

JULEX CAPITAL

Quantitative - why Tactical Asset Allocation now

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Quantitative - why you need TAA **right now**

- This is a look backward
- How TAA worked in the past . . . such that you should shift to TAA
- Quantitative assessment . . . so no judgement, no conclusion
- Just the facts

Winners Repeat, Losers Repeat

The Journal of Investing, Forthcoming 2022

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ABSTRACT

I present a tactical asset allocation proof-of-concept portfolio. It's intended to harvest the non-iid statistical attributes of stocks, bonds, commodities, and currencies, both domestic and international. It has as its objective to benefit from markets' propensity to trend from month to month, and during both bull and bear market environments. The proof-of-concept portfolio relies on a simple quantitative rule that allows for rigorous evaluation over the last 102.1 years. The results presented herein, suggest that TAA is an approach worthy of consideration. Moreover, the article suggests that a necessary condition for TAA success lies in correctly specifying its rather differentiated investment objective - one that may be unrelated to comparisons with popular fixed-weight index benchmarks. Such fixed-weight benchmarks have correlations with TAA strategies that are so low as to make commonly used statistical comparisons irrelevant, i.e., not statistically significant. This article attempts to correct our industry's mischaracterization and over-promising of all-things TAA by focusing on the time required for success.

KEY TAKEAWAYS

- The TAA portfolio earned an inflation-adjusted 10.8% over the aggregate time period (102.1 years). Whereas, a comparable passive index earned a lesser 6.7% (one with a similar standard deviation, a 75/25 global stock/bond mix).
- TAA's performance advantage resulted even after subtracting unusually high transaction costs from the TAA portfolio, while assuming that the comparable passive index could rebalance each month cost-free.
- The TAA portfolio's greater relative success in achieving the stated investment objective did not diminish with the passage of time. If anything, it may have improved during the most recent time period (14.3% of the cases examined drawn from the data spanning 1919-2021).

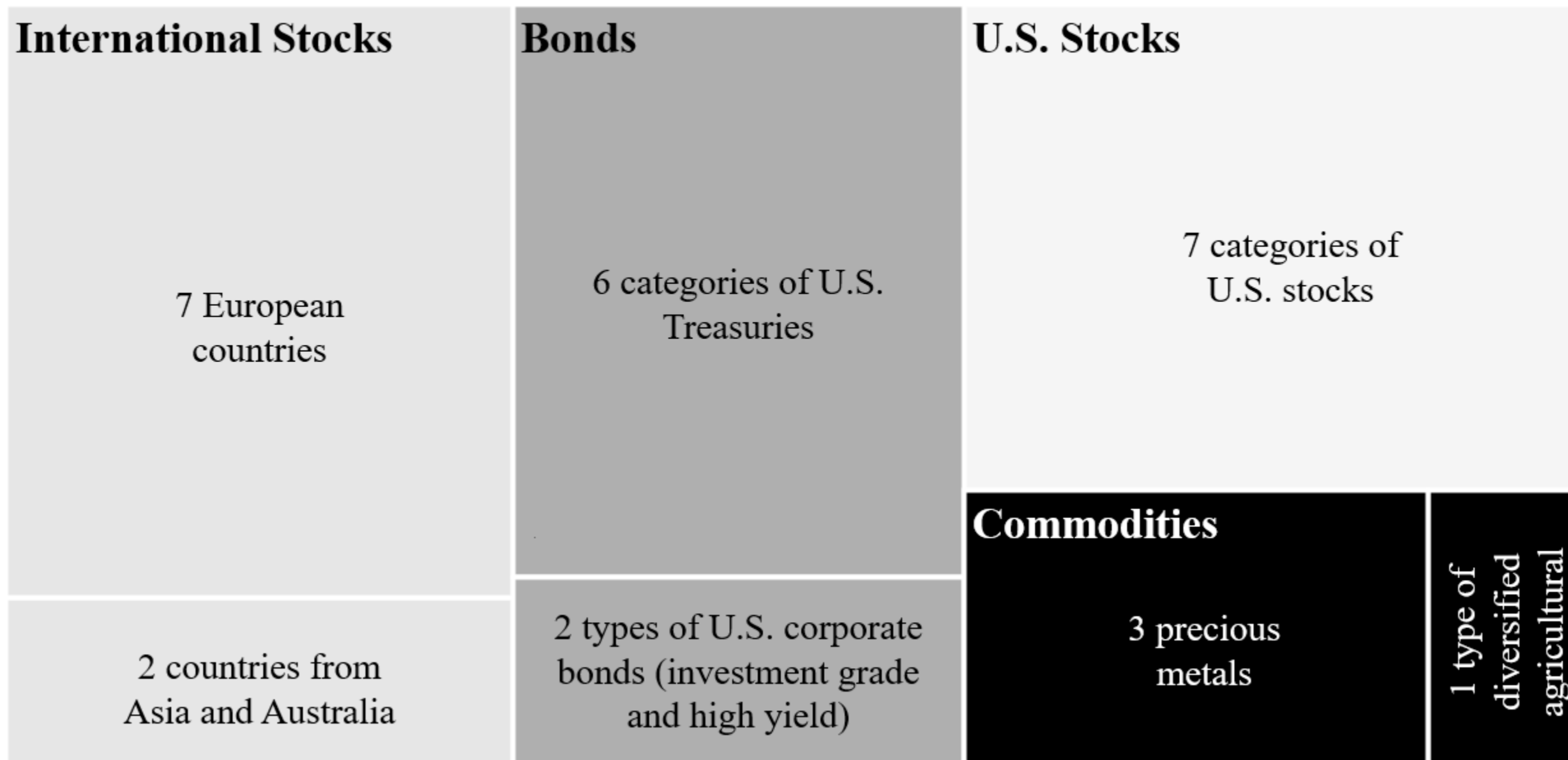
KEYWORDS

- Tactical Asset Allocation
- Systematic Investing
- Trending
- Momentum
- Client-Based Investment Objective

KEY TAKEAWAYS

- The TAA portfolio earned an inflation-adjusted 10.8% over the aggregate time period (102 years). Whereas, a comparable passive index earned a lesser 6.6% (one with a similar standard deviation, a 75/25 global stock/bond mix).
- TAA's performance advantage resulted even after subtracting unusually high transaction costs from the TAA portfolio, while assuming that the comparable passive index could rebalance cost-free.
- The TAA portfolio's greater relative success in achieving the stated investment objective did not diminish with the passage of time. If anything, it may have improved during the most recent time period (14.3% of the cases examined drawn from the data spanning 1919-2021).
- The causality underlying TAA's relative success is attributable to three behaviors: trending, bear market longevity, and presence of episodic eras. Trending results from the time it takes for information to be reflected in portfolios and the herding behaviors of market participants.

