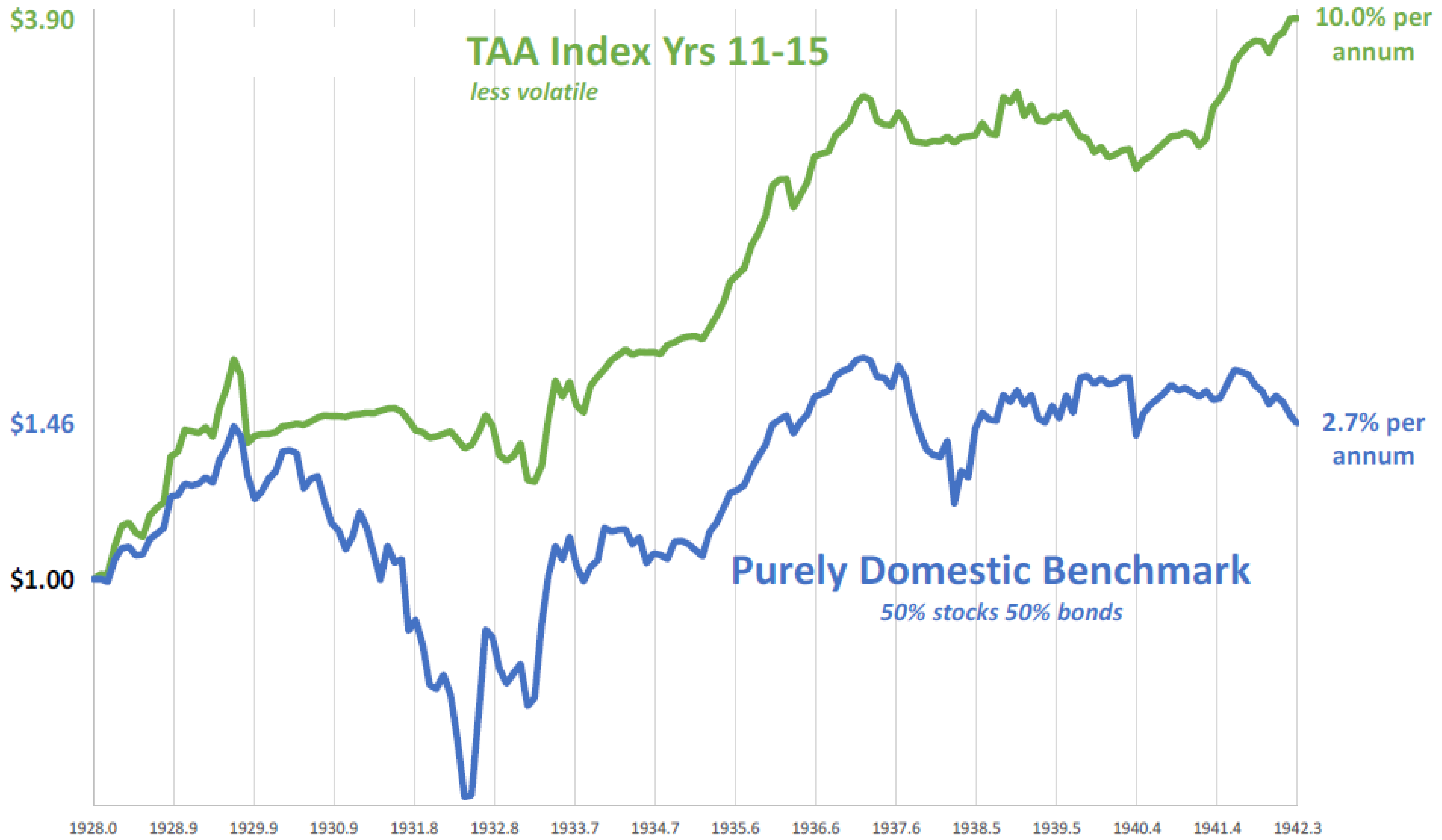
	Worst that ever happened	99th percentile	98th percentile	97th percentile	96th percentile	95th percentile
Portfolio A	5.0	6.0	6.4	6.7	7.0	7.1
Portfolio B	1.6	2.9	3.1	3.2	3.4	3.5
Portfolio C	0.5	2.7	3.2	3.5	3.6	3.8
Portfolio D	0.8	2.1	2.2	2.3	2.4	2.5

Three worst "decades" in history

8. Performance during past crisis 1928-1942

The fourteen years 1928-1942 was a difficult period. During this challenging time, we experienced the Wall Street Crash of 1929, The Dust Bowl starting in 1930, the Great Depression, the start of World War II in 1939, the attack on Pearl Harbor in 1941, the disappearance of 11,000 of the nation's 25,000 banks, and unemployment rising to 25.6%.

