Alpha Research & Management

June 2025 - PlusAlpha Systematic Active Model Portfolios

April's tariff shock threw a large test at our systematic portfolios, and while we've been keeping the Fact Sheets updated on our website, we've not put out a newsletter as we've been testing some new strategies and portfolio constructions.

The existing model portfolios recovered in May and June, as Trump TACO-ed, and markets rebounded. Real Volatility remains high, with historical relationships between asset classes broken, driven by tweets, even though the VIX does not reflect this. I'm working on a measure to quantify such non-economic political risk to create a multi-dimensional and dynamic risk measure, signal, and target for systematic strategies.

We've added asset classes to create new Risk-Parity-like Multi-Asset Active Model Portfolios, which combine macro risk research with systematic portfolio construction to select ETFs from US Equities, International Equities, Fixed Income, Currency, Energy and Metals sectors. I call these our Volatility Risk Mitigation (VRM) Portfolios.

For these, we are actively targeting lower volatility (than the S&P) Risk Parity Indices (that typically weight sectors equally). However, we continue to Risk Target to create Active Model Portfolios. Given the random changes in current economic decisions, we've imposed greater diversification, resulting in more conservative models. Being Active, they have low Beta and Correlations.

There are 4 versions of the Global Multi-Asset model portfolios: Global Multi 70 max; Global Multi 25 max (with greater diversification); VRM 25; and VRM Dynamic.

Global Multi 70 and 25: Standard Risk Model Construction, using Risk Parity Risk Targets, simply adding more asset classes, with longer term risk relationships, and 70% max weight and 25% max weight options

VRM 25: Global Multi 25 with Risk Parameters responding to recent volatility, to focus on recent returns

VRM Dynamic: manually switching from Global Multi 70 to VRM 25 in April 2025.

	Net Return Summary							Stats to S&P Risk Parity 10% Vol Index				
ARAM Global Multi-Asset Model Portfolio	Jun 2025	2025 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
Global Multi - 70	3.53%	2.6%	2.4%	34.9%	83.6%	171%	63%	3.9%	-1.4%	0.54	0.33	0.2
Global Multi - 25	2.79%	5.5%	9.6%	35.4%	53.0%	138%	65%	3.6%	9.1%	0.08	0.09	1.4
VRM 25	2.75%	6.7%	11.0%	34.4%	44.1%	120%	64%	3.0%	10.7%	0.05	0.07	1.7
VRM Dynamic	2.75%	8.8%	8.6%	43.1%	94.8%	188%	63%	4.6%	4.8%	0.49	0.37	0.9

	Net Return Summary							Stats to Bloomberg Aggregate Index				
ARAM Fixed Income Model Portfolio	Jun 2025	2025 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
Baseline	1.14%	2.0%	6.6%	24.2%	26.1%	72%	70%	5.0%	6.3%	0.06	0.08	1.6
Aggressive	0.91%	1.3%	6.3%	27.3%	37.7%	148%	67%	9.1%	5.9%	0.08	0.08	1.2
Scalable UST	0.30%	1.8%	4.1%	6.2%	6.2%	24%	68%	1.2%	4.1%	0.00	0.06	24.6
Scalable IG	0.71%	1.8%	5.1%	15.6%	11.1%	40%	62%	2.6%	5.3%	-0.02	-0.06	2.2

	Net Return Summary							Stats to SPY ETF				
ARAM US Equity and Multi-Asset Model Portfolio	Jun 2025	2025 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
EquityPlus - 100	3.84%	-1.0%	7.2%	43.7%	222.2%	476%	62%	8.9%	-8.9%	1.18	0.91	0.5
EquityPlus - 75	3.84%	-1.8%	6.2%	42.6%	191.6%	409%	61%	6.5%	-9.0%	1.13	0.91	0.5
MultiAsset - 100	3.84%	-1.0%	5.6%	41.6%	183.6%	558%	61%	12.1%	-10.5%	1.20	0.93	0.4
MultiAsset - 70	2.74%	-0.2%	3.9%	24.9%	89.1%	263%	59%	7.1%	-8.1%	0.88	0.95	0.4

	Return Summary							Stats to Bloomberg Aggregate Index				
Benchmark Passive Fixed Income Index	Jun 2025	2025 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
Aggregate	**1.54%**	**4.0%**	**6.1%**	**7.8%**	**-3.6%**	**18%**	**55%**	**0.0%**	**0.0%**	**1.00**	**1.00**	**1.2**
U.S. Treasury	1.25%	3.8%	5.3%	4.7%	-7.7%	12%	50%	**-0.4%**	**-0.4%**	0.95	0.99	1.1
Govt-Related	1.47%	4.4%	6.2%	10.0%	0.6%	22%	63%	**0.6%**	**1.0%**	0.86	1.00	1.4
Corporate	1.87%	4.2%	6.9%	13.6%	0.7%	33%	59%	**0.9%**	**0.6%**	1.03	0.98	1.3
Securitized	1.73%	4.2%	6.6%	7.5%	-2.4%	13%	58%	**-0.3%**	**0.0%**	1.08	1.00	1.2
MBS	1.78%	4.2%	6.5%	7.1%	-3.0%	12%	55%	**-0.4%**	**-0.3%**	1.12	1.00	1.1
High Yield	1.84%	4.6%	10.3%	32.8%	33.6%	81%	68%	**5.2%**	**7.4%**	0.46	0.64	2.7