Based on a playing field of 28 asset categories



Why these 28 asset categories?

- Because high-quality monthly total returns exist all of the way back to Jan 1919
- The markets for each . . . floated freely without government intervention
- They span stocks, bonds, commodities, domestic, and international

How is the portfolio constructed?

- Once each month
- Select the 8 asset categories that experienced the greatest level of trending
- Weight them equally
- Repeat again . . . the following month

- Why this rule seems pretty simple

- Two reasons
 - Simple is not bad, think of value, smallcap, and profitability
 - No one can accuse me of “backfitting” or just selecting a rule that would work well

Assumed an unusually high level of trading costs

Assumed one-way trading costs (a BUY or a SELL), shown in basis points

All stocks and U.S. Treasury bonds	High-yield U.S. corporate bonds	Intermediate-term U.S. investment grade corporate bonds	Gold - physical	Diversified agricultural commodities	Platinum - physical	Palladium - physical
1	7.5	15	22.5	75	82.5	90

Six comparative index benchmarks - setting the bar high

	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
Stocks	55% global stocks (equally weighted across 16 stock indices)	65% global stocks (equally weighted across 16 stock indices)	75% global stocks (equally weighted across 16 stock indices)	85% global stocks (equally weighted across 16 stock indices)	75% U.S. stocks (equally weighted across 7 stock indices)	70% global stocks (equally weighted across 16 stock indices)
Bonds	45% U.S. bonds (equally weighted across 8 bond indices)	35% U.S. bonds (equally weighted across 8 bond indices)	25% U.S. bonds (equally weighted across 8 bond indices)	15% U.S. bonds (equally weighted across 8 bond indices)	25% U.S. bonds (equally weighted across 8 bond indices)	24% U.S. bonds (equally weighted across 8 bond indices)
Commodities						6% commodities (equally weighted across 4 commodity indices)

Returns and related stats over the full 102 years

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
Real return	10.75	5.70	6.16	6.60	7.01	6.90	6.31
Correlation with TAA portfolio	1	0.63	0.64	0.63	0.63	0.57	0.65
Annualized standard deviation	11.68	9.14	10.41	11.72	13.05	14.28	11.11
Return per unit of volatility	0.92	0.62	0.59	0.56	0.54	0.48	0.57

Returns and related stats over the full 102 years

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

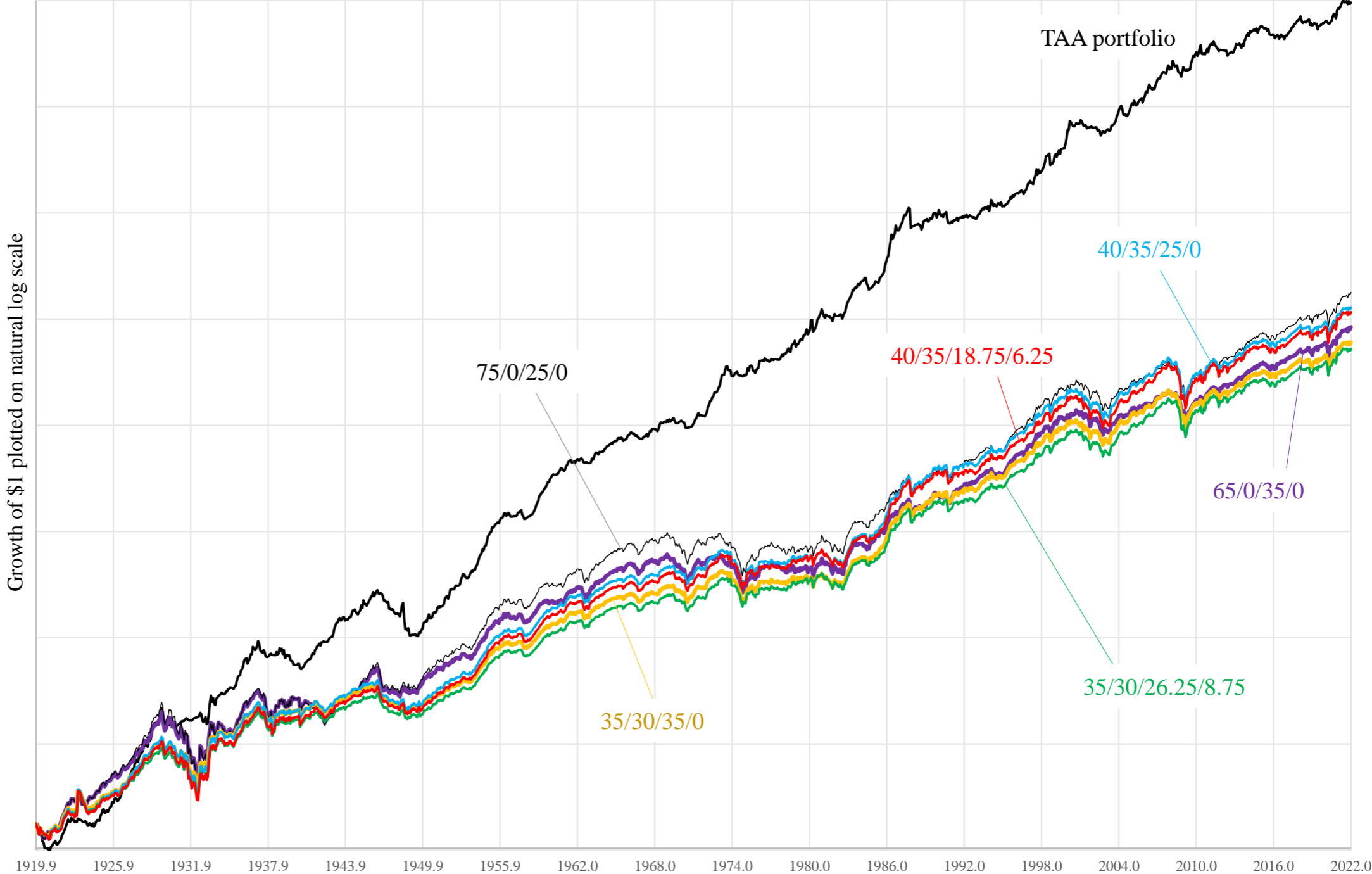
	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
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Growth of \$1 plotted on log-scale over the last 102 years