1928 and on . . . Depression et al



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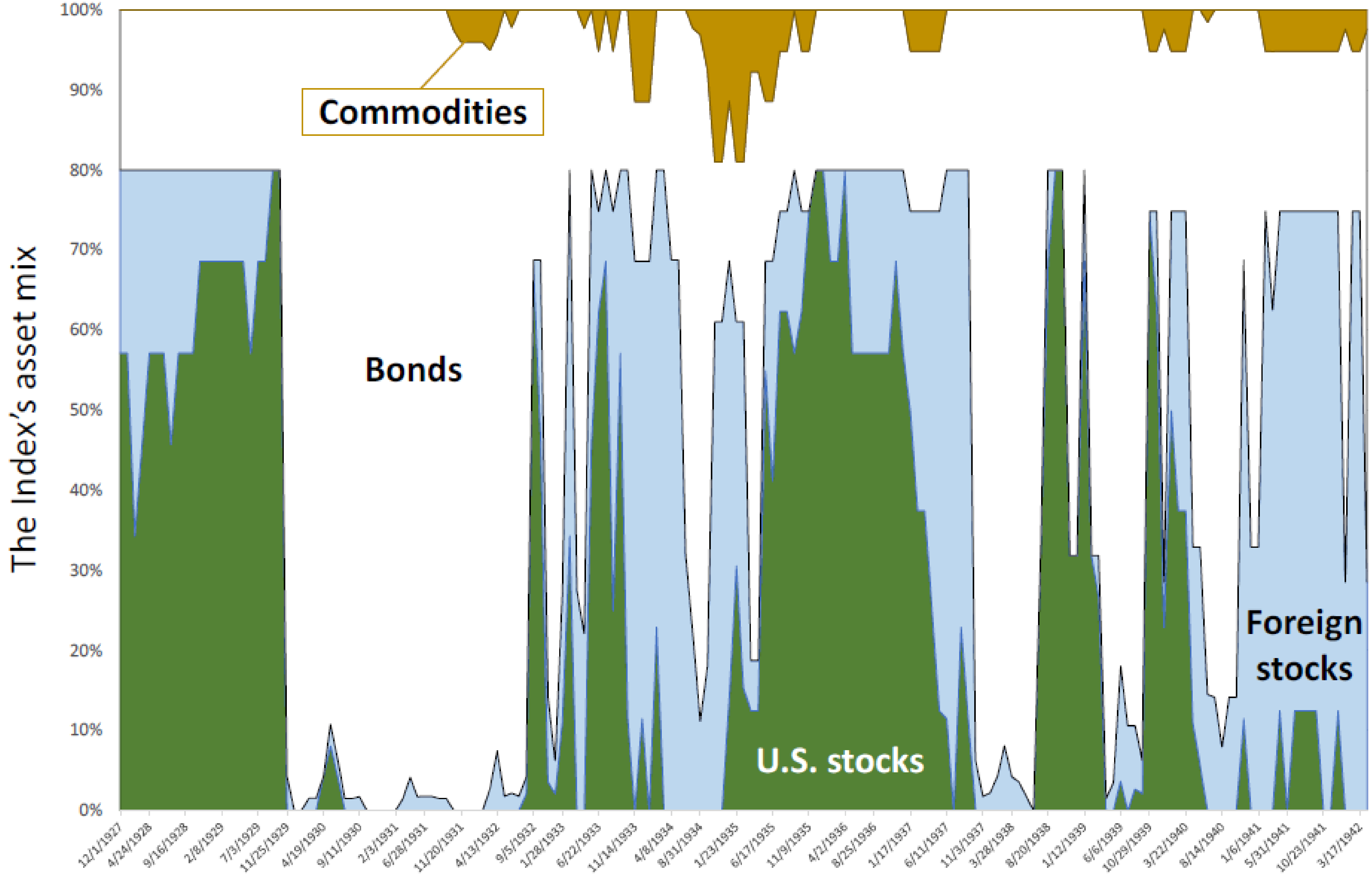

9. Performance during past crisis 1966-1976

The ten years 1966-1976 was a difficult period. During this challenging time, we experienced the Recession of 1969/70, the Recession of 1973/75, the OPEC oil embargo to the U.S. when oil prices jumped +350%, the 1973 Arab-Israeli War, Race Riots in most major cities, year-over-year inflation hitting 12.3%, and unemployment rising to 9.0%.

