



Jan 2025 - PlusAlpha Systematic Active Model Portfolios

*“The Only Constant in Life is Change.” - Heraclitus*

That’s true of my Active model portfolios as well – I’ve upgraded some of them again. I’ll describe the details below. New are EquityPlus and Multi-Asset EQ+UST, out are the two SPY-FI portfolios. Also new is a Scalable-UST model portfolio.

Creating and developing the Systematic Active Portfolios has been a long journey. They were first conceived in 2016, after writing some papers on Fixed Income Market Structure, as a solution to the flaws in the market structure that limited the ability to Actively Manage Fixed Income Assets and Risk. Equities had already found the solution (Factor Investing and rotating Factors), but Fixed Income investors and firms were totally resistant to anything new (and still are).

I am thrilled to announce that I have my first outside client in the Fixed Income “Baseline” Model Portfolio. This is a serious validation for me, as I learned much about Fixed Income from reading this client’s research publications, since the 1980s, and then traded MBS with him for many years when he was a PM at a large asset manager. I’ve known him for over 30 years. To be trusted with his personal investments is an honor.

The revenue from the MBS clients has allowed me to keep improving the Systematic Active strategies, and I am quite certain there is nothing else like these offered in the investments marketplace. So thanks to the MBS clients as well.

New Active Equities and Multi-Asset Model Portfolios and two benchmarks.

ARAM Model Portfolio Name	Net Return Summary							Stats to SPY ETF				
	Jan 2025	2024 YTD Net %	1 year Net %	3 year Net %	5 Year Net %	Cum Net % since 1/2016	Positive Return Months	Alpha since 1/2016	12mo Alpha	12mo Beta	12mo Correll	12mo Ret/StDev
<u>EquityPlus</u>	1.23%	1.2%	34.6%	73.5%	230.5%	456%	61%	9.5%	22.0%	0.44	0.39	2.5
<u>Multi-Asset</u>	1.23%	1.2%	34.1%	64.7%	268.6%	573%	62%	13.7%	21.8%	0.44	0.38	2.5
<b>Benchmarks</b>												
SPY ETF	2.69%	2.7%	26.2%	39.8%	101.9%	245%	72%	0.0%	0.0%	1.28	1.00	2.2
SPY-AGG 60/40	1.88%	1.9%	16.2%	20.9%	53.2%	128%	72%	-0.2%	-2.4%	1.00	0.97	1.9

We were more than pleasantly surprised to see these results – double digit Alphas and Cumulative Returns over 2x the S&Ps!

The PlusAlpha Multi-Asset EQ+UST Model further improves on EquityPlus results due to being Active, unlike the typical fixed-ratio Multi-Asset and Risk-Parity portfolios that average returns. The SPY-FI models were retired as a result of these discoveries.

## Fixed Income Model Portfolios

ARAM Model Portfolio Name	Net Return Summary							Stats to Bloomberg Aggregate Index				
	Jan 2025	2024 YTD Net %	1 year Net %	3 year Net %	5 Year Net %	Cum Net % since 1/2016	Positive Return Months	Alpha since 1/2016	12mo Alpha	12mo Beta	12mo Correll	12mo Ret/StDev
<a href="#">Baseline</a>	0.95%	0.9%	9.1%	14.7%	34.3%	69%	71%	5.2%	9.1%	0.03	0.16	9.0
<a href="#">Aggressive</a>	1.12%	1.1%	11.2%	17.2%	71.4%	150%	67%	9.8%	11.1%	0.06	0.21	6.2
<a href="#">Scalable UST</a>	0.31%	0.3%	4.6%	-2.1%	8.2%	22%	66%	1.3%	4.6%	0.00	0.17	37.2
<a href="#">Scalable IG</a>	0.84%	0.8%	6.5%	9.0%	19.4%	39%	63%	2.9%	6.3%	0.08	0.30	4.0

Aggregate	Index Return Summary							Stats to Bloomberg Aggregate Index				
	0.53%	0.5%	2.1%	-4.5%	-3.0%	14%	54%	0.0%	0.0%	1.00	1.00	0.4
U.S. Treasury	0.52%	0.5%	1.4%	-6.1%	-5.2%	8%	49%	-0.5%	-0.5%	0.92	1.00	0.3
Govt-Related	0.61%	0.6%	2.5%	-1.8%	-1.4%	18%	62%	0.5%	0.7%	0.83	1.00	0.5
Corporate	0.55%	0.6%	2.9%	-2.9%	-0.3%	29%	60%	1.0%	0.7%	1.06	0.99	0.5
Securitized	0.52%	0.5%	2.4%	-3.9%	-3.2%	9%	57%	-0.4%	0.1%	1.10	1.00	0.4
MBS	0.51%	0.5%	2.2%	-4.4%	-3.8%	8%	55%	-0.5%	-0.1%	1.13	1.00	0.4
High Yield	1.37%	1.4%	9.7%	13.6%	24.6%	76%	69%	5.4%	8.5%	0.53	0.96	2.8

\*Model Portfolio Hypothetical Net Returns using assumed Fees shown on the Fact Sheets (click blue links above)

[Download All Fact Sheets](#)

All the Fixed Income Model Portfolios dominantly outperform the AGG and other Fixed Income Benchmarks by significant amounts, in every metric, with very low correlations and a very high differences in Return/Risk ratio. They also show very low correlations to benchmarks, making them suitable for asset allocation and portfolio construction due to their diversification characteristics.

### 3 Questions

These are 3 questions that investors and allocators should be asking:

1. Why have other Active Fund Managers NOT delivered such returns?
2. Is the prevalent Investment Framework suitable for the current Risk Environment?
3. Is Diversification still an effective Asset Allocation and Risk Management tool?

I'll try and answer these by showing some market Risk data and explaining the results of the prevalent portfolio construction theory. My answers are at the end.

Last month, I had described the quantitative process that generates our unprecedented Alphas and Absolute returns. This month newsletter will go into some of the economics details of why our modern framework is necessary, and why it can create an "All-Weather" solution that the prevailing portfolio construction methods cannot achieve.

## Fixed Income Risk

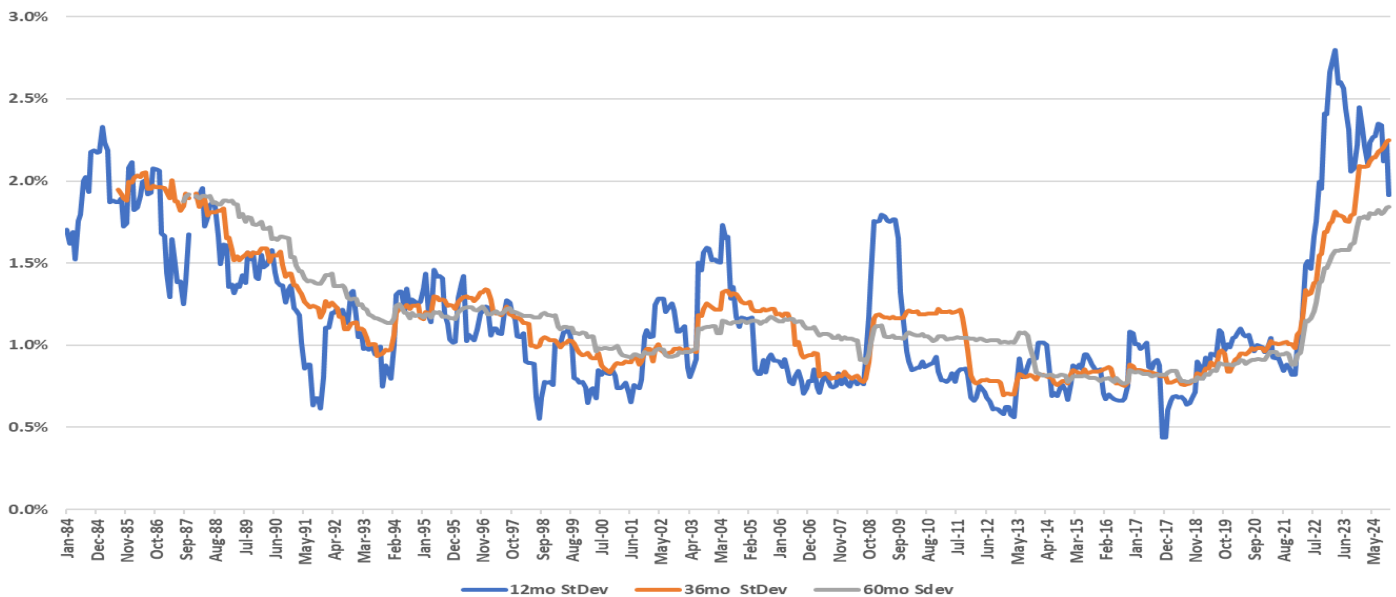
Fixed Income returns have been negative for a few years now, as rates have risen.