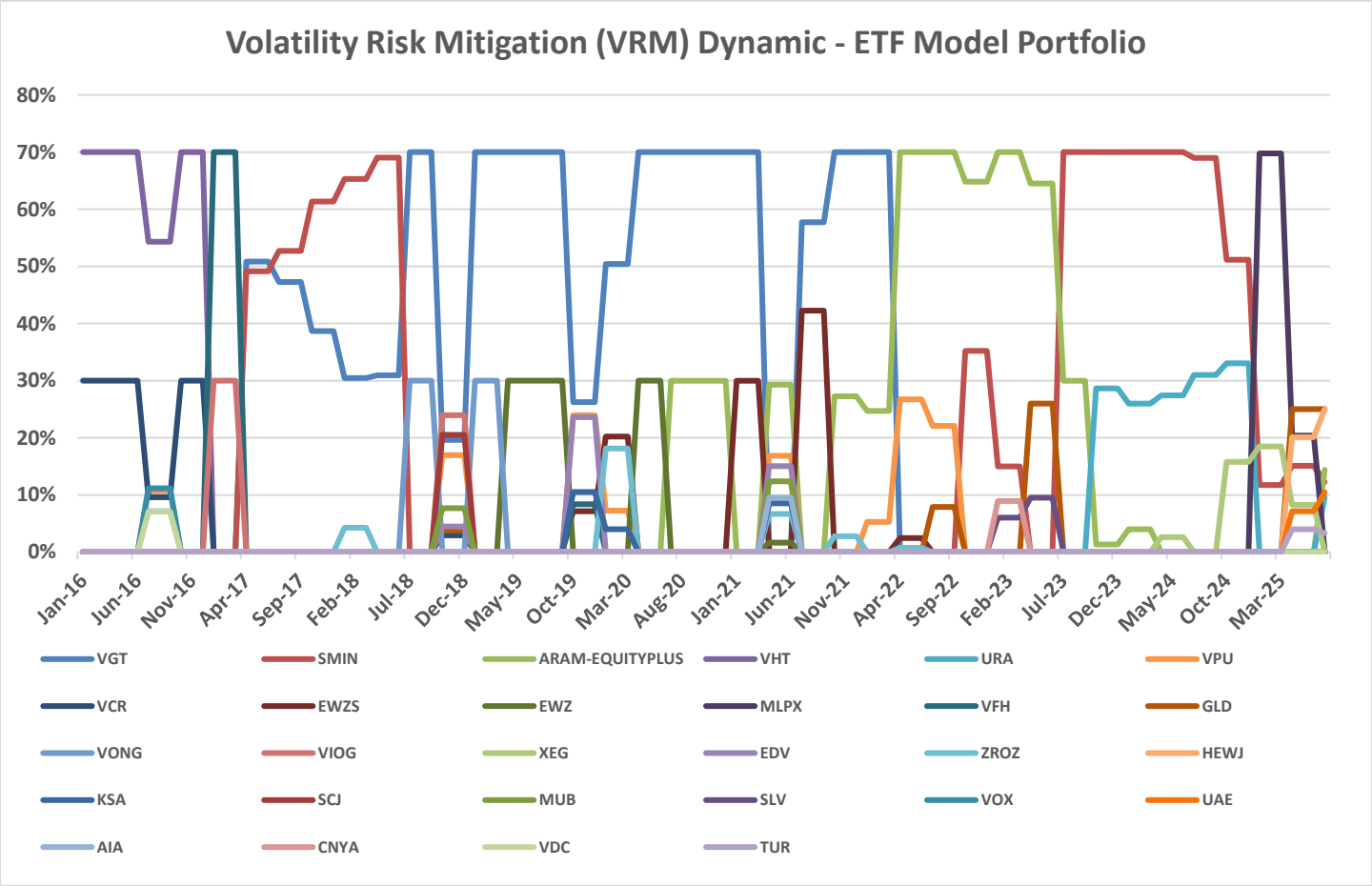
	Return Summary							Stats to EQ/FI 60/40				
Equity and Multi-Asset Benchmark	Jun 2025	2025 YTD	1 year	3 year	5 Year	Cum% since 1/2016	Positive Months	Alpha since 1/2016	12mo Alpha	12mo Beta	12mo Correll	12mo Ret/ StDev
SPY ETF	5.14%	6.1%	14.9%	70.9%	115.3%	256%	70%	0.5%	-1.9%	1.46	0.97	1.2
EQ/FI 60/40	3.67%	5.5%	11.6%	43.3%	58.2%	136%	71%	0.0%	0.0%	1.00	1.00	1.4
S&P RiskParity	3.53%	7.0%	8.4%	21.1%	44.5%	104%	67%	-0.6%	0.5%	0.69	0.73	1.1

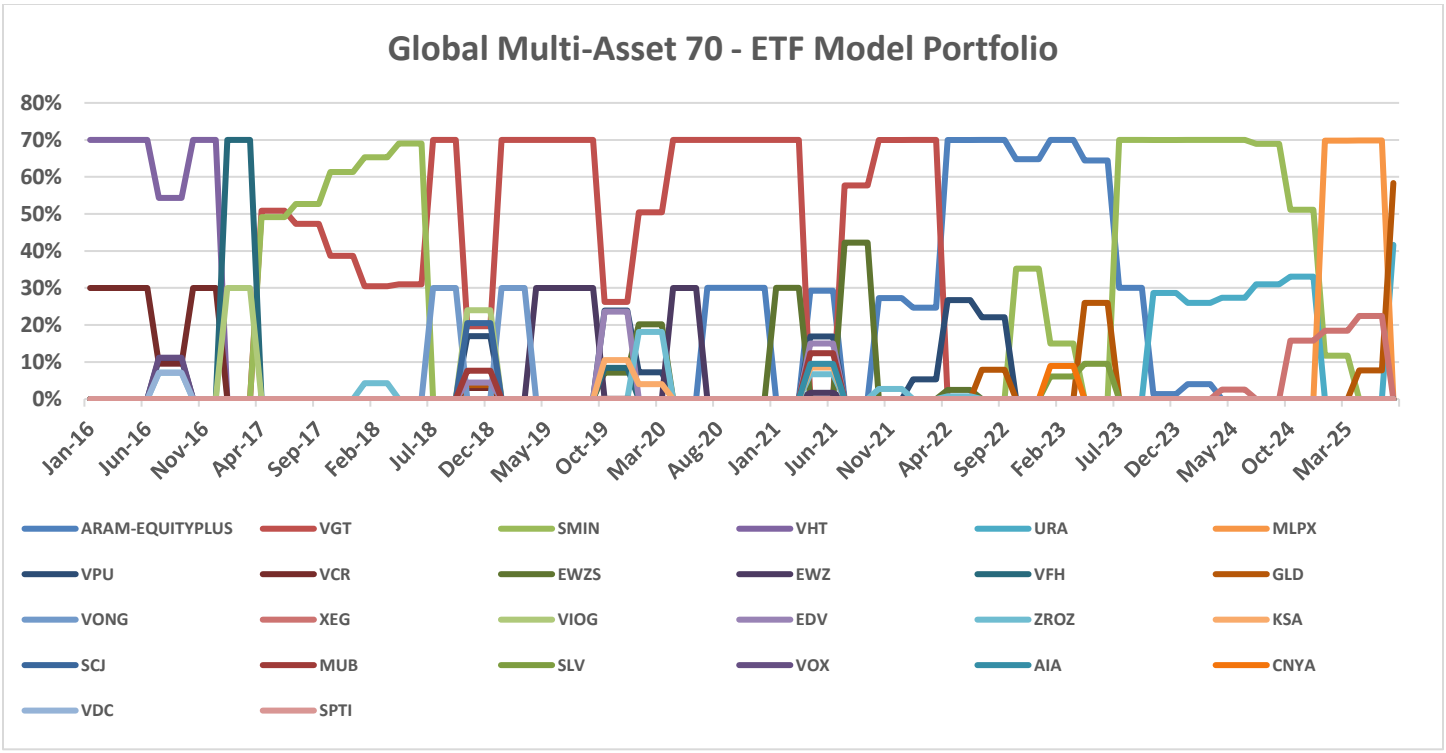
Global Multi-Asset Active Model Portfolios and Volatility Risk Mitigation (VRM) Model Portfolios

We've added more ETFs to the collection that we've been using for our systematic strategies (now over 1200 ETFs). These supplement the US-centric ETFs we've been using, and our model portfolios now reflect risk and returns in US Equities, US Fixed Income, International Equities, Currency, Energy and Metals ETFs.