1966 and on . . . Social upheaval

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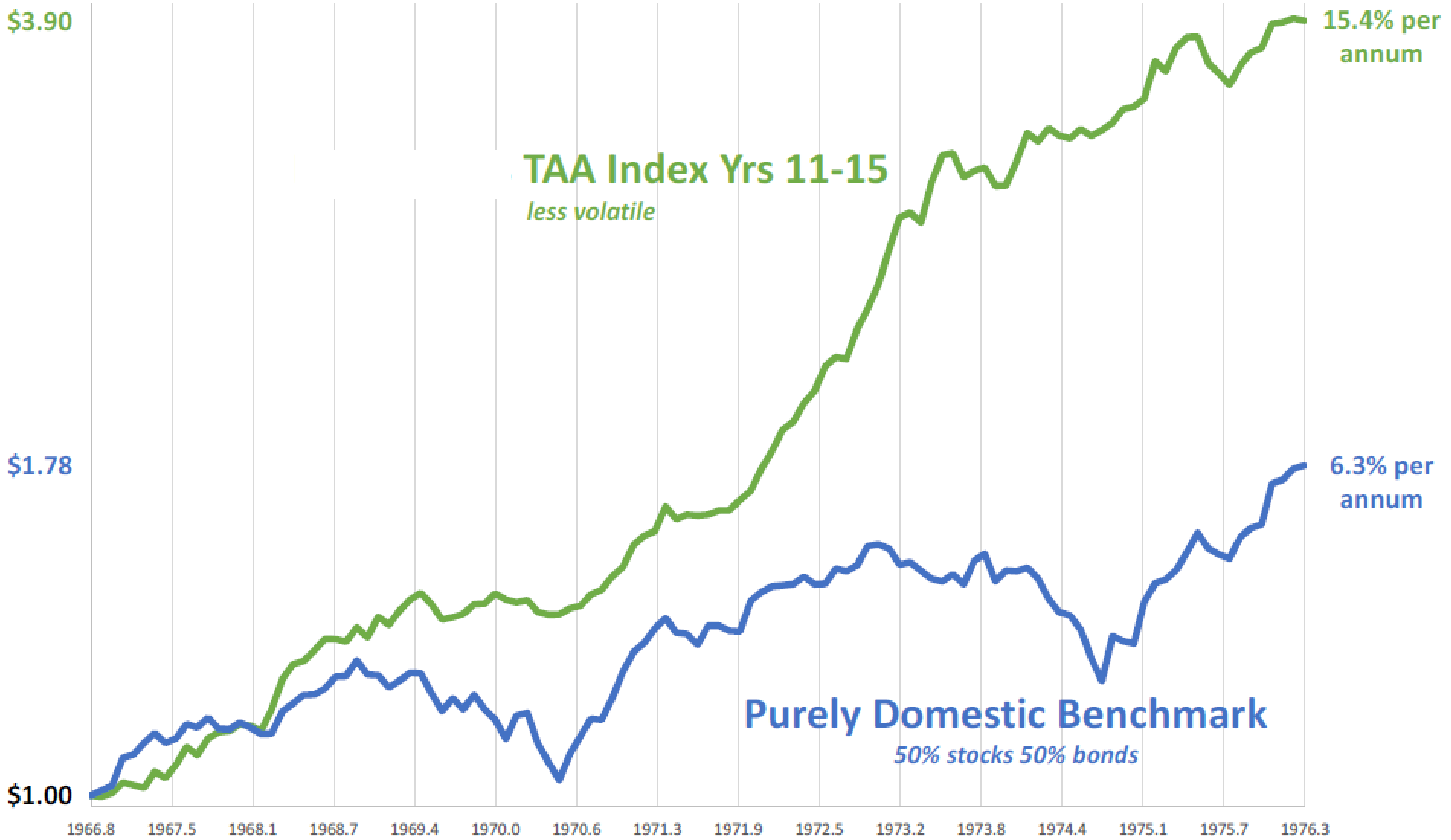