Trailing 3-year Total Returns of the Bloomberg AGG Index



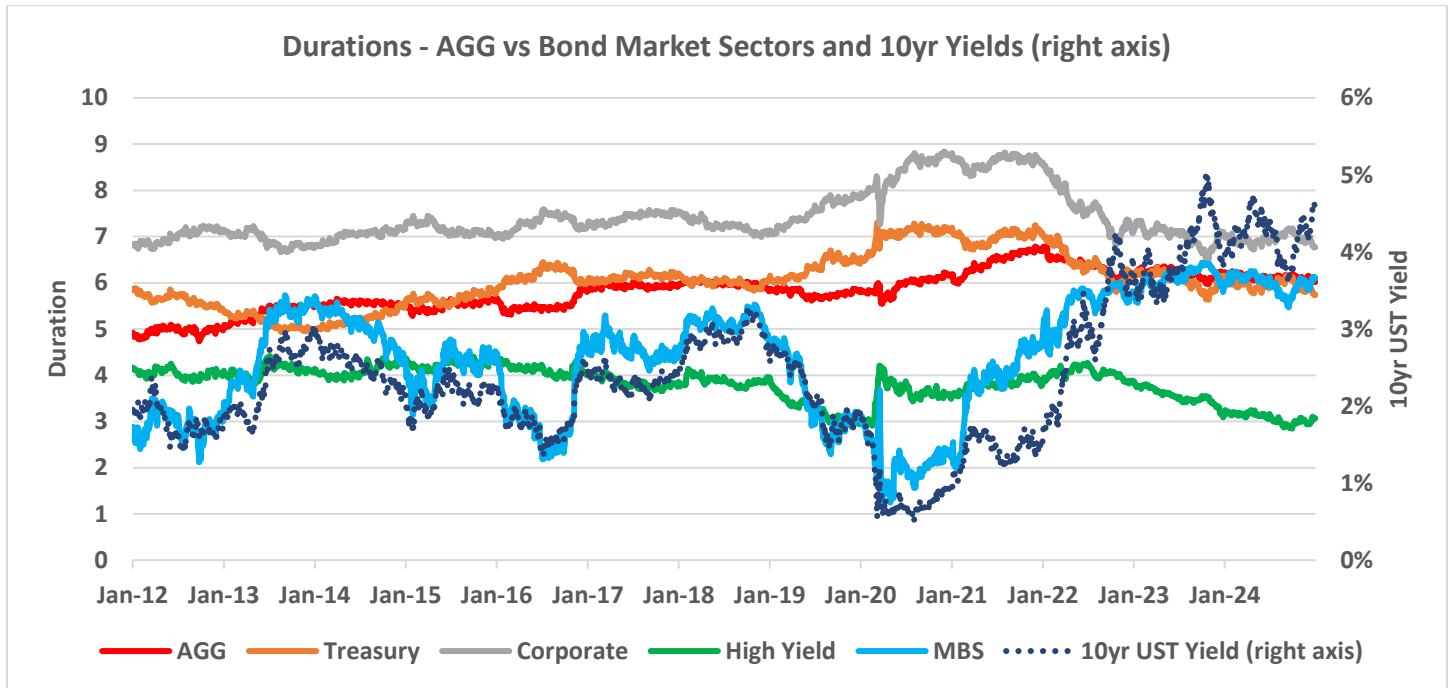
However, so has the volatility of rates, as interest rates have changed directions multiple times, whipping investors. Fixed Income Risk is at a Multi-Generational high. The only practicing PM that might have seen this level of risk before, in the 1970s, might be Warren Buffet, and he's been primarily focused on Equities.

Standard Deviation of Monthly Returns of the Bloomberg AGG Index



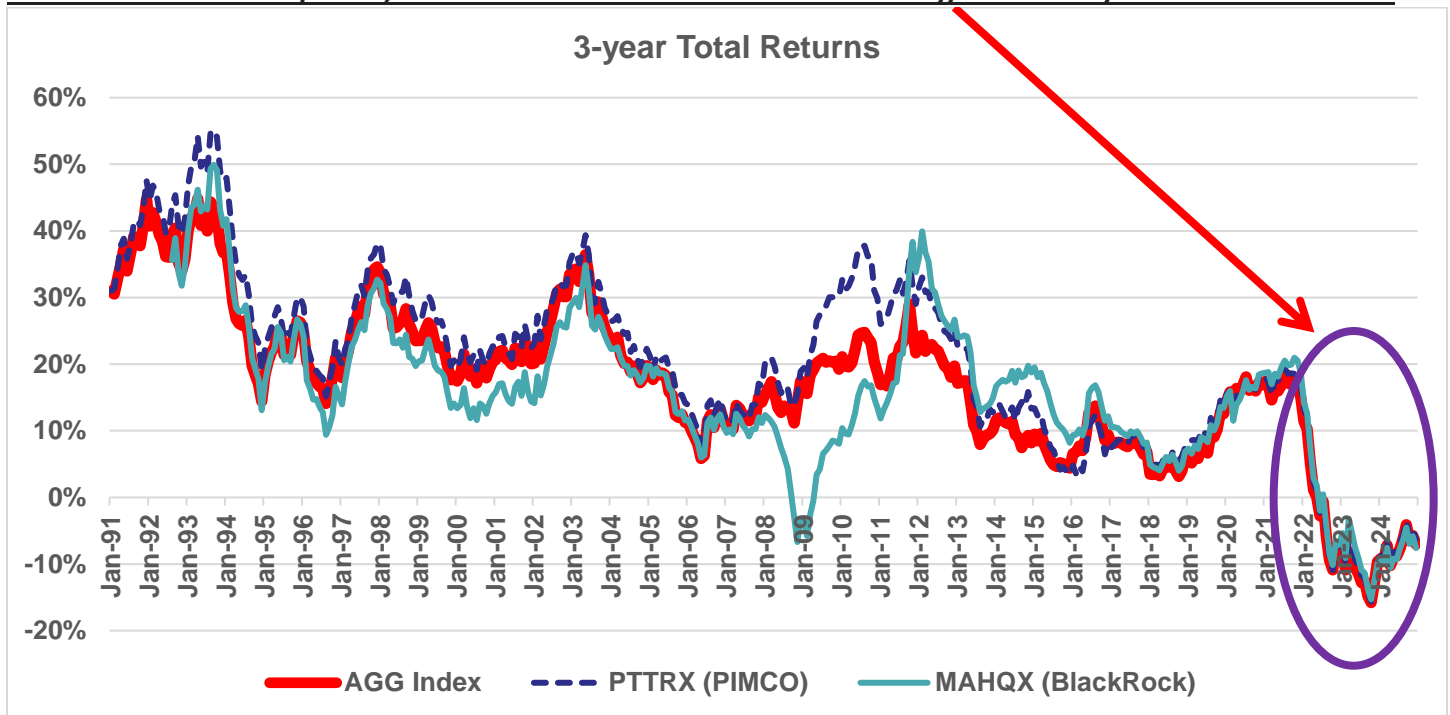
I am not aware of any practicing Fixed Income PM that has experienced such high persistent risk in his/her career, who might have experience building portfolios and learning in such a Risk Environment.

The volatility in yields and the duration changes between Fixed Income sectors should be a boon for Active Managers and show the promise of Active Management in Fixed Income.



Indeed, there is a boom in new Active Fixed Income Funds being created. But, Active Fixed Income has not delivered. [I have shown that Active Fixed Income Funds are Not Active!](#) 3yr returns are a good litmus test.

*In the current volatile period, Active Fixed Income returns cannot be differentiated from Passive Returns!*



My conclusion is that Active FI managers are applying the wrong portfolio construction theory, not managing risks, and not delivering the Potential Returns of Fixed Income to their investors.

**LARGE FIRMS HAVE NO ADVANTAGE. FRESH THINKING AND PROBLEM SOLVING IS REQUIRED.**

### Portfolio Construction – Practice and Theory

Training in Fixed Income is largely via an Apprenticeship model, and all current Fixed Income PMs have been trained in a low volatility environment. Their experience is moot, and having a large title like CIO, or being at a large or pedigreed firm is irrelevant – everyone is equally inexperienced.

Based on the prescriptions offered daily on Bloomberg TV and in newsletters, to “buy yield, buy income”, they have not questioned or investigated whether their approach to portfolio construction is relevant. Based on the results of my models, I believe their advice to be wrong.

In last month’s newsletter (Dec 2024), we discussed Graham-Dodd versus Markowitz Portfolio Construction. (To the readers that sent feedback - thanks for the positive comments about last month’s newsletter.)