As mentioned earlier, we are researching signals to automate model switching, as political Risk Regimes change unpredictably, often overnight. For the foreseeable future, we recommend the VRM portfolio, possibly supplemented with some additional Yen.

The graphs show the Active Portfolio construction of these Model Portfolios.




Global Multi-Asset 70 - ETF Model Portfolio
80%
70%
60%
50%
40%
30%
20%
10%
0%
Jan-16
Jun-16
Nov-16
Apr-17
Sep-17
Feb-18
Jul-18
Dec-18
May-19
Oct-19
Mar-20
Aug-20
Jan-21
Jun-21
Nov-21
Apr-22
Sep-22
Feb-23
Jul-23
Dec-23
May-24
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ARAM-EQUITYPLUS
VGT
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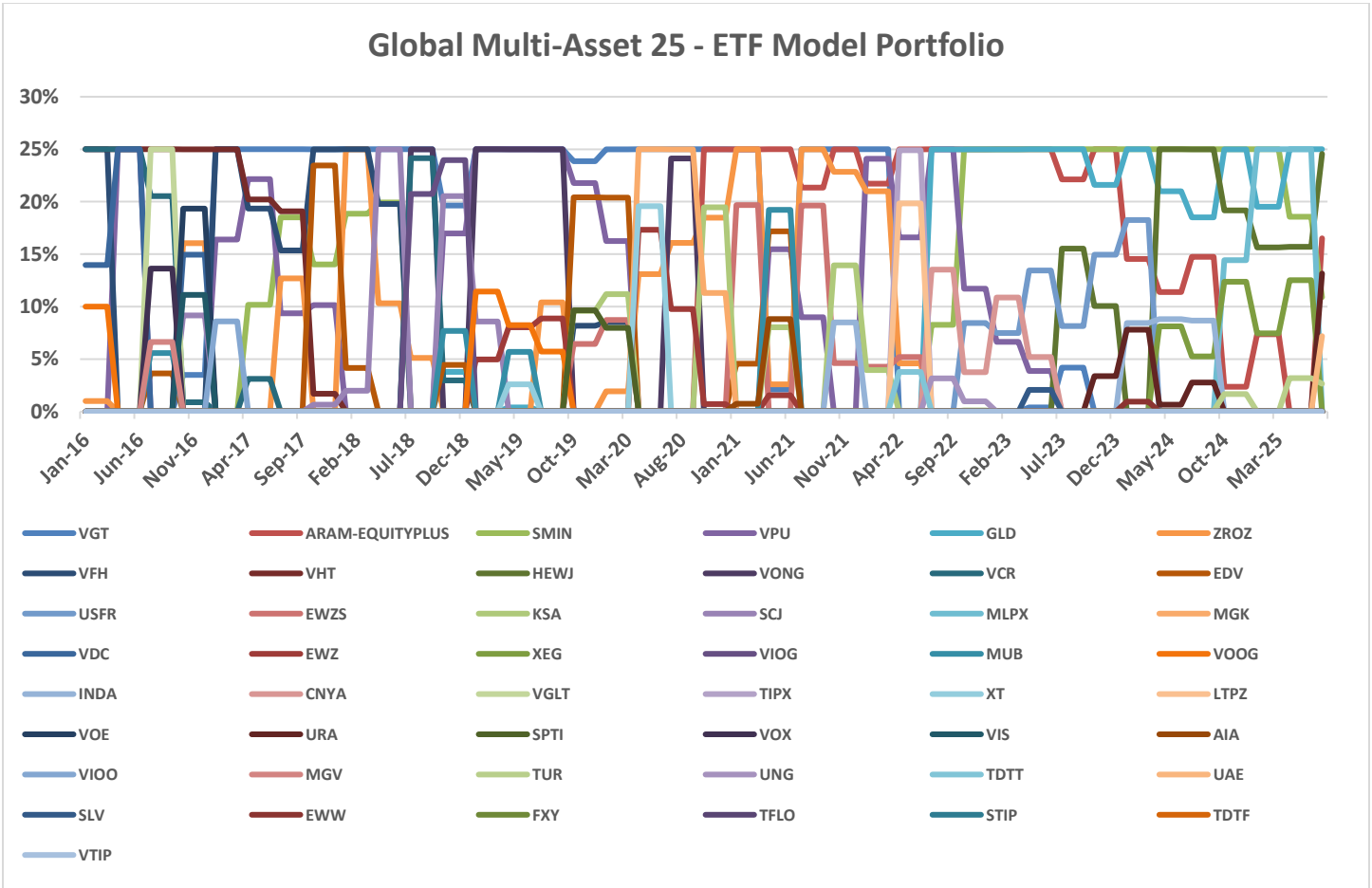
VOX
AIA
CNYA
VDC
SPTI