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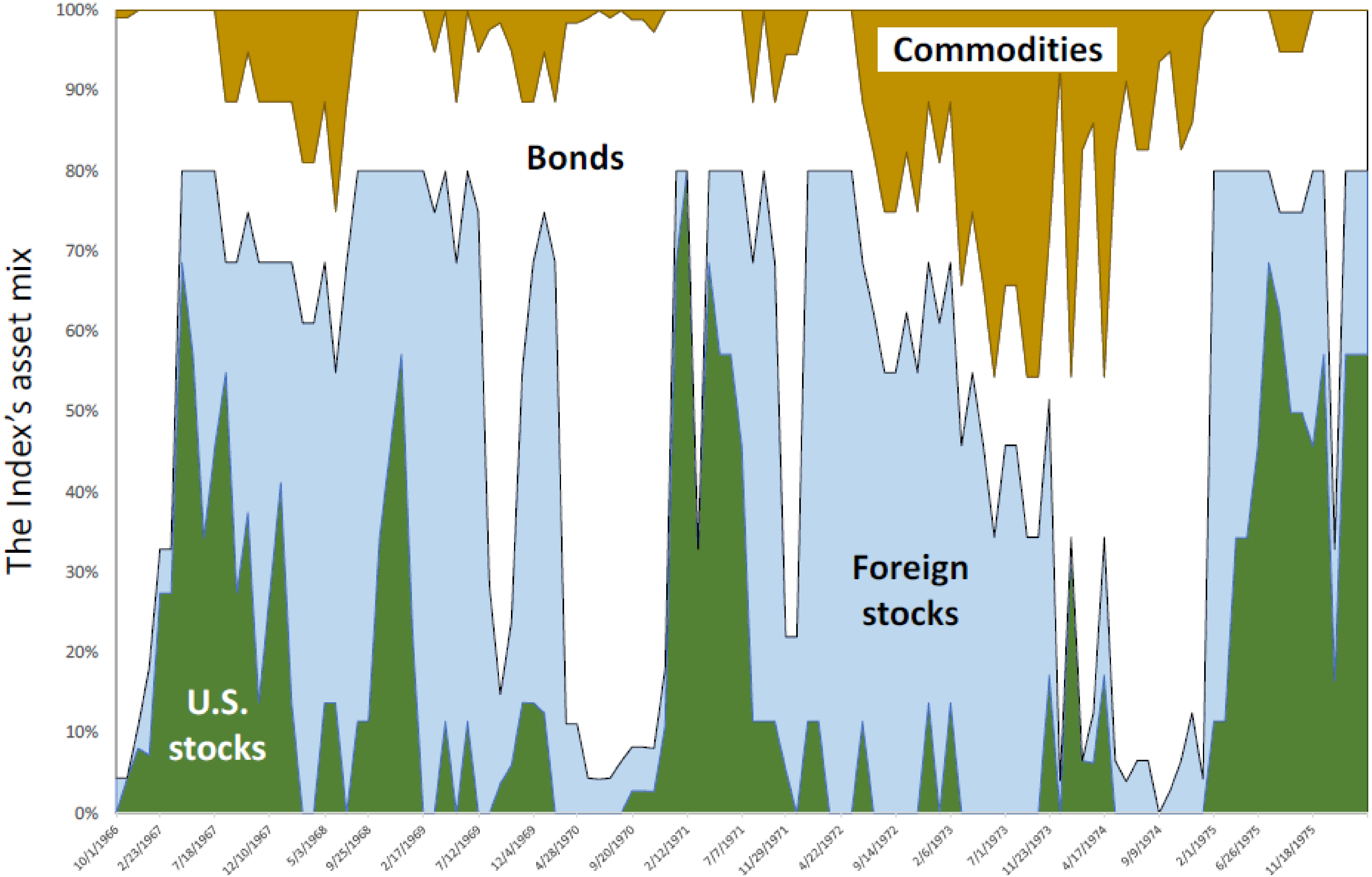
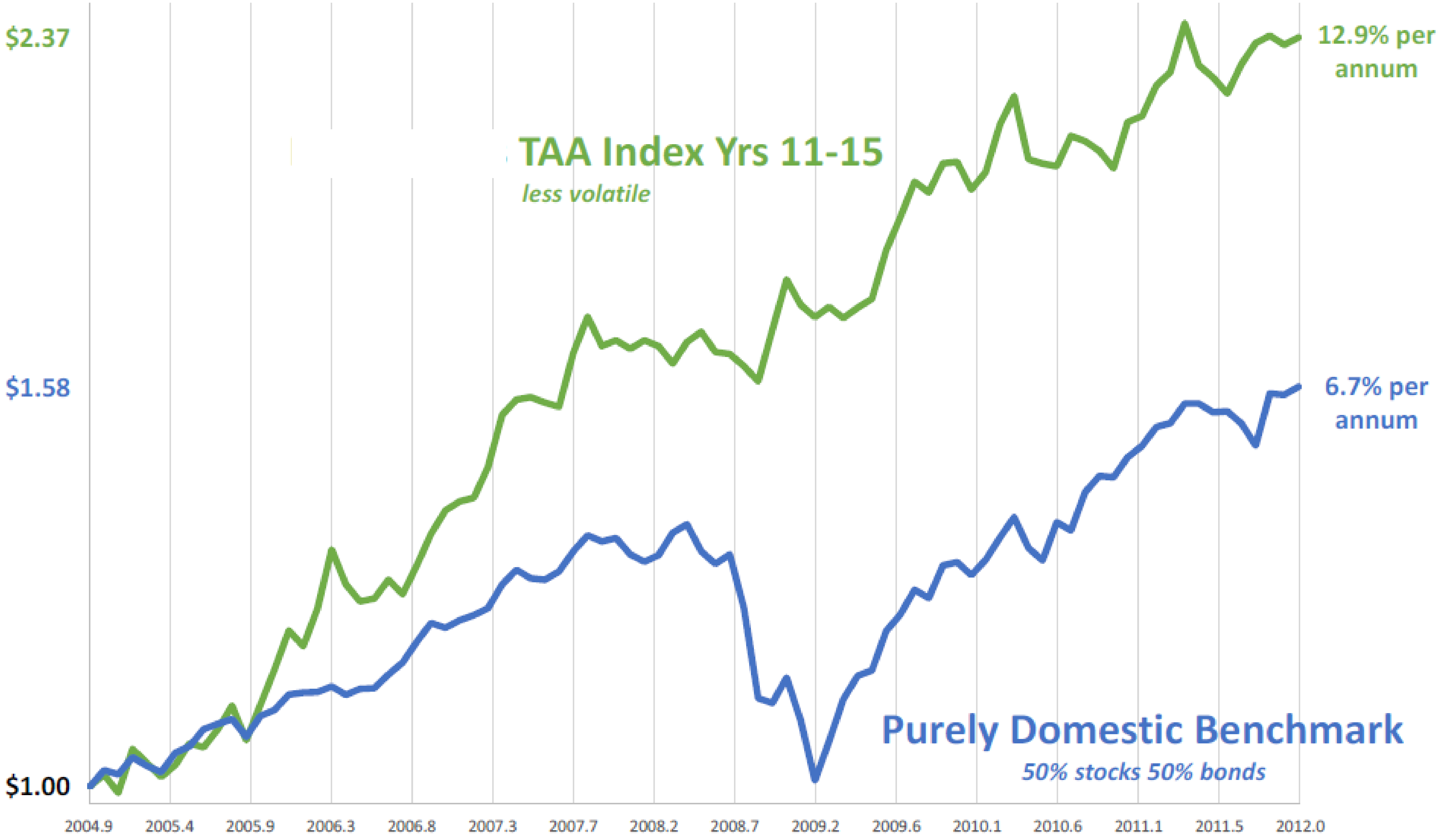