To summarize: Graham-Dodd’s framework is based on the Random Walk Hypothesis (which was formulated in the late 1800s). The prescribed portfolio construction is based on bottom-up security selection (ie Value Investing) based on analysis on financial statements, ratios, etc, to determine intrinsic value, with Risk Management achieved through Diversification, as well as trust in thoroughness of the analysis.

Equities markets have moved on from this, with Quant-driven Factor Investing, and Active Management of Factors being adopted. Asset-Allocation is still based on Diversification, as are Multi-Asset strategies such as the ubiquitous S&P+AGG 60-40 ratio portfolios used by wealth managers. Risk-Parity portfolios still rely on Diversification, but might be slightly more Active, although the Risk Parity Indices I have found are Fixed Ratio.

The application of Graham-Dodd in Fixed Income involves selecting securities based on their yield, and analyzing whether the yield is sufficient compensation for the specific risk of the bond. Either depressed prices (for equities) or Yield pickup are supposed to provide a ‘Margin of Safety’. The new batch of quants and AI researchers at large firms are still doing this (I’ve interacted with some of them) – trying to predict yield spreads from credit and legal analysis of financial statements and covenants, so as to provide recommendations about which credits to purchase or sell.

Fisher’s Interest Rate and Yield Curve Framework can also be thought of as ‘Graham-Dodd’.

Fixed Income is still largely stuck in a Graham-Dodd framework.

I posted some of the Risk graphs above on LinkedIn, and got pushback from a number of managers and wealth advisors, who claimed that Diversification protected them. I also recently conducted a survey on LinkedIn to see who had actually read 1934s Graham-Dodd’s ‘[Security Analysis](#)’ (link is to a free download of the original). I asked respondents to self-identify as Equities or Fixed Income professionals.

Of the Equities professionals, 66% had read it, whereas only 55% of Fixed Income professionals had read it.

This corroborated my view that many in Finance were dogmatic about their ‘knowledge’ and training, did not know the source of their beliefs about how to construct portfolios, nor applied any of the caveats often

discussed in the original texts and in subsequent research, and usually do not investigate why reality differs from the theory.

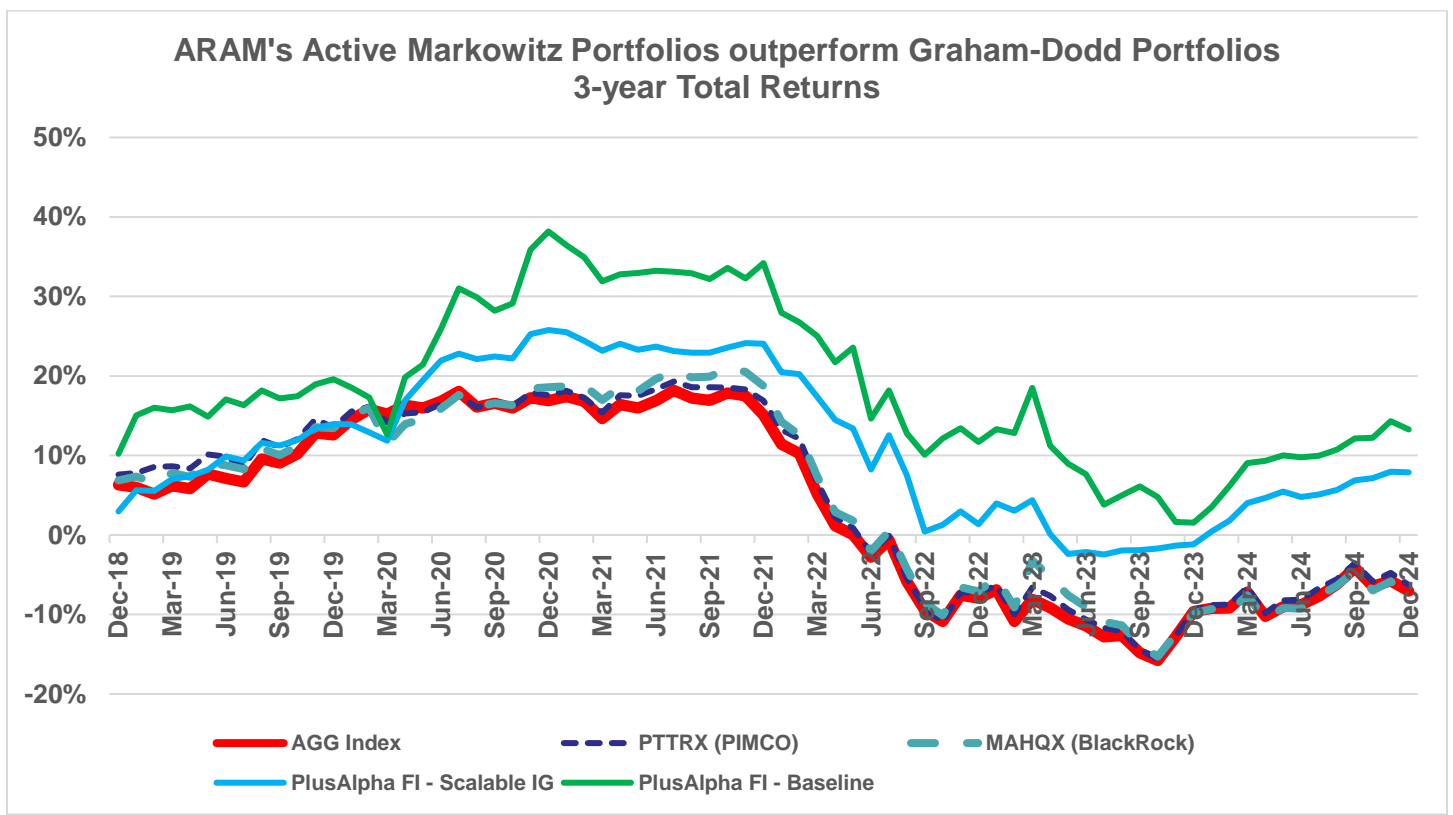
I blame this on the Apprenticeship model of training, combined with overconfidence from applying the prescriptive teachings of many professional programs and certifications, without having learned the skills or having the curiosity for problem solving when the practice does not deliver the potential results. It can also be an institutional problem, for example if firms 'stick to their knitting' based on their representations to their clients about their process and specializations, with PMs being unable to challenge the status quo and processes at their workplace.

**The Graham-Dodd framework CAN ONLY WORK IN A LOW VOLATILITY ENVIRONMENT** – when there is no duration risk, and a little yield can differentiate a portfolio.

Yield is earned incrementally – 1/12<sup>th</sup> every month. However, when volatility picks up, DURATION DOMINATES this tiny monthly yield, wiping out Graham-Dodds 'Margin of Safety'. IF DURATION IS NOT MANAGED ACTIVELY, RETURNS WILL CONVERGE TO PASSIVE RETURNS.

Graham-Dodd is not an 'All-Weather' portfolio construction framework. Last month's newsletter discussed the Markowitz Risk-Targeting Portfolio Construction we use, which IS an All-Weather Portfolio Construction Framework, and works well under all volatility scenarios as it is actually Active. ETFs provide the liquidity to allow for Active Management of Risk.

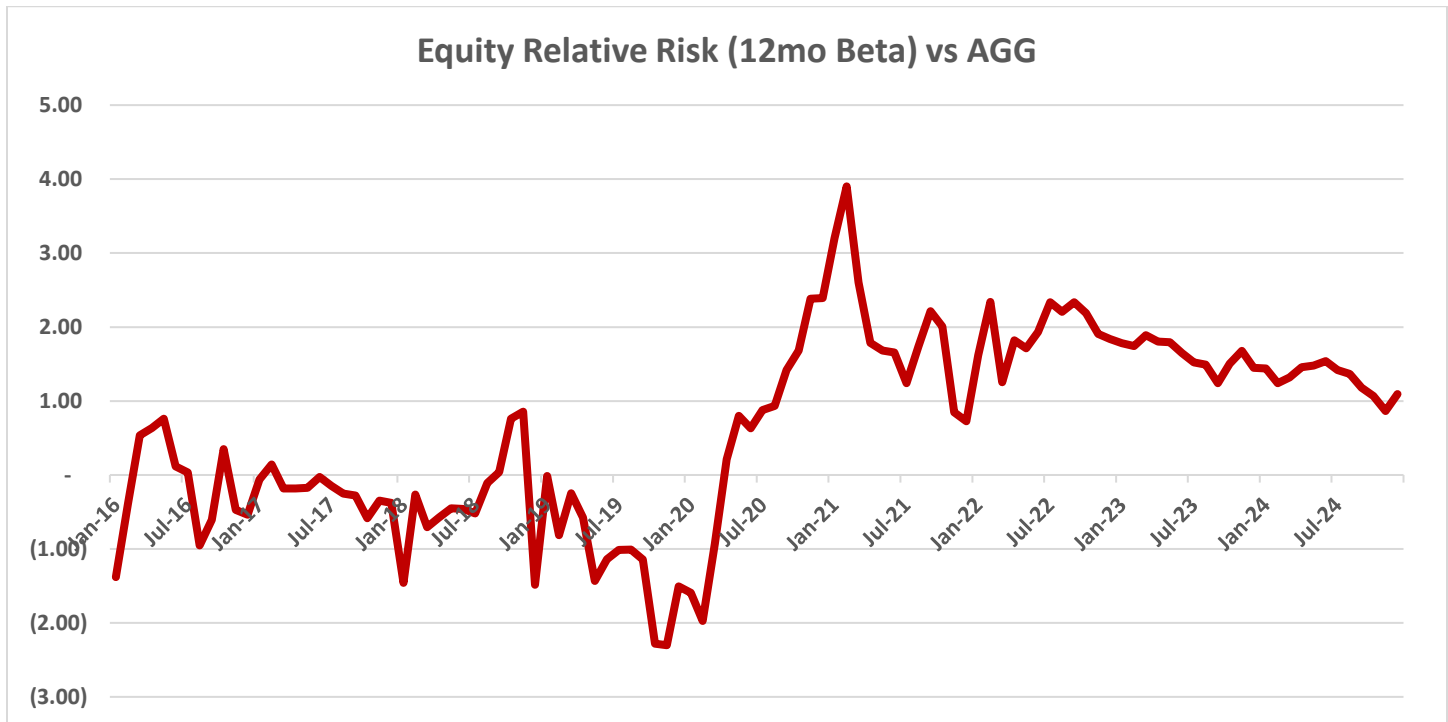
**Ironically, Index ETFs are based on Markowitz to mimic the Index, and are a Markowitz success story!**