But . . . what's the correct investment objective for a TAA portfolio?

Over rolling time periods of 12 ½ years . . . earn at least 4 ¼ % above inflation

Or, the other way around . . .

NEVER earn less than 4 ¼ % above inflation over any 12 ½ year long time window

Where does this investment objective come from?

- Individual or institution
- Needs that arrive during years 10 through 15
- Take the mid-point of that time interval, i.e., 12 ½ years
- Future needs are based on actual costs at that time, in other words, after inflation has been accounted for
- An assumed “minimum return” of 4.25% above inflation
 - Leaves adequate room for fees/expenses
 - Delivers significant compound growth

Results for the typical 12 ½ year long investment window

Anticipated annualized inflation-adjusted return for the typical 12.5-year investment time period

Statistic	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
MEAN 12.5-year inflation-adjusted return (in %) over 1,075 different rolling time windows	11.29	5.64	6.12	6.59	7.04	6.52	6.31
MEDIAN 12.5-year inflation-adjusted return (in %) over 1,075 different rolling time windows	10.97	5.42	5.83	6.23	6.74	6.93	5.93

Percentile outcomes provide more meaningful understanding

Percentile outcomes expressed as annualized inflation-adjusted returns for a random 12.5-year long time period

Percentile	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
99.5	1.56	-0.20	-0.07	0.07	0.17	-1.10	0.03
99	2.48	-0.04	0.18	0.38	0.58	-0.82	0.49
98	3.80	0.28	0.55	0.84	1.10	-0.68	1.11
97	4.65	0.78	1.02	1.35	1.66	-0.49	1.67
96	5.27	1.04	1.44	1.79	2.01	-0.32	1.92
95	5.80	1.29	1.69	1.97	2.20	-0.12	2.09
90	7.83	1.72	2.18	2.51	2.79	1.08	2.68
85	8.43	2.16	2.49	3.00	3.27	2.31	2.97
80	8.81	2.88	3.25	3.49	3.78	3.25	3.59
75	9.11	3.59	3.75	3.97	4.15	4.01	4.06
70	9.46	4.00	4.35	4.55	4.64	4.79	4.52
65	9.89	4.37	4.81	5.14	5.36	5.39	4.97
60	10.33	4.72	5.11	5.54	5.95	5.96	5.35

Percentile outcomes provide more meaningful understanding

Percentile outcomes expressed as annualized inflation-adjusted returns for a random 12.5-year long time period

Percentile	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
99.5	1.56	-0.20	-0.07	0.07	0.17	-1.10	0.03
99	2.48	-0.04	0.18	0.38	0.58	-0.82	0.49
98	3.80	0.28	0.55	0.84	1.10	-0.68	1.11
97	4.65	0.78	1.02	1.35	1.66	-0.49	1.67
96	5.27	1.04	1.44	1.79	2.01	-0.32	1.92
95	5.80	1.29	1.69	1.97	2.20	-0.12	2.09
90	7.83	1.72	2.18	2.51	2.79	1.08	2.68
85	8.43	2.16	2.49	3.00	3.27	2.31	2.97
80	8.81	2.88	3.25	3.49	3.78	3.25	3.59
75	9.11	3.59	3.75	3.97	4.15	4.01	4.06
70	9.46	4.00	4.35	4.55	4.64	4.79	4.52
65	9.89	4.37	4.81	5.14	5.36	5.39	4.97
60	10.33	4.72	5.11	5.54	5.95	5.96	5.35

Tail risk - the worst that ever happened

Annualized inflation-adjusted return for the fourteen worst-ever 12.5-year investment time periods (drawn from 1,075)

Different 12.5-year long investment time periods	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
worst-ever	0.95	-0.64	-0.59	-0.55	-0.52	-1.78	-0.59
2nd worst	1.06	-0.48	-0.34	-0.20	-0.08	-1.73	-0.21
3rd worst	1.24	-0.39	-0.26	-0.15	-0.04	-1.57	-0.17
4th worst	1.27	-0.31	-0.17	-0.05	0.03	-1.40	-0.15
5th worst	1.36	-0.27	-0.12	-0.04	0.07	-1.13	-0.08
6th worst	1.50	-0.21	-0.10	0.06	0.15	-1.10	0.02
7th worst	1.65	-0.20	-0.02	0.07	0.21	-1.10	0.05
8th worst	2.05	-0.15	0.01	0.21	0.40	-0.92	0.30
9th worst	2.10	-0.12	0.16	0.35	0.44	-0.89	0.30
10th worst	2.14	-0.06	0.16	0.36	0.54	-0.88	0.35
11th worst	2.45	-0.05	0.17	0.36	0.55	-0.85	0.49
12th worst	2.49	-0.04	0.18	0.39	0.59	-0.81	0.49
13th worst	2.71	0.01	0.23	0.43	0.63	-0.78	0.54
14th worst	2.90	0.10	0.24	0.48	0.69	-0.75	0.54