10. Performance during past crisis 2004-2011

The seven years 2004-2011 was a difficult period. During this challenging time, we experienced The Great Recession, approximately 1.8 million small American businesses went under, over 465 banks failed, and unemployment reached 10.0%. At the time, the International Monetary Fund (IMF) concluded that it was the most severe economic and financial meltdown since the Great Depression of 1929.

2004 and on . . . The Great Recession and Financial Meltdown



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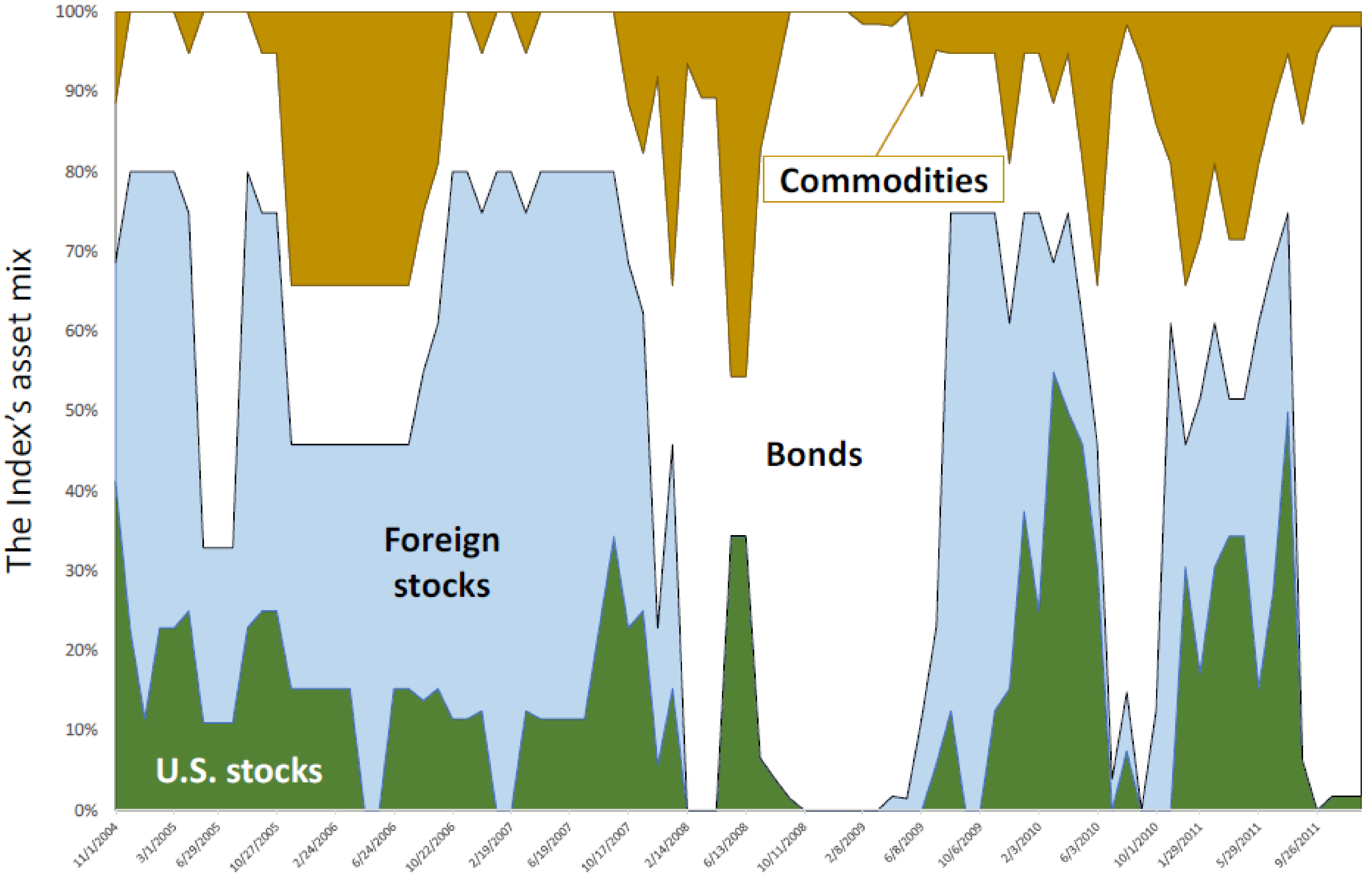

Why does it work?

What’s going on here?

Does it “know” the future?

Is it good at forecasting what’s next?

Is TAA good at forecasting what's about to come next?

- NOPE !!!

- In fact . . . It ignores the future

- Instead . . . It relies on two simple truths
  - Markets trend
  - Bear markets last a long time

Do markets really trend?

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The Journal of Portfolio Management

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A Century of Evidence on Trend-Following Investing

Brian Hurst, Yao Hua Ooi, and Lasse Heje Pedersen

Do bear markets really last a long time?