## Equity and Multi-Asset Risk

I've been tracking Multi-Asset Beta's and Alphas since 2017. See [All About That Beta](#).

I've not updated this in a while, but did so recently in response to an inquiry from an institution that uses a Risk-Parity framework. I was stunned to see this relationship between SPY and AGG!



**The Beta of Equities to Fixed Income has switched from a little negative to significantly positive!**

### Implications

- Diversification has failed
- Risk Parity Portfolios are now overweight Fixed Income Risk
- 60/40 portfolios only reduce equity returns without reducing risk
- Bonds do not 'hedge' equities
- Equities are overly sensitive to interest rates and Fed activity

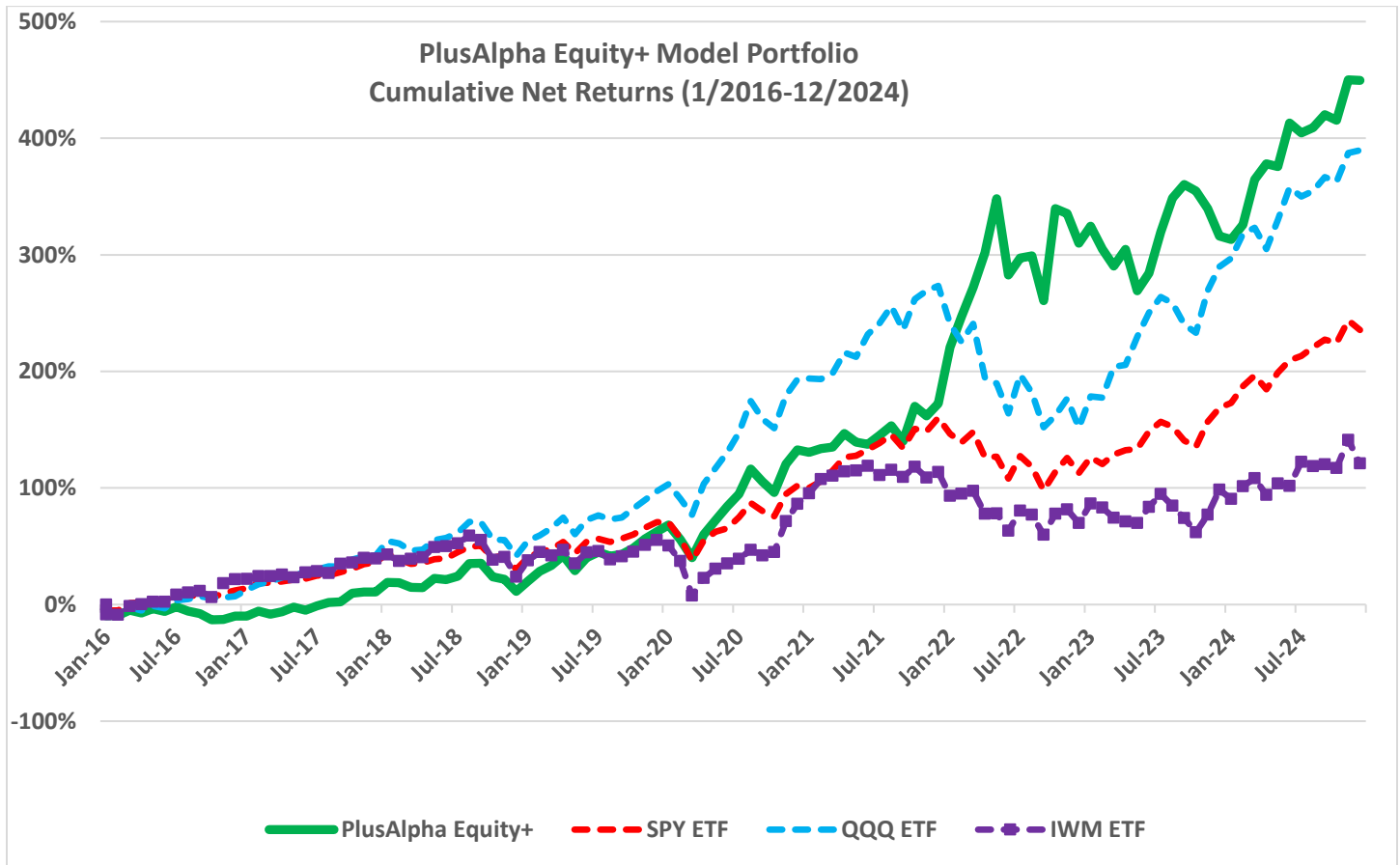
All Wealth Managers should freak out when they see this graph!

I need to investigate the reasons, but I suspect that P/E ratio expansion from QE and fiscal stimulus also extends Equity Duration. I will share results of my research in the future.

Practical Implication: I tested our Fixed Income eCIO Risk Targeting Algo for Equities Portfolio Construction, and found it be to wildly successful!

**New: ARAM’s EquityPlus Model Portfolio**

The EquityPlus Model Portfolio succeeds incredibly well when Fixed Income Volatility is high, after 2022. We’ll be watching the Beta-to-Agg closely for a reversion to negative.



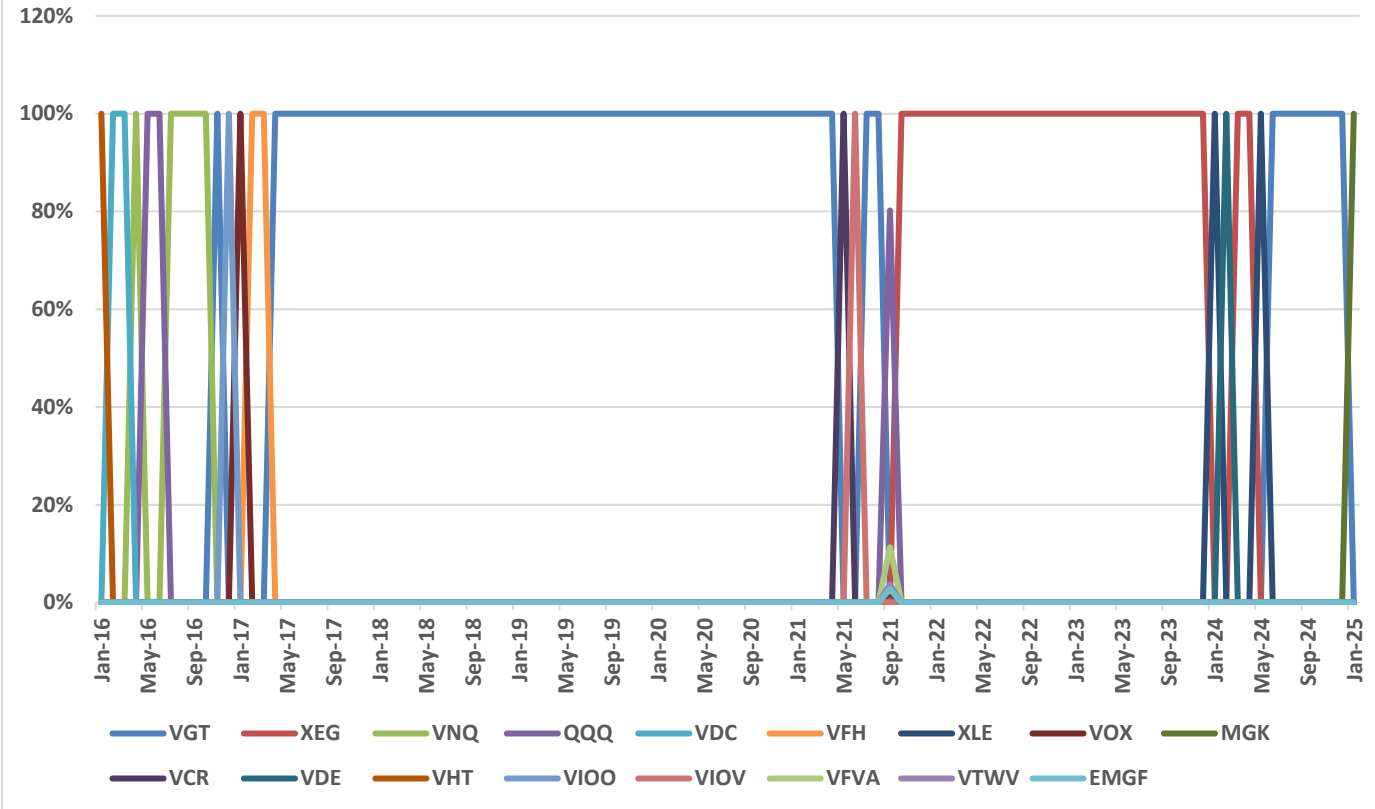
	Cumulative Net Return since 1/2016	EquityPlus Annualized Alpha vs Benchmark ETFs	EquityPlus 5-year Alpha vs Benchmark ETFs
EquityPlus	449%		
SPY ETF	235%	9.6%	18.4%
QQQ ETF	390%	10.8%	21.1%
IWM ETF	121%	16.9%	25.7%