Global Multi-Asset 25 - ETF Model Portfolio
30%
25%
20%
15%
10%
5%
0%
Jan-16
Jun-16
Nov-16
Apr-17
Sep-17
Feb-18
Jul-18
Dec-18
May-19
Oct-19
Mar-20
Aug-20
Jan-21
Jun-21
Nov-21
Apr-22
Sep-22
Feb-23
Jul-23
Dec-23
May-24
Oct-24
Mar-25
VGT
ARAM-EQUITYPLUS
SMIN
VPU
GLD
ZROZ
VFH
VHT
HEWJ
VONG
VCR
EDV
USFR
EWZS
KSA
SCJ
MLPX
MGK
VDC
EWZ
XEG
VIOG
MUB
VOOG
INDA
CNYA
VGLT
TIPX
XT
LTPZ
VOE
URA
SPTI
VOX
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UAE
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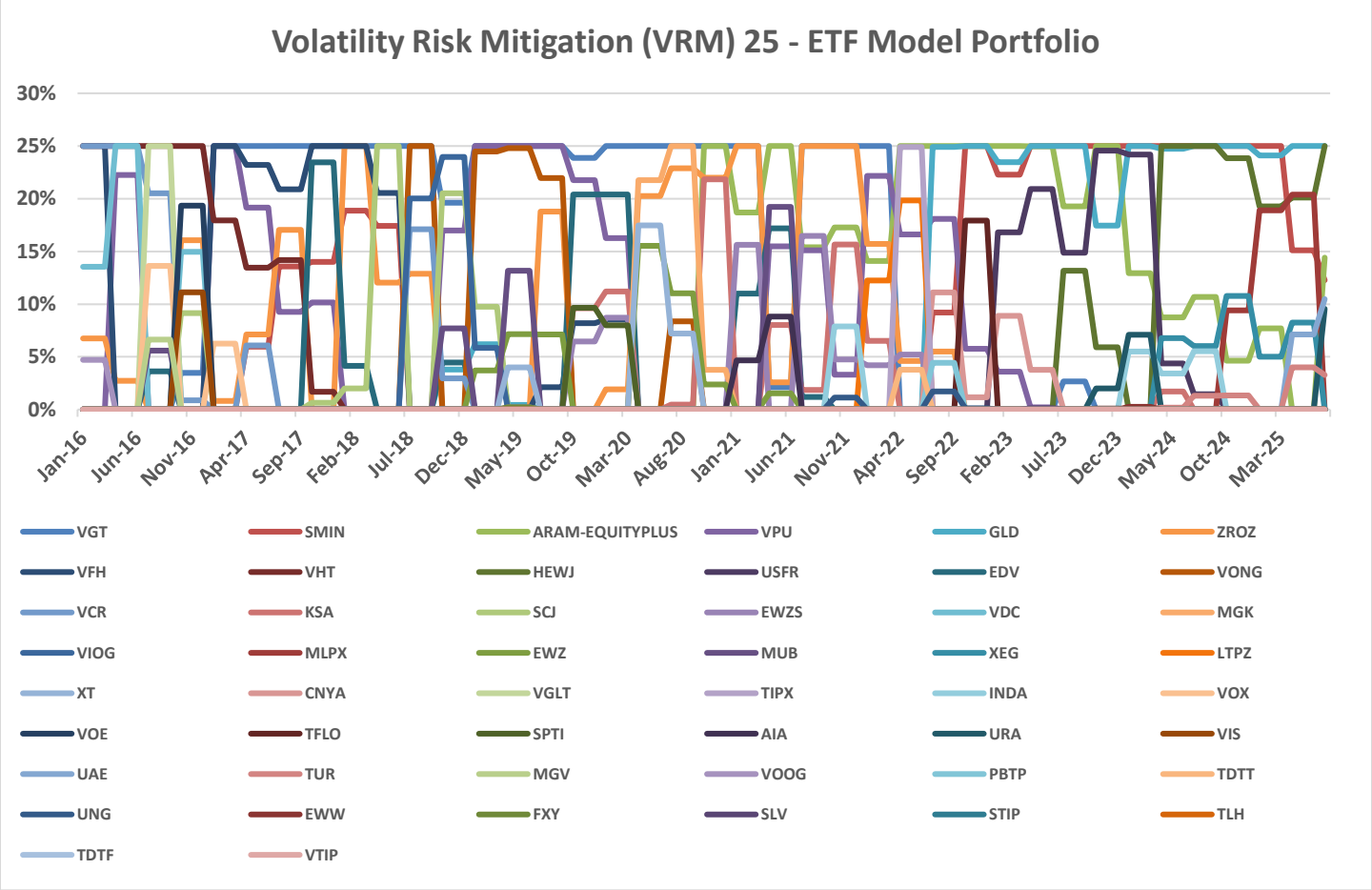
EWW
FXY
TFLO
STIP
TDTF
VTIP



ETF Weights – current and prior quarters

	Q3 2025	Q3 2025			Q2 2025		Q1 2025	
ETF Ticker	VRM Dynamic	VRM 25	Global Multi Asset 70	Global Multi Asset 25	VRM 25	Global Multi Asset 70	VRM 25	Global Multi Asset 70
GLD	25%	25%	58%	25%	25%	8%	24%	
HEWJ	25%	25%		25%	20%		19%	
URA	10%	10%	42%	13%				
MTUM	14%	14%		17%			8%	
SMIN	12%	12%		11%	15%		25%	12%
UAE	10%	10%		7%	7%			
TUR	3%	3%		3%	4%			
MLPX					20%	70%	19%	70%
XEG					8%	22%	5%	18%

While Yen is currently not being picked up by the models, I'd recommend at least a 10% exposure.

Some Market Commentary

We are in a period of very high volatility, with non-market activity, namely Trump administration actions, impacting economics and asset prices.

While the administration has identified many important problems, these have taken decades to brew, and cannot be turned around with the stroke of a pen. **The road to manufacturing and exporting has many roadblocks**.

The teams in the administration seem to lack the understanding of the history of changes in global economics, capital flows, wage inflation, and pollution export that resulted in the US giving up manufacturing to become a debt-fueled consumption economy that primarily builds (large) housing. Manufacturing is now only 10% of GDP, down from about 28%. This took 40 years to accomplish, and will take as long to unwind. While supply chain simplification and on-shoring had started during COVID, this is certainly not possible in one presidential term.

In addition, there seems to be a failure to understand how products are made, and no realization that specialized skills and physical materials that we used to have 30 years ago no longer exist in the US. Both of these will be necessary to restart production of products that we current import. Imported steel, aluminum and copper in particular are going to be impossible to replace in the near term.