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History of BEAR markets for the S&P 500 in inflation-adjusted terms

	Cumulative percentage loss, unannualized	Duration in months	Start date	End date	Volatility, annualized standard deviation of monthly returns	Percentage of monthly returns that were negative
	-30	15	8/31/1853	11/30/1854	26.62	73
	-31	10	12/31/1856	10/31/1857	18.26	90
	-35	8	7/31/1864	3/31/1865	30.35	63
	-32	15	3/31/1876	6/30/1877	7.55	93
	-37	14	9/30/1906	11/30/1907	13.28	86
	-27	24	10/31/1912	10/31/1914	10.80	63
	-48	49	11/30/1916	12/31/1920	15.72	59
	-79	33	8/31/1929	5/31/1932	36.76	64
	-50	13	2/28/1937	3/31/1938	30.33	77
	-39	31	9/30/1939	4/30/1942	19.02	58
	-37	21	5/31/1946	2/28/1948	14.11	71
	-35	19	11/30/1968	6/30/1970	14.37	74
	-52	21	12/31/1972	9/30/1974	14.82	86
	-30	3	8/31/1987	11/30/1987	27.66	100
	-47	25	8/31/2000	9/30/2002	17.43	64
	-52	16	10/31/2007	2/28/2009	18.58	75
	?	?	7/31/2020	?	?	?
Median BEAR market	-37.2	17.5			17.84	74
Mean BEAR market	-41.4	19.8			19.73	75

Author: Rob Brown, PhD, CFA at rob.brown@[illegible].com

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Median BEAR market	-37.2	17.5			17.84	74
Mean BEAR market	-41.4	19.8			19.73	75

Your objection

Cycles are shorter today

Everything happens faster

Therefore, bear/bull markets won't last as long

Are cycles really shorter today - or did you just make that up?

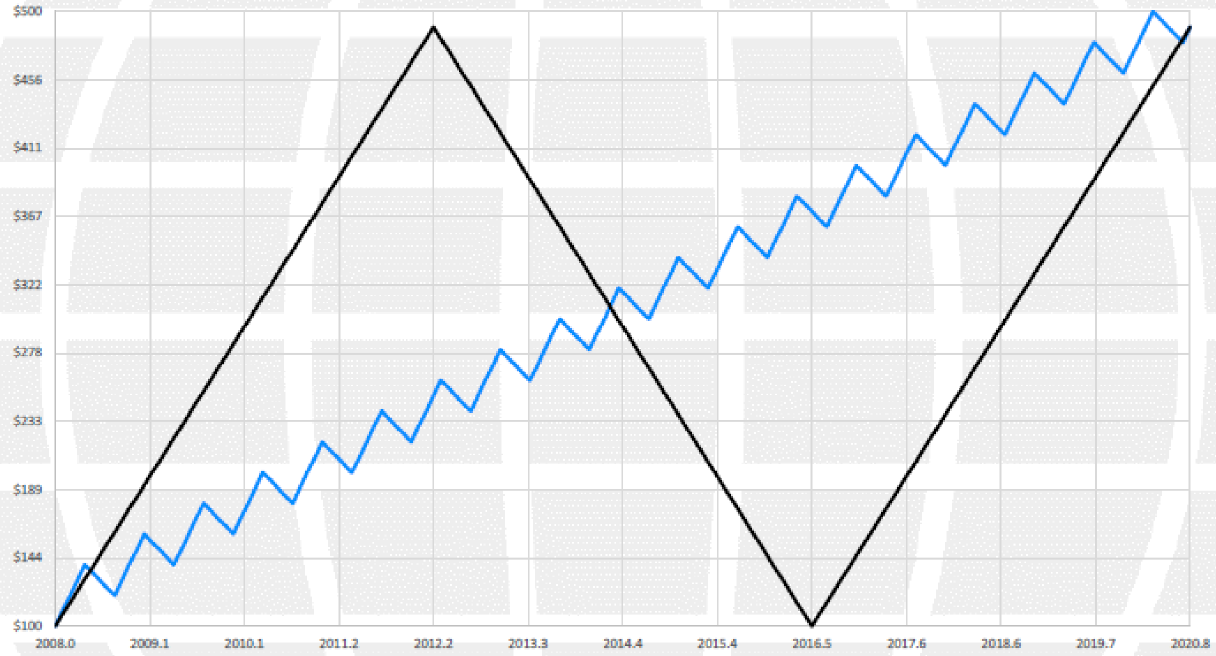
PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

Sometimes people just don't fact-check

Some have falsely claimed that market cycles are getting shorter

Tactical Asset Allocation (TAA) relies on trending or momentum for its success. Some have falsely claimed that market cycles are getting shorter, and therefore TAA no longer has the inherent advantage that it once did. Let's fact-check this claim in order to determine its truth or falsehood.