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2nd worst	1.06	-0.48	-0.34	-0.20	-0.08	-1.73	-0.21
3rd worst	1.24	-0.39	-0.26	-0.15	-0.04	-1.57	-0.17
4th worst	1.27	-0.31	-0.17	-0.05	0.03	-1.40	-0.15
5th worst	1.36	-0.27	-0.12	-0.04	0.07	-1.13	-0.08
6th worst	1.50	-0.21	-0.10	0.06	0.15	-1.10	0.02
7th worst	1.65	-0.20	-0.02	0.07	0.21	-1.10	0.05
8th worst	2.05	-0.15	0.01	0.21	0.40	-0.92	0.30
9th worst	2.10	-0.12	0.16	0.35	0.44	-0.89	0.30
10th worst	2.14	-0.06	0.16	0.36	0.54	-0.88	0.35
11th worst	2.45	-0.05	0.17	0.36	0.55	-0.85	0.49
12th worst	2.49	-0.04	0.18	0.39	0.59	-0.81	0.49
13th worst	2.71	0.01	0.23	0.43	0.63	-0.78	0.54
14th worst	2.90	0.10	0.24	0.48	0.69	-0.75	0.54

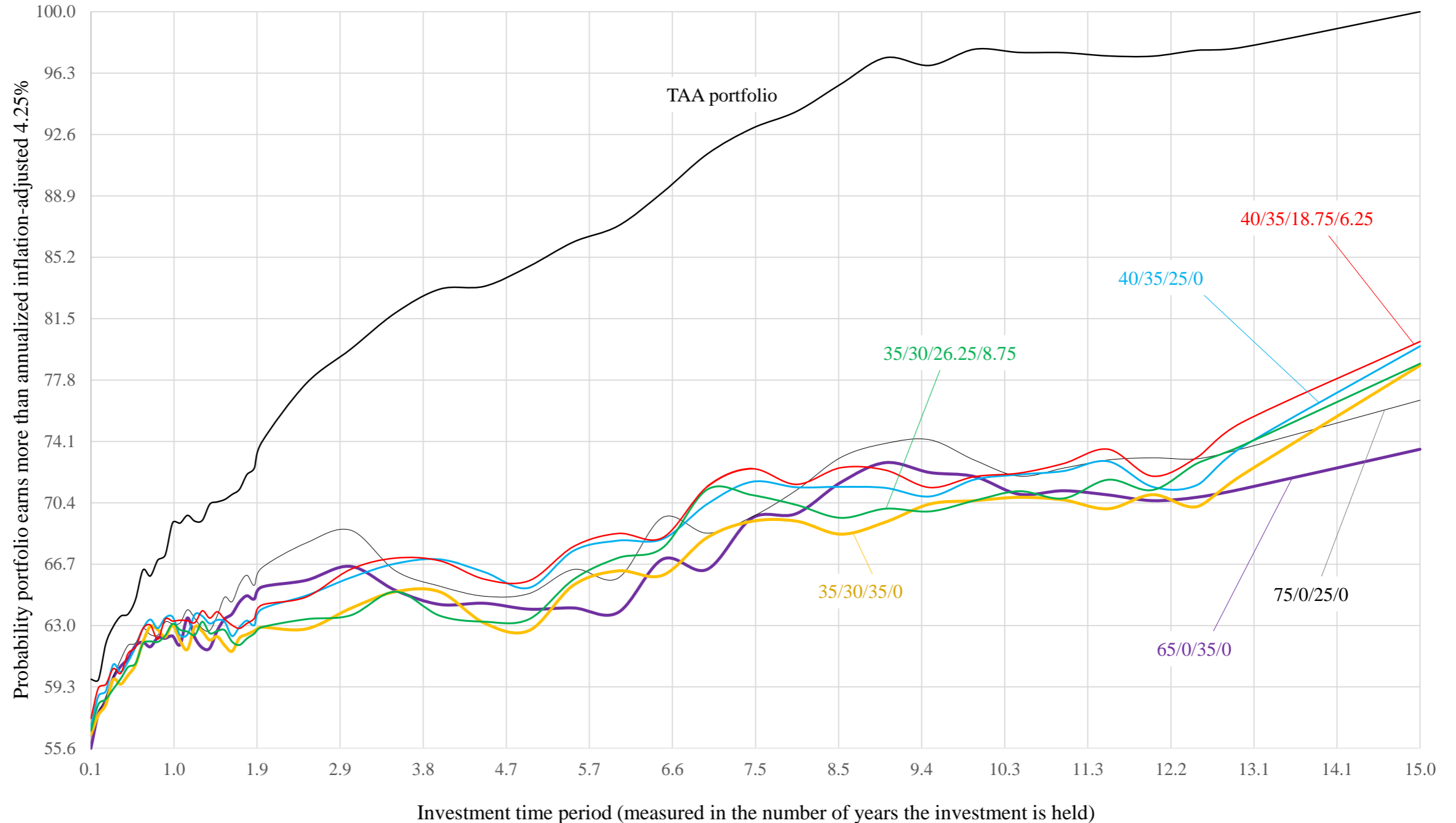
Selecting a random time interval, what's the probability of success?