While capital and energy and even required raw materials are available, there are significant bottlenecks:

- **Labor:** skill sets of labor, willingness of labor to perform required tasks, and high labor costs
- **Education**: lack of technical, trouble shooting and thinking skills in many parts of the population – school systems are seriously lacking, and need competition to raise educational standards
- **Raw materials**: for example, while rare earths and copper deposits exist in the US, the time required to rebuild infrastructure such as mining and smelts can take decades. Look up recent interviews with the CEO of Freeport. Development of mines and smelters in the US has been stalled and existing smelters are mothballed and their ability to be restarted is questionable.
- **Current environmental regulations**, a result of virtue signaling by wealthy countries including the US, simply export pollution, and as a result export manufacturing, to other countries that are willing to burn coal and pollute with byproducts to make products cheaply. Global warming has not stopped, as demand for stuff continues growing as it can be made cheaply by China and Asia in general.
- **Energy costs** in the US are high due to environmental and labor regulations of all sorts – anti pipeline, anti energy-transmission-cables, anti-nuclear, Jones Act, etc. creating further hurdles rates to manufacturing.
- **Per capita energy demand is high** due to truck ownership instead of cars (see 'Chicken tax'), long commuting distances, and too large and inefficient housing, competing with manufacturing for energy. (See "Route of All Evil")

Mini Case Study – US Cars and Trucks

- Trump complains about Japan not buying US cars. The reality is that the US does not make cars that can be used in Japan (which is a right hand drive country), or in many other parts of the world. Not a single RHD drive car is made in the US, even though there have been no barriers to selling and exporting cars to Japan. In addition, we don't make small autos, a result of the afore mentioned Chicken Tax – protectionism has resulted in our auto makers being able to generate greater profits from making trucks, and so they don't build small cars – they import them. Our trucks are not in demand and don't work for much of the world's needs, and cannot even be parked in most cities in the world where roads are much smaller and narrower, and where gas costs more.

- The Ford F150, the best selling US truck, weighs 5000 lbs, has < 20mpg in cities, an 80 inch width, and a 209 to 250 inch length. The height is maybe good, as third world countries have a lot of potholes. They also cost a lot - $35k barebones, up to $60k – $80k and higher with options. I know someone with a $100k+ F150.
- There are Ford F-150s in Japan. Here are 27 used Ford F-150 offers in Japan. They range from Y 2million for a 1997 ($13.6k) to Y 10 million ($68k) for a 2021.
- The best selling truck in the rest of the world is the Toyota Hilux. This has been featured on Top Gear as being indestructible. It is sold in 180 countries, so there is plenty of demand for trucks, and is the best selling pickup in Europe and Australia. Dimensions: 73 inches wide, 209 standard length, 3163 to 4762 lbs, 30-35 mpg, A barebone HiLux costs $12,000 and can get to $60,000.

Mini Case Study Home Construction

- Home construction (and housing consumption) is one of the largest non-services, non-government components of GDP. Housing in total is about 15% of GDP.
- There are 2 primary drivers: interest rates (for mortgages) to facilitate affordability, and construction costs. Construction costs are over 64% of the sales price of a new home, and are impacted by raw material cost. Of this about 30% is lumber. Of that, 30% is from Canada, so about 9% of the construction cost of a home.
- Our current tariffs on Canadian lumber are up to 14.54% from 8.05% previously, and a further increase to 34.45% has been announced.
- Thus Canadian tariffs will increase new housing costs, and when combined with higher interest rates, will lead to a slowdown in demand.
- Also, about 50% of copper demand is from new home construction, and copper tariffs of 50% have been proposed, another increase in construction costs.
- However, if housing demand declines, it might solve some of our copper importing trade deficit, but not in a good way.

There are many other barriers that will not get solved anytime soon.

A direct result of the tariffs has been a reduction in orders due to an inability of companies to plan without input and labor cost clarity. Expecting an increase in input costs, which many companies believe cannot be passed onto consumers without collapsing demand, there's been a spate of buying and stockpiling inputs ahead of tariffs, but this is starting to wane as container volumes to the US are declining. Stories about small businesses considering shutting down as a result are regularly in the press. The only industry groups that appear happy are the unions, although it's not clear that a reduction in demand is helpful for the workers they represent. Most sources are expecting a significant reduction in GDP, both in the US and globally, to result.

There is a demand for lower energy costs with the help of Saudi Arabia. But this is going to lead to energy supply shrinking, and US drillers shutting production as the sales price of the oil falls below their breakeven cost of production. Rather than making capital investments, they will continue to return cashflow and capital to their shareholders.

There is a recognition of the failure of our education system by the administration. But it does not seem to recognize that this is a result of changes that started happening in 1979, and which cannot be reversed overnight. Math still start in kindergarten. Our school system does not provide a consistent education – my wife is tutoring a 7th grader, about to get moved to 8th, who can barely read, (although he can speak many languages and is smart) - he just finished 2nd grade math with her, and was never taught subtraction. He attended public schools without being taught anything for

his entire life. His parents are poor, work multiple jobs, are not educated themselves, cannot help the children do homework, and rely on the school system to educate their kids.

Another example – I was recently in a record store and I bought a 99c album, and my total after tax was $1.04. The person at the register was an adult. I gave her $20, and told her hang on, I'll give you 4c or 5c. Her response: I've already entered the $20 into the register, so I can't take the 5c. She could not subtract, and relied on her machine, and dug out a ziplock bag and counted out 96c in change, in addition to the $18 in bills, which is what the register said to do.

Yes, we need more tradesmen. But without basic skills, good luck to them if they can't read a manual, or use a ruler, or add or subtract, or think on the fly. Replacing workers with AI or robots to increase productivity seems to be the refrain. And what about unemployment in that case? But other parts of the economy, such as our food supply, rely on labor, and will be impossible to convert.

Then there is the fiscal issue. The BBB was meant to be paid for with savings from DOGE. These savings don't exist, in the size required, yet the bill has passed. The argument is that huge tariff revenue is going to be realized, which will pay for the debt and service.

Given that tariffs will get passed on to consumers through higher prices, this will reduce consumption and thus GDP as a result of the inflation that will be created. There will be a push for higher wages to compensate for the inflation, and such compensation is also already built into social security payments through COLA adjustments. This will require even more governmental debt issuance.

Another $3T to $5T is debt is expected by many. I'd guess even more. Who is going to buy this debt? Ultimately, I am expecting more QE.

I don't see US Yields declining anytime – this also means higher annual interest costs, that are already greater than $1T. I think the 10yr UST can easily get to 7% or higher.

https://www.linkedin.com/feed/update/urn:li:activity:7331597135978663937/

Rewinding the movie

One way to think about rates and asset prices is to view the past 30 years, from 1995 to 2025, as being a temporary artificial state, with rates being depressed and asset prices inflated as a consequence of Paul Volcker's 1985 Plaza Accord. The failure of central banks to understand or recognize these changes, which resulted in the Yen Carry Trade being born and funding global excesses, led to the conversion of the US economy from a producing one to a debt-funded-services-consuming one.

The double whammy of the Fukushima Daiichi disaster, which shut down nuclear energy in Japan, followed by the Ukraine-Russia war have finally resulted in inflation in Japan, and Japanese rates are rising. The Japanese, who have suffered 0% GDP growth, no inflation, and no wage growth for decades, as their savings fled to create prosperity and excesses in the rest of the world, are now experiencing political turmoil as inflation bites. This is resulting in repatriation of capital back to Japan and will result in the deleveraging of global balance sheets as Japan raises rates to fight inflation.