For portfolio construction, we selected 82 Equities ETFs from large providers, primarily Vanguard, Blackrock, StateStreet and Invesco (chosen simply because we had the returns in our database).

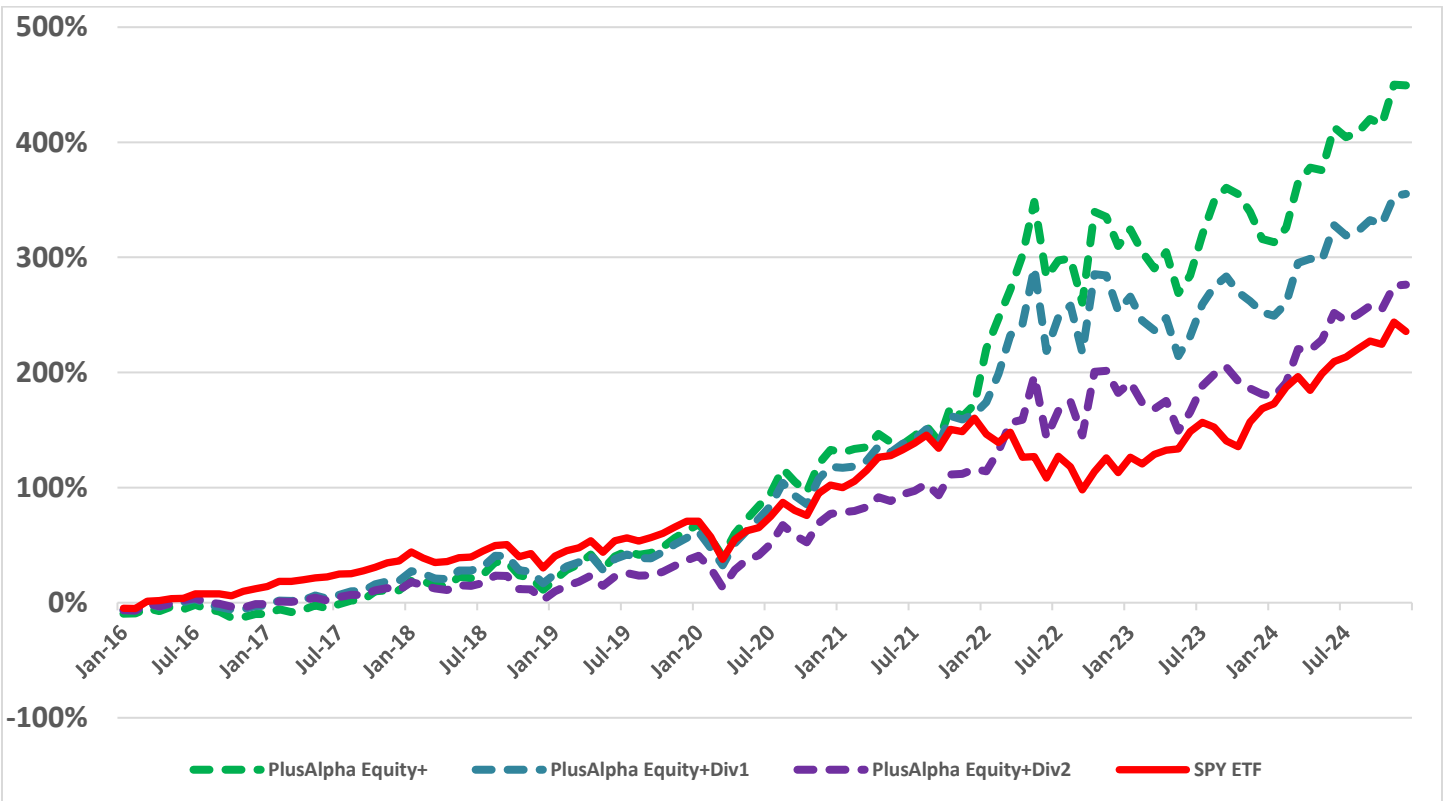
Since Diversification dilutes Risk Targeting decisions, we allow the portfolio to go to 100% maximum weight in an ETF.



### ARAM EquityPlus Active Portfolio - ETF Weights

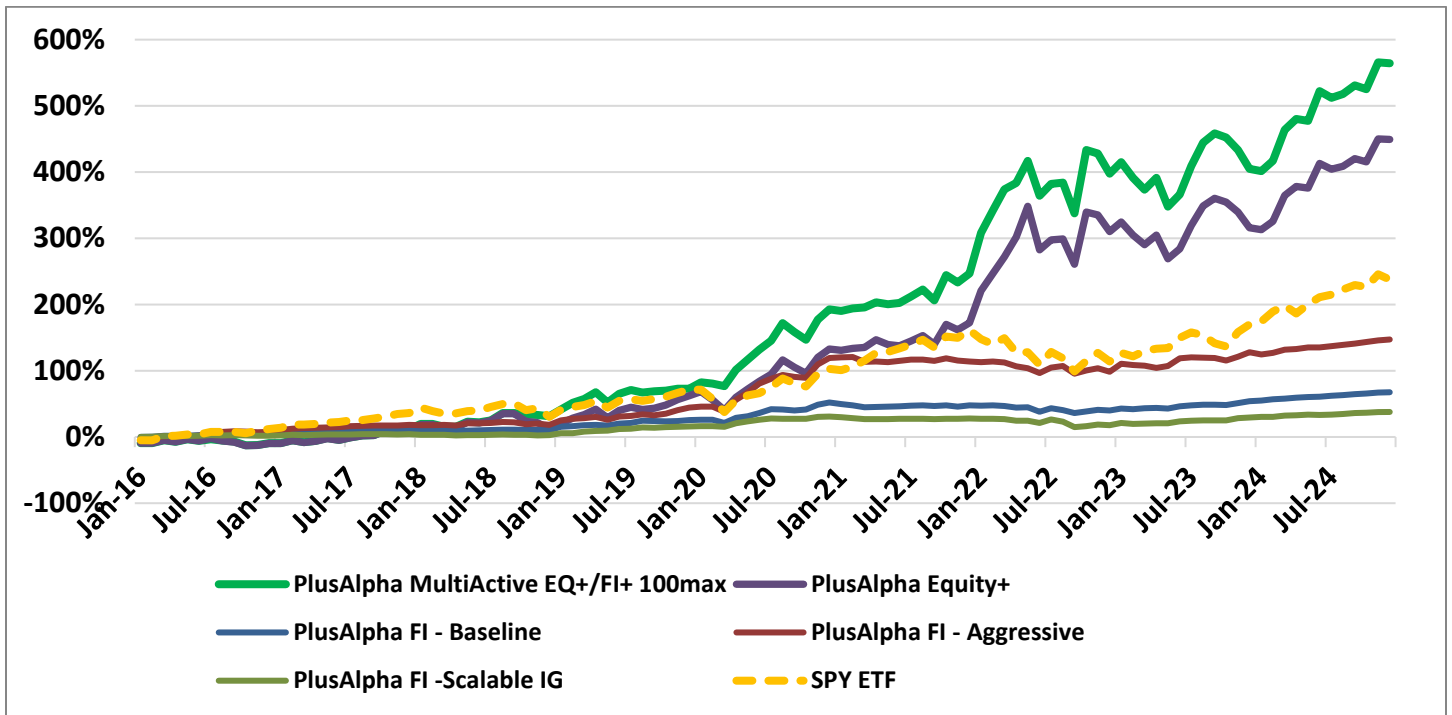


We also have Diversified options available, with 50% and 30% maximum weights:

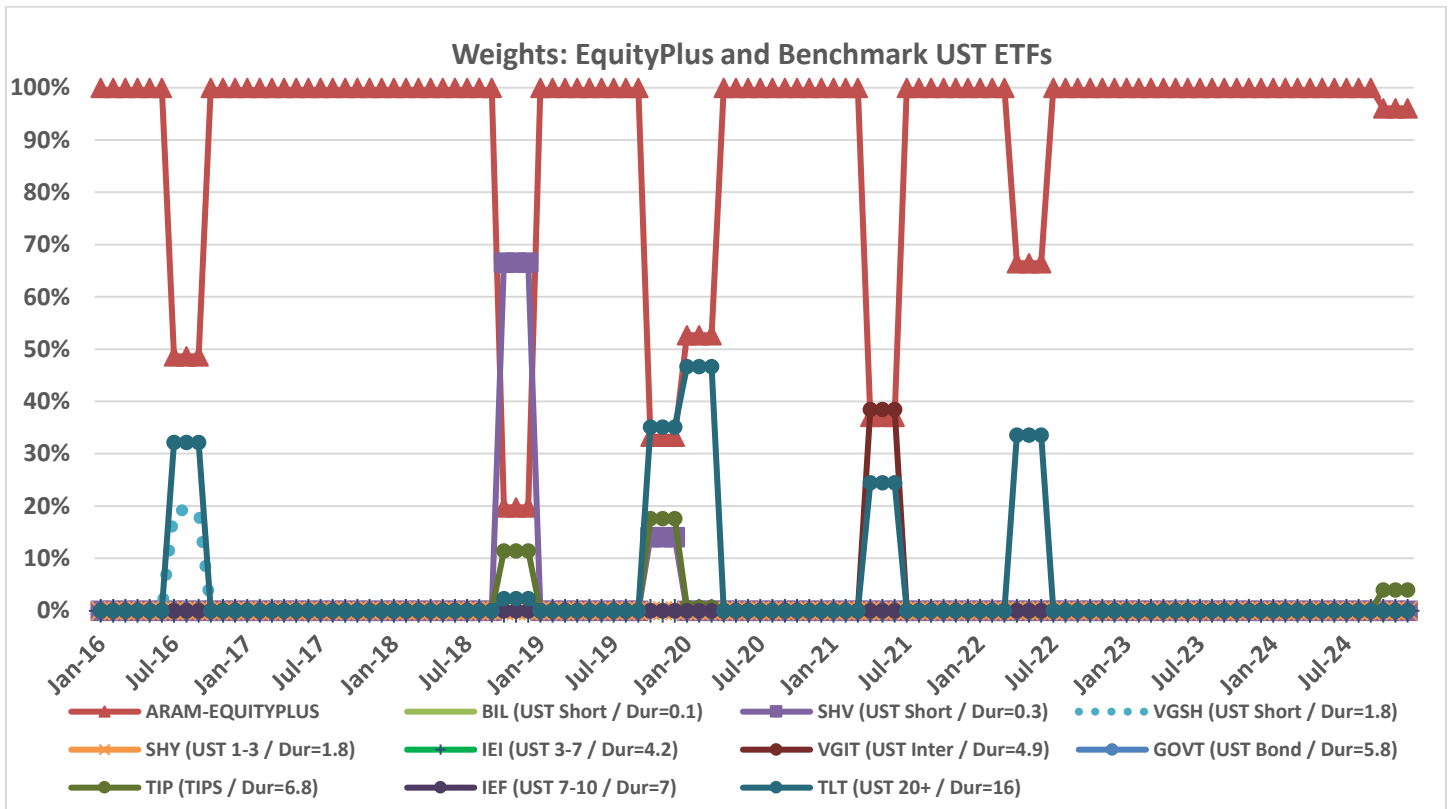


**New: Multi-Asset EquityPlus+UST ETFs**

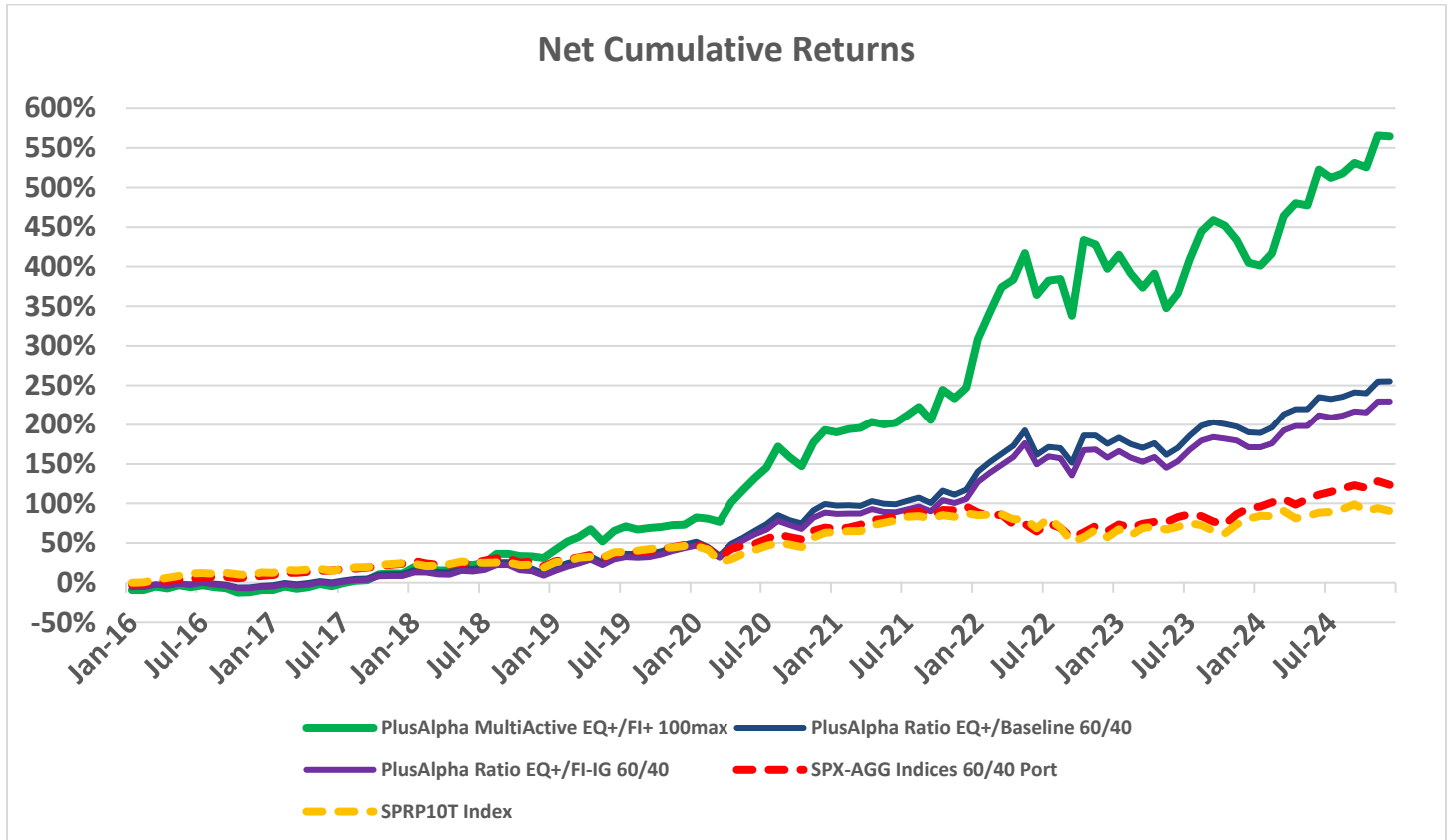
**Our Active Multi-Asset Portfolio INCREASES RETURNS OVER THE ACTIVE EQUITYPLUS PORTFOLIO!**



This Active Multi-Asset Model Portfolio is constructed using the EquityPlus Model Portfolio in conjunction with the UST ETFs used for our new Scalable-UST portfolio.