Likelihood of success relative to stated objective

	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
Probability of earning more than 4.25% inflation-adjusted over a random 12.5-year time period	97.7	66.2	70.8	72.1	74.0	73.4	72.7

But for short time windows, TAA adds little to no benefit

Impact of investment time period on the portfolio's likelihood of success



Objections

TAA is not just for bear markets

Performance during bull and bear markets (as defined for the S&P 500 Index)

Market environment	Statistic	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
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4.05% more return

24.7% greater probability of success

For all periods ending during a BEAR market	Median inflation-adjusted return (in %) for a 12.5-year period	9.89	5.30	5.36	5.84	6.17	5.32	5.58
	Probability of earning more than 4.25% (annualized inflation-adjusted) for a 12.5-year period	100.0	74.7	75.3	75.3	81.3	67.3	74.0

TAA is not just for bear markets

Performance during bull and bear markets (as defined for the S&P 500 Index)

Market environment	Statistic	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
For all periods ending during a BULL market	Median inflation-adjusted return (in %) for a 12.5-year period	11.16	5.62	6.02	6.45	6.91	7.24	6.21
	Probability of earning more than 4.25% (annualized inflation-adjusted) for a 12.5-year period	97.3	64.8	70.0	71.5	72.7	74.4	72.5
For all periods ending during a BEAR market	Median inflation-adjusted return (in %) for a 12.5-year period	9.89	5.30	5.36	5.84	6.17	5.32	5.58
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	Probability of earning more than 4.25% (annualized inflation-adjusted) for a 12.5-year period	97.3	64.8	70.0	71.5	72.7	74.4	72.5

4.71% more return

25.8% greater probability of success

But, what if the client bails at the worst possible moment?

Behavioral knockout risk - Worst 12-month time windows ever experienced (drawn from 1,213)

Different 12-month long investment time periods	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
worst-ever	-33.4	-29.9	-34.5	-38.9	-43.0	-53.8	-38.4
2nd worst	-30.9	-28.4	-32.4	-36.7	-40.7	-47.5	-35.2
3rd worst	-28.1	-28.4	-32.3	-36.1	-39.7	-42.6	-34.5
4th worst	-28.0	-28.0	-31.3	-35.2	-39.1	-40.0	-34.2
5th worst	-26.0	-27.0	-31.2	-34.8	-38.9	-38.4	-34.1
6th worst	-25.0	-26.0	-30.5	-34.1	-36.8	-37.1	-32.0
7th worst	-24.4	-25.9	-28.8	-32.8	-36.7	-35.9	-31.1
8th worst	-24.2	-24.5	-28.5	-32.2	-36.0	-35.0	-30.2
9th worst	-24.0	-24.2	-28.3	-31.0	-35.1	-34.5	-30.1
10th worst	-22.4	-22.7	-26.7	-31.0	-34.6	-32.5	-29.2

No . . . the benefit is NOT weakening over time

Probability of earning more than 4.25% inflation-adjusted during a random 12.5-year long investment time period

Number of unique 12.5-year long investment time periods that end during the date range shown to the right	Date range	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
154	Feb 2009 - Nov 2021	100	62	65	66	64	66	72
153	May 1996 - Jan 2009	100	98	99	99	99	99	99
154	Jul 1983 - Apr 1996	100	80	80	80	82	81	81
153	Oct 1970 - Jun 1983	100	20	24	25	30	20	26
154	Dec 1957 - Sep 1970	100	92	96	100	100	100	99
153	Mar 1945 - Nov 1957	84	12	34	39	46	80	37
154	May 1932 - Feb 1945	100	100	97	96	95	69	95

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154	Feb 2009 - Nov 2021	100	62	65	66	64	66	72
153	May 1996 - Jan 2009	100	98	99	99	99	99	99
154	Jul 1983 - Apr 1996	100	80	80	80	82	81	81
153	Oct 1970 - Jun 1983	100	20	24	25	30	20	26
154	Dec 1957 - Sep 1970	100	92	96	100	100	100	99
153	Mar 1945 - Nov 1957	84	12	34	39	46	80	37
154	May 1932 - Feb 1945	100	100	97	96	95	69	95

Are these results robust?

Using a different minimum required return

Probability of success when different minimum returns are specified (for rolling 12.5-year time windows)

Minimum return	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
3.25	98	77	80	82	85	80	83
4.25	98	66	71	72	74	73	73
5.25	96	52	57	64	66	66	62
6.25	94	43	47	50	56	56	47

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3.25	98	77	80	82	85	80	83
4.25	98	66	71	72	74	73	73
5.25	96	52	57	64	66	66	62
6.25	94	43	47	50	56	56	47

Using a different investment time period

Probability of success when different investment time periods are considered (still requiring one earn at least 4.25%)

Investment time period	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
7.5 years	93	66	71	73	74	70	73
10 years	98	68	71	71	72	73	71
12.5 years	98	67	71	72	75	74	73
15 years	100	73	79	80	81	77	80

Using a different investment time period

Probability of success when different investment time periods are considered (still requiring one earn at least 4.25%)

Investment time period	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
7.5 years	93	66	71	73	74	70	73
10 years	98	68	71	71	72	73	71
12.5 years	98	67	71	72	75	74	73
15 years	100	73	79	80	81	77	80

Statistical results when different weighting schemes are considered (as opposed to equal weighting)

Statistic	Existing model using equal weights	Underweight the six types of U.S. Treasury bonds (if they are selected) by applying a multiplicative weighting-factor of 0.55x	Overweight the four types of commodities (if they are selected) by applying a multiplicative weighting-factor of 1.16x	Overweight investment grade corporates (if it is selected) by applying a multiplicative weighting-factor of 4.0x	Underweight high yield bonds (if it is selected) by applying a multiplicative weighting-factor of 0.5x
Probability of earning more than 4.25% inflation-adjusted over a random 12.5-year time period	97.67	97.67	97.77	97.77	97.77
MEAN 12.5-year inflation-adjusted return (in %) over 1,075 different rolling time windows	11.29	11.27	11.27	11.37	11.30
MEDIAN 12.5-year inflation-adjusted return (in %) over 1,075 different rolling time windows	10.97	11.01	10.94	11.01	10.97

Statistical results when different weighting schemes are considered (as opposed to equal weighting)

Statistic	Existing model using equal weights	Underweight the six types of U.S. Treasury bonds (if they are selected) by applying a multiplicative weighting-factor of 0.55x	Overweight the four types of commodities (if they are selected) by applying a multiplicative weighting-factor of 1.16x	Overweight investment grade corporates (if it is selected) by applying a multiplicative weighting-factor of 4.0x	Underweight high yield bonds (if it is selected) by applying a multiplicative weighting-factor of 0.5x
Probability of earning more than 4.25% inflation-adjusted over a random 12.5-year time period	97.67	97.67	97.77	97.77	97.77
MEAN 12.5-year inflation-adjusted return (in %) over 1,075 different rolling time windows	11.29	11.27	11.27	11.37	11.30
MEDIAN 12.5-year inflation-adjusted return (in %) over 1,075 different rolling time windows	10.97	11.01	10.94	11.01	10.97

But, why does TAA work?