The most important macro activity to watch is Japan. Here's a piece I wrote a few years ago – The Greatest Risk is Here.

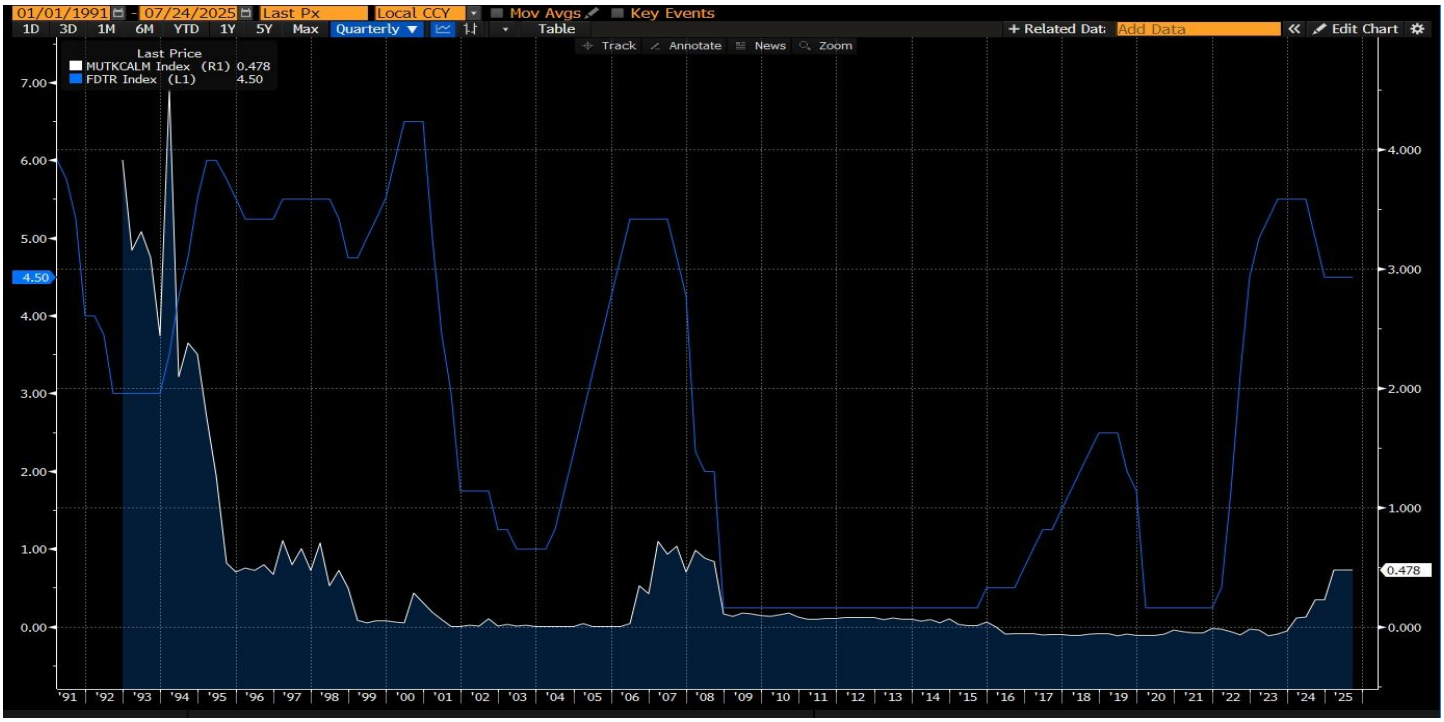
The Trump trade wars are likely to roll the movie of the past 40 years in reverse, to pre-Yen Carry rate levels.

In November 1994, the 10yr UST was at 8%.

The alternative is going to be $20T (multiple-of-previous-QE large number) more in QE to lower rates.

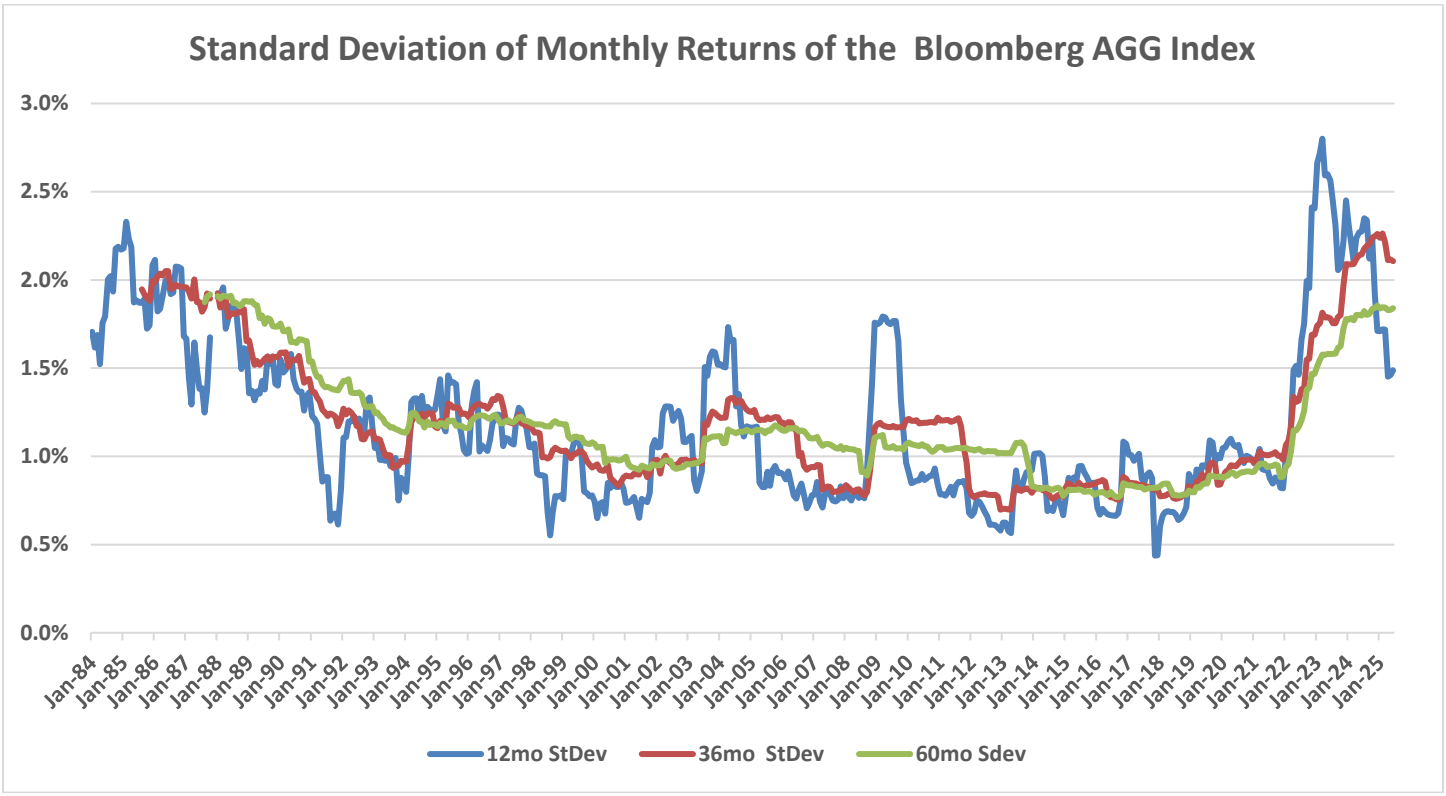
Another possibility is a significant decline in the dollar, which would have to weaken to unprecedented levels for US wages to be competitive globally.