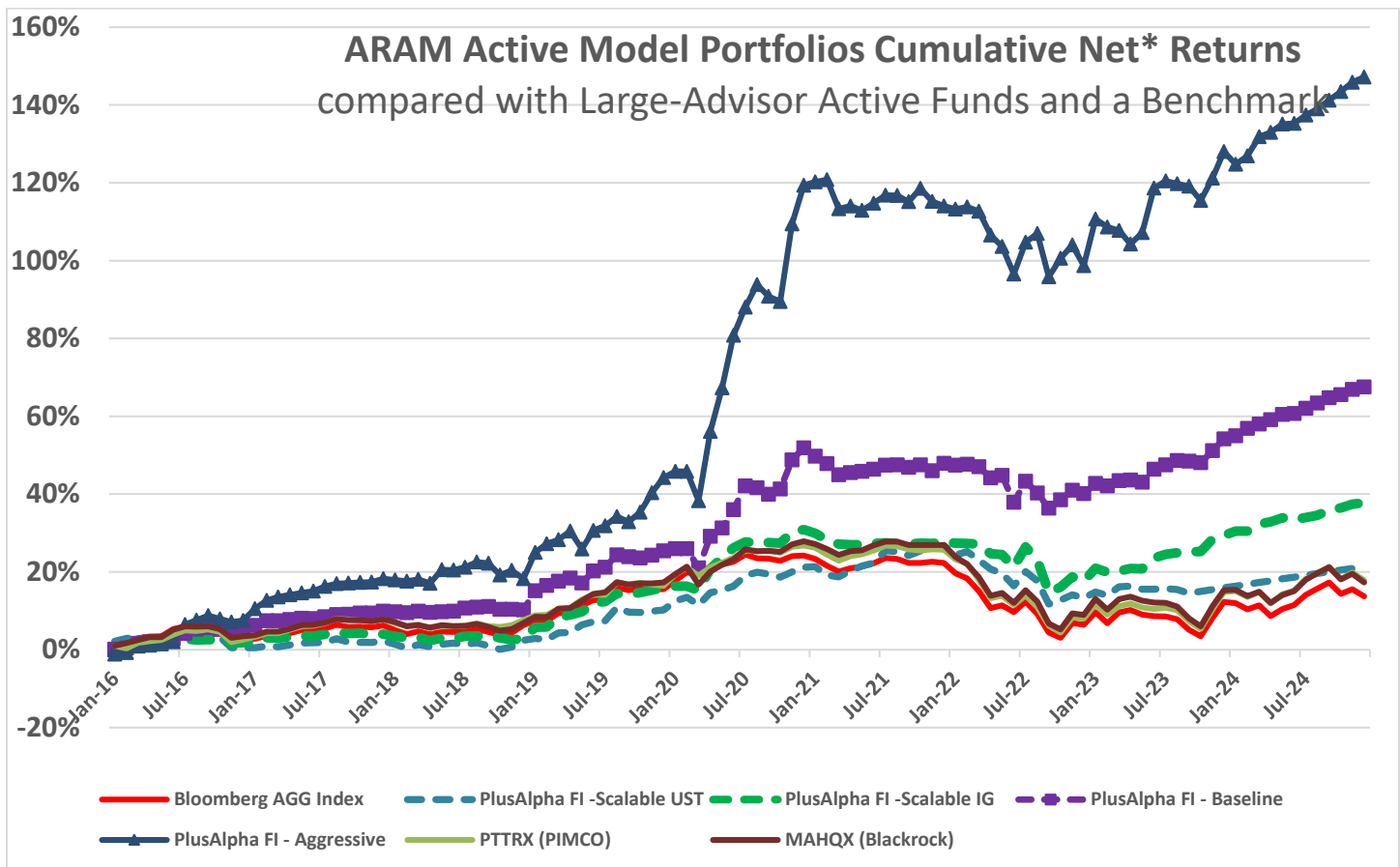


We also created Fixed Ratio versions that use our Fixed Income Model Portfolios, and could switch to those when Equity-AGG Beta reverts to negative. More research is planned to anticipate this.



	Total Return			Annualized Alpha over SPX-AGG 60/40 Index		
	2016-2024	Recent 5yr	Recent 3yr	2016-2024	Recent 5yr	Recent 3yr
MultiActive EQ+/FI+	564.5%	284.0%	91.5%	15.3%	25.1%	24.8%
Ratio EQ+/Baseline	255.1%	139.8%	63.3%	7.7%	13.4%	17.0%
Ratio EQ+/FI-IG	229.4%	129.3%	60.2%	7.1%	12.6%	16.2%
Benchmark 60/40	123.5%	51.5%	14.0%	0.0%	0.0%	0.0%
Benchmark RiskParity	90.6%	30.3%	1.6%	-1.0%	-2.8%	-3.8%

## Fixed Income Model Portfolios – Cumulative Returns



### Scalable-UST Model Portfolio

The new Scalable-UST model portfolio is constructed from a collection of UST-only ETFs that represent a variety of duration factors.

Since USTs are liquid, the ETF portfolio durations can be easily replicated. We can offer implementation and management of the portfolio in two ways - via ETFs, or through ownership of actual UST Bills and Bonds.

Ticker	ETF Description	Duration
BIL	SPDR BLOOMBERG 1-3 MONTH T-BILL	0.1
SHV	ISHARES SHORT TREASURY BOND	0.3
VGSH	VANGUARD SHORT-TERM TREASURY	1.8
SHY	ISHARES 1-3 YEAR TREASURY BOND	1.8
IEI	ISHARES 3-7 YEAR TREASURY BOND	4.2
VGIT	VANGUARD INTERMEDIATE-TERM TREASURY	4.9
IEF	ISHARES 7-10 YEAR TREASURY BONDS	7.0
GOVT	ISHARES US TREASURY BOND	5.8
TLT	ISHARES 20+ YEAR TREASURY BONDS	16.0
TIP	ISHARES TIPS BOND	6.8

## Scalable-IG Model Portfolio

We expanded the ETF set used to construct the Scalable-IG portfolio to include more UST funds. The results are slightly better than the previous version of the model. This is the set of ETFs from which the portfolios are constructed.

Ticker	ETF Description	Duration
LQDH	ISHARES INT HEDG CORP BD ETF	0.1
BIL	SPDR BLOOMBERG 1-3 MONTH T-B	0.1
SHV	ISHARES SHORT TREASURY BOND	0.3
SHY	ISHARES 1-3 YEAR TREASURY BO	1.8
VGSH	VANGUARD SHORT-TERM TREASURY	1.8
BSV	VANGUARD SHORT-TERM BOND ETF	2.5
VCSH	VANGUARD S/T CORP BOND ETF	2.5
IGSB	ISHARES 1-5Y INV GRADE CORP	2.6
IEI	ISHARES 3-7 YEAR TREASURY BO	4.2
VGIT	VANGUARD INTERMEDIATE-TERM T	4.9
GOVT	ISHARES US TREASURY BOND ETF	5.8
MBB	ISHARES MBS ETF	6.0
VCIT	VANGUARD INT-TERM CORPORATE	6.0
IGIB	ISHARES 5-10Y INV GRADE CORP	6.0
BIV	VANGUARD INTERMEDIATE-TERM B	6.0
AGG	ISHARES CORE U.S. AGGREGATE	6.1
VMBS	VANGUARD MORTGAGE-BACKED SEC	6.2
BND	VANGUARD TOTAL BOND MARKET	6.2
TIP	ISHARES TIPS BOND ETF	6.8
IEF	ISHARES 7-10 YEAR TREASURY B	7.0
IAGG	ISHARES INTL AGGREGATE BOND	7.0
LQD	ISHARES IBOX INVESTMENT GRA	8.3
TLT	ISHARES 20+ YEAR TREASURY BD	16.0

## Baseline

We found a couple of errant fund labels and discovered some Muni ETFs in the ETF set. These were corrected and removed, slightly changing the weights and portfolio results.

### **3 Answers**

**Q1: Why have Active Funds and Managers NOT delivered such returns?**

**A: PMs have never experienced such risk, and have not modified their portfolio construction decisions to respond – they continue to rely on their training which does not cover the current High Volatility/Risk Environment**

**Q2: Is the prevalent investment framework and economic theory suitable for the current (and cyclical) risk environment?**

**A2: The prevalent framework for all Fixed Income and most of Equities is the Graham-Dodd 'Security Selection' framework, which only works in Low Volatility Environments. A Markowitz Risk Targeting Framework allows for Portfolio Construction to take advantage of High Volatility Regimes**

**Q3: Is Diversification an effective Asset Allocation and Risk Management tool?**

**A3: Diversification is also an outcome of reliance on Graham-Dodd training, and does not work when Volatility is high and Duration and Beta dominate. It has failed at many levels. For Asset Allocation strategies, including Risk Parity, Positive Beta of Equities to Fixed Income means that Fixed Income does not 'hedge' Equities, and portfolios are overweight Fixed Income Risk.**

Some repeated information from the December 2024 newsletter:

What is Direct Risk Targeting?