Why does it work so well?

- Markets trend
- Bear and bull markets are not short affairs . . . they last a long time
- Episodic eras exist . . . long drawn out eras, such as interest rates falling for 39 years

Arriving seriously late to the party . . . it still works

Bear and bull markets last such a long time, that even shifting nine months late still adds value

Portfolio ingredients	Get out of stocks AFTER the BEAR market has already begun - with this time delay	Get back into stocks AFTER the BULL market has already begun - with this time delay	Probability of earning more than 4.25% inflation-adjusted during a random 12.5-year long investment time period
U.S. stocks	na	na	73.4
60% U.S. stocks, 40% 90-day T-Bills	na	na	60.2
60% U.S. stocks, 40% 10-year Treasury bond	na	na	65.7
Perfect timing between stocks and cash	na	na	96.3
Perfect timing between stocks and Treasury bond	na	na	95.0
Imperfect timing between stocks and cash (always shifting late, after the bull/bear has started)	1 month	1 month	95.1
	2 months	2 months	93.6
	3 months	3 months	92.2
	4 months	4 months	88.6
	5 months	5 months	86.4
	6 months	6 months	82.4
	7 months	7 months	80.7
	8 months	8 months	75.4
	9 months	9 months	75.6
Imperfect timing between stocks and Treasury bond (always shifting late, after the bull/bear has started)	1 month	1 month	91.1
	2 months	2 months	89.9
	3 months	3 months	89.3
	4 months	4 months	86.1
	5 months	5 months	85.1
	6 months	6 months	82.1
	7 months	7 months	81.9
	8 months	8 months	77.1
	9 months	9 months	77.3

Arriving seriously late to the party . . . it still works

Portfolio ingredients	Get out of stocks AFTER the BEAR market has already begun - with this time delay	Get back into stocks AFTER the BULL market has already begun - with this time delay	Probability of earning more than 4.25% inflation-adjusted during a random 12.5-year long investment time period
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	5 months	5 months	86.4
	6 months	6 months	82.4
	7 months	7 months	80.7
	8 months	8 months	75.4
	9 months	9 months	75.6
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	5 months	5 months	85.1
	6 months	6 months	82.1
	7 months	7 months	81.9

I didn't need TAA for the last 40 years Why do I need it now?

Is there anything atypical and nonrepresentative about the last 40 years?

Returns for over 40 years . . . since Sep 1981

- Annual returns for over 40 years
- Sep 1981 through Oct 2021

- 12.7% stocks
- 11.5% for a 60/40 portfolio of stocks/bonds
- 8.8% bonds

Returns for over 40 years . . . since Sep 1981

- Annual returns for over 40 years
- Sep 1981 through Oct 2021
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Returns for over 40 years . . . since Sep 1981

- Annual returns for over 40 years
- Sep 1981 through Oct 2021

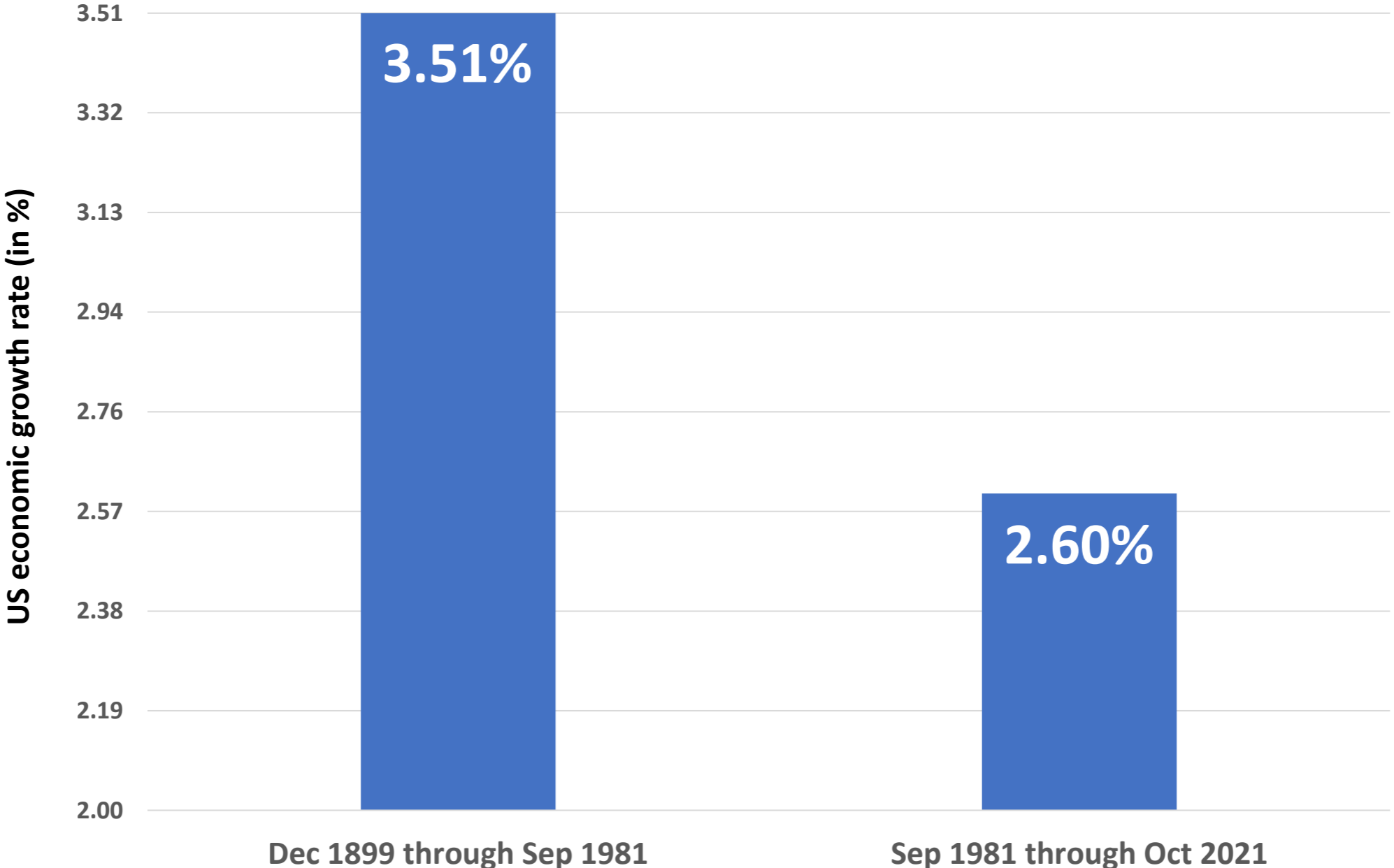
- 12.7% stocks
- 11.5% for a 60/40 portfolio of stocks/bonds
- 8.8% bonds