Charts to ponder – when will Japan de-lever the world?

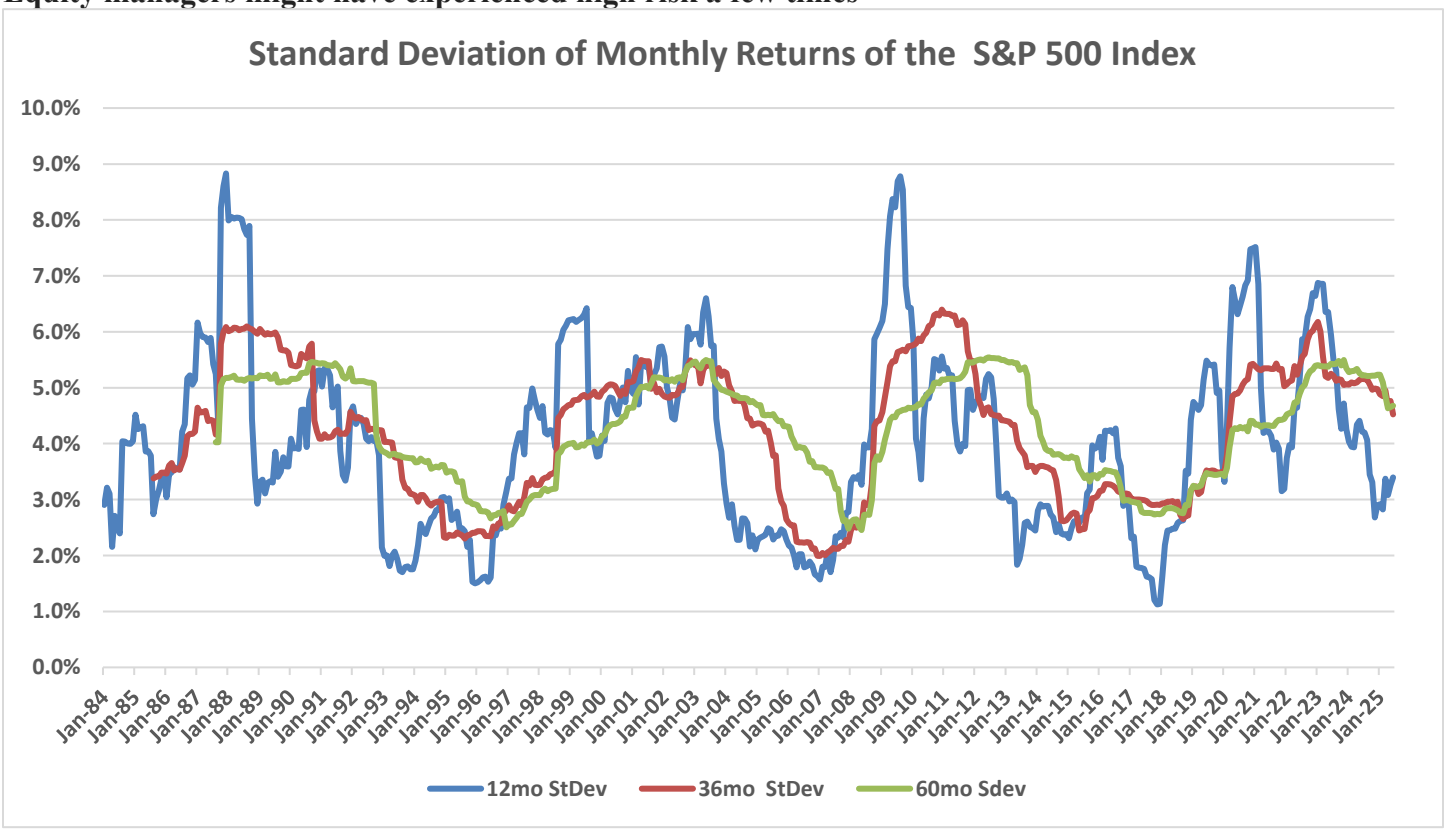


Multi Asset Portfolios - Some Graphs

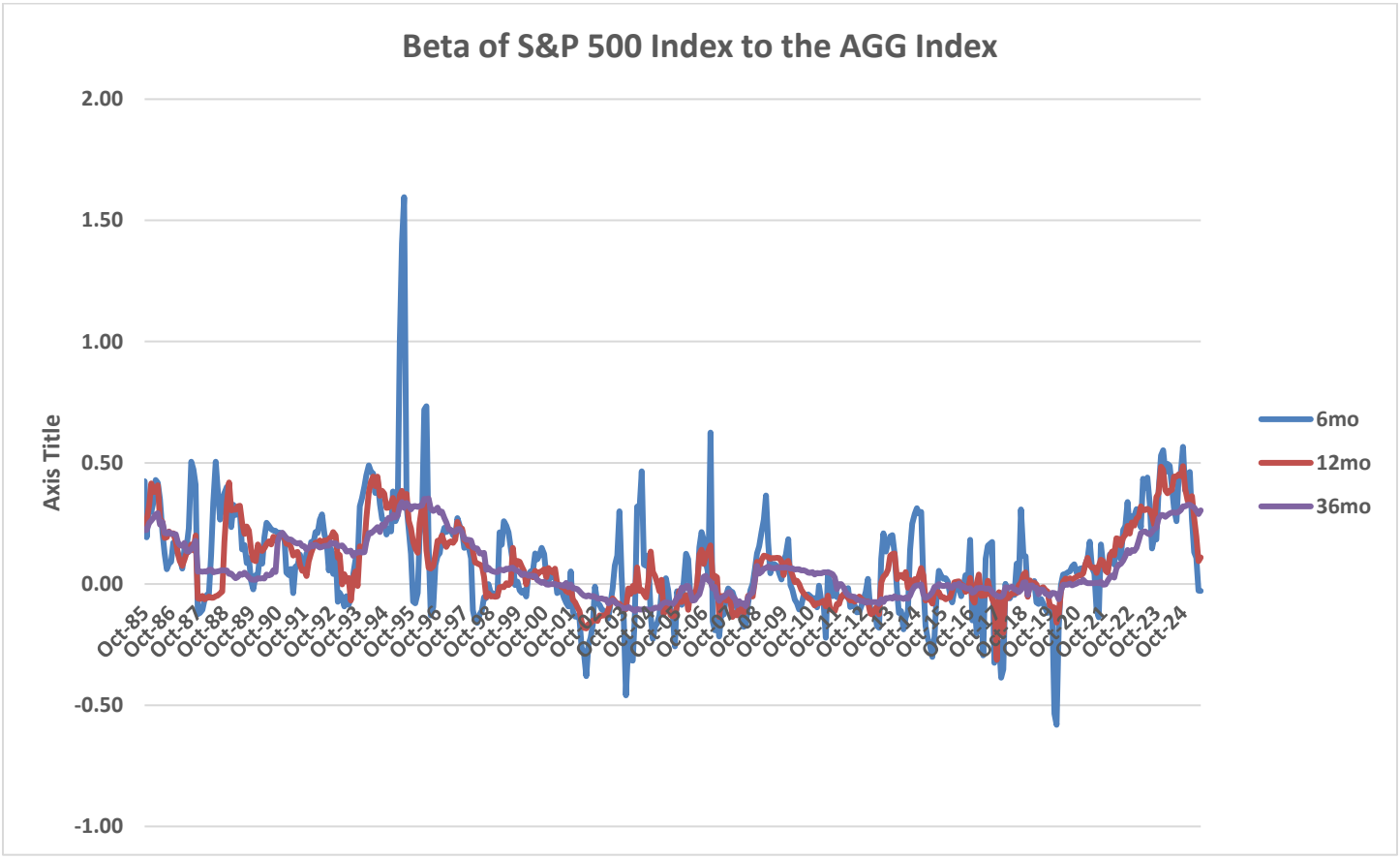
Fixed Income has never been riskier – no PMs have experience constructing FI portfolios in this environment. Large managers have no advantage.



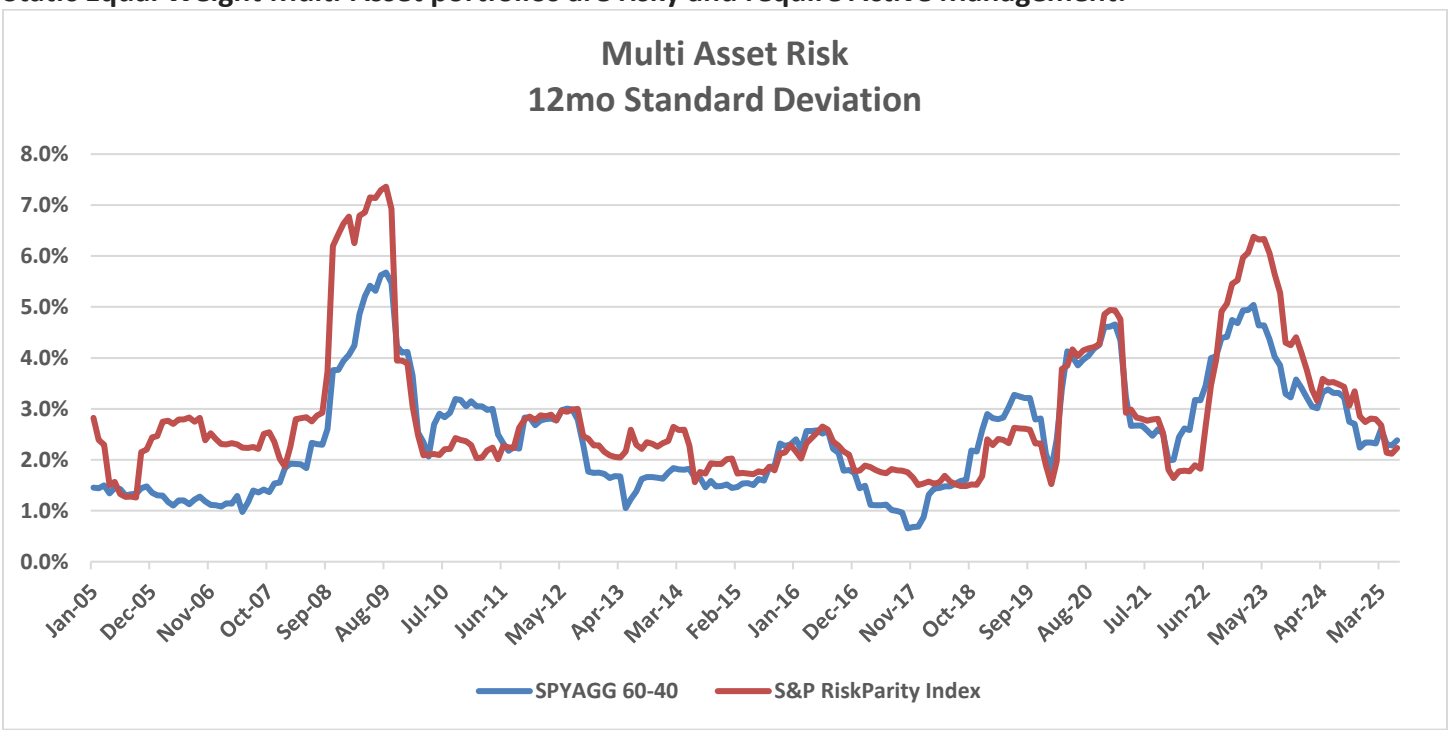
Equity managers might have experienced high risk a few times



Equity to Fixed Income Beta became positive again – increasing the risk of 60/40 and other multi-asset portfolios. Fixed Income does not hedge equities. Static 60/40 portfolios are a terrible idea.



Static Equal Weight Multi-Asset portfolios are risky and require Active Management.



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

July 23, 2025

Samir Shah
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