Harry Markowitz introduced Modern Portfolio Theory (MPT) in his seminal 1952 paper, "[Portfolio Selection](#)". A number of other papers from the same period on probability, risk, and utility by Samuelson, Arrow, Friedman and others probably led the way or were complementary.

Prior to Markowitz, investing was, and still is, largely based on Graham and Dodd's 1934 book "Security Analysis".

The difference in portfolio construction can be summarized as 'Security Selection' versus 'Risk Selection'.

Fixed Income investing is still largely based on a Graham and Dodd framework – security selection and relative value choices made by Yield, Yield Spread, and Duration of bonds, with spreads and duration indicating Risk.

My quantitative interests and studies in computer science as an undergraduate, and operations research and econometrics in graduate school at UChicago, combined with the flaws in Fixed Income Market Structure and investing that I have observed and experienced in over 30+ years in markets, have resulted in my seeking a better way to invest in Fixed Income.

I have been researching Macro and Market Risk since 1988 and have concluded that historical securities covariance has predictive power in Fixed Income, making Markowitz ideal for Fixed Income.

I have been developing and testing such an MPT framework since 2016, creating Active Fixed Income Model Portfolios. This has evolved into ARAM's "Direct Risk Targeting" for Active Fixed Income Portfolio construction.

Markowitz portfolio construction views Risk as volatility or standard deviation of returns, and has 2 steps:

1. Compute Market Risk – the Risk Target - and also Identify the Risk of individual securities (to build a covariance matrix), using historical returns data
2. Construct an 'Optimal Portfolio' using Portfolio Optimization to match Market Risk; varying Risk Levels creates an 'Efficient Frontier'

We modify Markowitz Optimization into ARAM's 3-step "Direct Risk Targeting":

1. Compute Market Risk using a Benchmark Security or Index, Portfolio, or Macro input, and also construct a covariance matrix based on the historical risk of securities to be used – we select these using parameters for liquidity, sector, etc
2. ARAM's innovation: Our eCIO module algorithmically computes a "Direct Risk Target" based on every period's Market Risk input from Step 1, which imposes an Environment Risk Suitability decision to the portfolio's target risk. This is based on our experience over many cycles. The Direct Risk Target can differ significantly from the computed Market Risk input.

**3. The Direct Risk Target is then used as the input to an optimizer to construct an Optimal Portfolio and generate weights for security selection for the portfolio construction**

**We rebalance periodically, repeating Step 1, to stay ahead of Risk decay, making our portfolios Active and able to respond to changes in Risk.** While Macro Risk can be predictive, it becomes unnecessary to monitor when one rebalances frequently.

**Our Active portfolios are constructed Systematically, with no biases, emotions, or interference, unlike human CIOs and portfolio managers.**

**The predictive power of Markowitz in Fixed Income (and now Equities), combined with rebalancing allows a quantitative Systematic Active approach to generate significant Alpha and Returns.**

---

**None of our model portfolios use any leverage – leverage is not the source of our Alpha.**

**The Alpha of our portfolios is generated through systematic Active Management, by using the portfolio construction process and algorithms derived from our research on FI market structure and behavioral biases.**

**All the model back-test total returns are ‘out-of-sample’, with implied fees, after systematic rebalancing creates the following period’s portfolio. The only risk to these return numbers that we can identify come from execution risk.**

**We believe this is the only true Active Fixed Income strategy offered in the market – our research on the Active Fund universe is available in our paper [‘Are “Active” Fixed Income Funds Active?’](#).**

**Quick takeaway – if a fund is truly ‘Active’, it will have volatile Beta and low correlation with its benchmark.**

**Our strategy was conceived in 2016 as a result of our research into Behavioral Biases in Fixed Income and Flaws in the Market Structure. Our systematic solution takes advantage of biases and flaws in Fixed Income management to realize the potential returns available in Fixed Income, and to capture the attendant benefits to portfolio construction and asset allocation (low correlations, positive skewness, higher Sharpes).**

**The long-term Alpha is significant.** The Risk Targeting algorithms are continuously improved, and the Alpha has been persistent.

**Unlike many quant strategies, we expect the Alpha in our Systematic Fixed Income Strategy to remain persistent.**

---

**Our Active Model Portfolios are available on [Schwab’s iRebal](#), Interactive Brokers, and [Indexone.io](#).**



Our Model Portfolios are ideal for independent Wealth Managers and RIAs who are not limited to the offerings from their custody platforms.

We also use our algorithms to create Active model portfolios using an individual Advisor's fund products (eg Vanguard, JP Morgan, Blackrock, PIMCO, Capital Research, etc). These Advisor portfolios significantly outperform an Advisor's own Active and Multi Asset funds created by their internal groups. We have supplements to our decks for these Advisor-specific products.

These can be used by Advisors and other investor types like Foundations, who are limited to their custody platform's products, but are Fiduciaries and want to deliver returns. We are also looking to be Sub-Advisors for the Advisors, creating funds from the model portfolios described above.

We can customize portfolios for specific needs. Our Model Portfolios are starting points for a conversation about a customized portfolio.

We are seeking institutions, wealth managers and TAMPs that might have interest in licensing our customizable Model Portfolios.

Please call with questions.

Regards, Samir

February 20, 2025

Samir Shah  
President and CIO  
MBS Mantra, LLC (a CT Registered Investment Advisor)  
(dba) Alpha Research and Management ("ARAM")  
Alpha Research and Consulting, LLC

"Alpha Through Analysis"®

203-388-8356 P

203-273-0360 C

[sshah@mbsmantrallc.com](mailto:sshah@mbsmantrallc.com)

<https://www.linkedin.com/in/samir-shah-6a9096a>

Please visit our website <https://www.mbsmantrallc.com> for important disclosures.

## **Important Notice - Disclaimer**

This overview is being provided to you by MBS Mantra, LLC, d/b/a Alpha Research and Management (“MBS Mantra” or the “Firm” or the “Adviser” or “ARAM”), for informational purposes only, on a confidential basis and is intended solely for use by the company or individual to whom it is being delivered. Potential investors are advised to request and carefully read and review MBS Mantra’s Firm Brochure (Form ADV Part 2), and other documents, if any, provided by MBS Mantra (the “Documents”).

Under no circumstances should this overview be used or considered as an offer to sell, or a solicitation of any offer to buy, interests in any securities, funds, other financial products or investment strategies managed by MBS Mantra, nor shall it or its distribution form the basis of, or be relied upon in connection with, any contract for advisory services or otherwise.

The information contained with this brochure has not been audited and is based upon estimates and assumptions. No reliance should be placed, for any purpose, on the information or opinions contained in this overview. The information contained in this brochure is based upon proprietary information of MBS Mantra and public information, but it may not be comprehensive, and it should not be interpreted as investment advice. No representation, warranty or undertaking, express or implied, is given as to the accuracy or completeness of the information or opinions contained in this overview by MBS Mantra or by its affiliates and any of their principals, members, managers, directors, officers, employees, contractors or representatives.

Investors must make their own investment decisions based on their specific investment objectives and financial position. Charts, tables and graphs contained in this overview or in the Documents are not intended to be used to assist an investor in determining which securities to buy or sell or when to buy or sell securities. While this overview may contain past performance data, **PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS, WHICH MAY VARY.** There can be no assurance that any investment strategy will achieve its investment objective or avoid substantial or total losses. Except as required by law, MBS Mantra assumes no responsibility for the accuracy and completeness of any forward-looking statements. Further, MBS Mantra does not provide legal and tax advice; MBS Mantra recommends that investors consult with their own independent tax and legal advisers.

Any example represents an actual trade made by Samir Shah, MBS Mantra’s principal, and/or MBS Mantra; any hypothetical represents a possible trade. None of the examples, whether actual or hypothetical, contained in this overview and the Documents should be viewed as representative of all trades made by MBS Mantra, but only as examples of the types of trades MBS Mantra expects to complete for its customers. None of the examples provided can in and of themselves be used to determine which securities to buy or sell, or when to buy or sell them. It should not be assumed that recommendations made in the future will be profitable or will equal the performance of the securities used as examples in these Documents. To the extent that this document contains statements about the future, such statements are forward looking and subject to a number of risks and uncertainties, including, but not limited to, the impact of competitive products, product demand and market risks, fluctuations in operating results and other risks. (A complete list of trades made by Samir Shah and/or MBS Mantra is available upon request.)

This overview and all Documents provided by MBS Mantra should only be considered current as of the date of publication without regard to the date on which you may receive or access the information. MBS Mantra maintains the right to delete or modify the information without prior notice; MBS Mantra undertakes no obligation to update such information, including, but not limited to, any forward-looking statements, as of a more recent date, except as otherwise required by law.