But the 60/40 portfolio only returned **7.7%** during the preceding 81.8 years (since Dec 1899)

So how can this be?

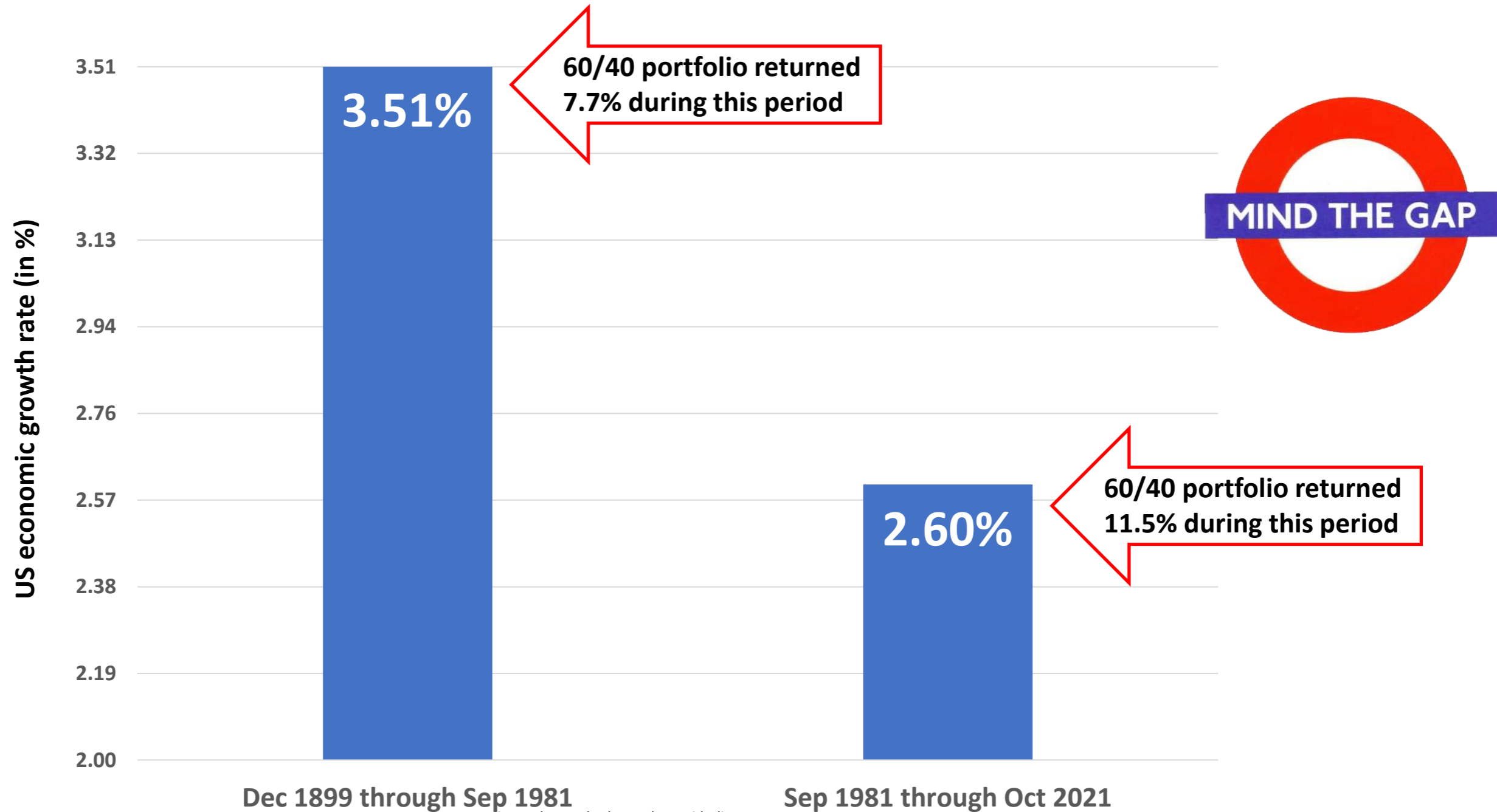
Was the US economy doing better during the most recent 40+ years?

US economy before and after Sep 1981



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US economy before and after Sep 1981



- On a proportionate basis . . .
- The US economy grew **-26% slower**
- But the return on the 60/40 portfolio was **+49% higher**
- That difference is so great . . . so extreme . . .
 - That the explanation must be unbelievably obvious
 - And seriously honking BIG

Bottom line

If you are not using TAA . . . why not?