But first, let's work to better understand this issue. The following graph shows two different market paths. Each starts and ends at the same spot, and therefore both generate the same total return after many years.



The **black line** represents a market experiencing long extended cycles (bulls and bears). In contrast, the **blue line** shows a lack of

The most recent stock market cycle . . . vs historical norms

	Cumulative percentage gain, unannualized	Duration in years	Start date	End date	Volatility, annualized standard deviation of monthly returns	Percentage of monthly returns that were positive	Annualized return during BULL market
Median BULL market	176.7	5.1			12.3	67	20.8
Mean BULL market	342.2	8.6			15.8	67	20.2
Current BULL market, not yet ended	**479.2**	**12.1**	**Feb 2009**	**?**	**14.1**	**68**	**15.6**

The most recent bond market cycle . . . vs historical norms

	Cumulative percentage gain, unannualized	Duration in years	Start date	End date	Volatility, annualized standard deviation of monthly returns	Percentage of monthly returns that were positive	Annualized return during BULL market
Median BULL market	379.2	20.7			5.2	70	6.1
Mean BULL market	534.4	25.6			4.7	70	5.9
BULL market just ended	**1007.6**	**38.8**	**Sep 1981**	**Jul 2020**	**6.8**	**61**	**6.4**

The most recent commodity market cycle . . . vs historical norms

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	Cumulative percentage loss, unannualized	Duration in months	Start date	End date	Volatility, annualized standard deviation of monthly returns	Percentage of monthly returns that were negative	Annualized return during BEAR market
Median BEAR market	-38.1	32.0			12.6	67	-16.4
Mean BEAR market	-46.3	44.6			12.6	72	-23.7
BEAR market just ended	**-70.6**	**108.0**	**Apr 2011**	**Apr 2020**	**15.5**	**56**	**-12.7**

Client-facing collateral

Investment Library collateral

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Read More

Which Portfolio is Lower Risk?

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Read More

But Has TAA Worked Better Than Bonds?

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Time - Can be your best friend

Matching a need - with an investment portfolio

I've determined how much I plan to spend (and gift) during years 10 through 15 (in the future). To support this plan, my portfolio will be invested for 12 ½ years (on average), the midpoint of this interval.

Many would suggest that an appropriate and common-sense asset mix would be 50% stocks and 50% bonds given this investment time horizon. No, not necessarily today, given current market valuations, but certainly as a normal average asset mix when one's investing for 12 ½ years.

PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

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Why doesn't BlackRock offer TAA?

If TAA is so good, then why doesn't everyone offer it?

First off, BlackRock, Nationwide, Invesco, and Fidelity all offer TAA products. Nevertheless, the investment industry widely appreciates that TAA is not commercially viable, i.e., it won't sell well. How do we understand this seeming contradiction? As we explore this question, keep in mind the distinction between a product selling well in a commercial setting . . . and that same product being the best possible investment solution for an individual investor. The two have little if any overlap. Let's begin.

PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

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A Pretty Good Outcome

Let's try a thought experiment - What if . . .

What if we build a passive portfolio from the 32 asset categories shown in the graphic below using the following weighs: 30.3% US stocks, 29.3% international stocks, 5.0% US Treasury bonds, 31.5% US investment grade corporate bonds, 1.4% international bonds, 1.3% gold, and 1.2% other commodities. Over the last 102 years (ending 1/31/2021) this portfolio would have delivered 11.53% per annum. That's pretty good.

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A Century of Evidence on Trend-Following Investir

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AQR

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The way back is closed, only the path forward remains open

There are different types of change

It's a trite phrase to say *"change is the natural order of things,"* sounds too much like an excuse.

Worse yet, it serves to mask the different types of change - and how the best approach for dealing with one type of change is the worst for another.

Different types of change are distinguished by two attributes:

- Speed or pace
- Smoothness or direction

A Century of Evidence on Trend-Following Investing

Brian Hurst
Principal

Yao Hua Ooi
Principal

Lasse H. Pedersen, Ph.D.*
Principal

Fall 2014

Executive Summary

We study the performance of tren investing across global markets s extending the existing evidence by mor years. We find that trend following ha

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For more information contact

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Cell 617-875-9316

Important Disclosures

All data and statistics were provided by Global Financial Data, Inc., Hussman Strategic Advisors, Macro Strategy out of London England, and by BCA Research out of Montreal Canada.

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