- Successful TAA does not rely on forecasting, prediction, or crystal ball gazing
- Works even better during bull markets than during bear markets
- Has a considerably higher probability of success than fixed-weight portfolios
- Delivers more consistent results
- Has lower tail risk
- Has lower knockout risk
- Delivers greater return per unit of volatility

So why don't the BIG investment managers offer TAA?

Two really simple reasons

Returns and related stats over the entire time period

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

	TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
Real return	10.75	5.70	6.16	6.60	7.01	6.90	6.31
Correlation with TAA portfolio	1	0.63	0.64	0.63	0.63	0.57	0.65
Annualized standard deviation	11.68	9.14	10.41	11.72	13.05	14.28	11.11
Return per unit of volatility	0.92	0.62	0.59	0.56	0.54	0.48	0.57

Finally, if the numbers are really as good as presented herein, then the largest investment management organizations should be all over TAA product design and delivery. Once again, the reasons why this is not happening are not the objective of this article and therefore go into the parking lot³. But I will attempt to close this last issue out by suggesting it is all about tracking error, length of time it takes for the crop to mature and be ready for harvest, and the lack of a colorful emotion-laden marketing story (markets being non-iid is not a particularly engaging narrative).

And . . . just in case you have any doubt

What if interest rates rise

Inflation rises

. . . or both interest rates and inflation rise

When inflation is rising - fast

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

		TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
10% of the time when inflation was rising the fastest	Real return	-0.47	-7.46	-7.29	-7.13	-6.99	-8.66	-6.63
	Annualized standard deviation	13.6	9.9	11.0	12.1	13.3	13.9	11.4
20% of the time when inflation was rising the fastest	Real return	1.69	-3.45	-3.37	-3.31	-3.27	-2.76	-3.20
	Annualized standard deviation	12.9	8.9	9.8	10.8	11.9	13.6	10.2
30% of the time when inflation was rising the fastest	Real return	1.69	-1.32	-1.26	-1.22	-1.20	-0.99	-1.23
	Annualized standard deviation	12.5	8.6	9.6	10.7	11.8	13.3	10.2

When inflation is rising - fast

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

		TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
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30% of the time when inflation was rising the fastest	Real return	1.69	-1.32	-1.26	-1.22	-1.20	-0.99	-1.23
	Annualized standard deviation	12.5	8.6	9.6	10.7	11.8	13.3	10.2

When interest rates are rising - fast

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

		TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
10% of the time when interest rates were rising the fastest	Real return	5.13	-3.27	-2.00	-0.72	0.56	-2.77	-0.62
	Annualized standard deviation	12.4	8.1	9.0	10.0	11.1	11.7	9.6
20% of the time when interest rates were rising the fastest	Real return	4.30	-3.34	-2.57	-1.81	-1.06	-5.14	-1.69
	Annualized standard deviation	13.1	7.7	8.8	9.9	11.1	12.1	9.5
30% of the time when interest rates were rising the fastest	Real return	5.49	-2.19	-1.48	-0.78	-0.09	-4.06	-0.57
	Annualized standard deviation	13.3	8.1	9.1	10.2	11.4	12.4	9.8

When interest rates are rising - fast

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

		TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
10% of the time when interest rates were rising the fastest	Real return	5.13	-3.27	-2.00	-0.72	0.56	-2.77	-0.62
	Annualized standard deviation	12.4	8.1	9.0	10.0	11.1	11.7	9.6
20% of the time when interest rates were rising the fastest	Real return	4.30	-3.34	-2.57	-1.81	-1.06	-5.14	-1.69
	Annualized standard deviation	13.1	7.7	8.8	9.9	11.1	12.1	9.5
30% of the time when interest rates were rising the fastest	Real return	5.49	-2.19	-1.48	-0.78	-0.09	-4.06	-0.57
	Annualized standard deviation	13.3	8.1	9.1	10.2	11.4	12.4	9.8

When both inflation and interest rates are rising - fast

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

		TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
10% of the time when BOTH interest rates and inflation are rising the fastest	Real return	2.22	-6.11	-5.00	-3.89	-2.78	-7.12	-3.83
	Annualized standard deviation	12.4	8.5	9.5	10.6	11.7	12.6	10.1
20% of the time when BOTH interest rates and inflation are rising the fastest	Real return	4.14	-4.16	-3.36	-2.56	-1.78	-5.75	-2.32
	Annualized standard deviation	13.1	8.3	9.4	10.5	11.7	12.4	10.0
30% of the time when BOTH interest rates and inflation are rising the fastest	Real return	4.81	-2.01	-1.26	-0.52	0.22	-3.57	-0.30
	Annualized standard deviation	13.1	7.9	8.9	10.0	11.1	12.1	9.6

When both inflation and interest rates are rising - fast

Statistics over entire time period (102 years) using inflation-adjusted monthly returns

		TAA portfolio	55/45 global stocks/bonds	65/35 global stocks/bonds	75/25 global stocks/bonds	85/15 global stocks/bonds	75/25 U.S. stocks/bonds	70/24/6 global stocks/bonds/commodities
10% of the time when BOTH interest rates and inflation are rising the fastest	Real return	2.22	-6.11	-5.00	-3.89	-2.78	-7.12	-3.83
	Annualized standard deviation	12.4	8.5	9.5	10.6	11.7	12.6	10.1
20% of the time when BOTH interest rates and inflation are rising the fastest	Real return	4.14	-4.16	-3.36	-2.56	-1.78	-5.75	-2.32
	Annualized standard deviation	13.1	8.3	9.4	10.5	11.7	12.4	10.0
30% of the time when BOTH interest rates and inflation are rising the fastest	Real return	4.81	-2.01	-1.26	-0.52	0.22	-3.57	-0.30
	Annualized standard deviation	13.1	7.9	8.9	10.0	11.1	12.1	9.6

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Investing for the next dozen years

Friday

April 1st

11:00 a.m. EASTERN

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