December 2023 – MBS Mantra/ARAM Strategy Returns and newsletter

| | **% Net Return** | **2023 YTD Net %** | **Trailing 1 year Net %** | 2022 YTD Net % | 2021 YTD Net % |
|---|---|---|---|---|---|
| **MBSM Aggregated SMAs** | **+2.29%** | **+11.5%** | **+11.5%** | -3.8% | +10.0% |
| **ARAM AGG+ Alpha - ETFs – Baseline ModelPort20** | **+1.97%** | **+11.5%** | **+11.5%** | -9.2% | -0.05% |
| BB Barc Agg | +3.69% | +5.7% | +5.7% | -13.0% | -1.8% |
| BB Barc MBS | +4.20% | +5.1% | +5.1% | -11.7% | -1.0% |
| BB Barc HY | +4.53% | +13.4% | +13.4% | -11.2% | 5.3% |
| S&P 500 | +4.57% | +26.2% | +26.2% | -18.2% | 28.7% |

**Click here for a collection of other AGG Plus Alpha Model Portfolio Fact Sheets**

## MBSM High Income Strategy:

**Nov 2023 MBS Income: +1.51%** (Aggregated SMAs @ month end marks)

**YTD 2023 MBS Income: +14.9%**(current portfolio, excluding bonds no longer in portfolio)
**YTD 2023 Loss Rate: 0.34%**

**Nov 2023 MBS Cashflow: +1.5%. ~18% annualized** (implying a short weighted average life/duration)
**Nov 2023 MBS Loss rate: -0.2%** (a negative loss rate is a gain from subsequent recoveries)

Hello

**We ended the year with a 11.5% Total Return in the MBS High Income Strategy**. All but 1 month had positive total returns before fees. Fixed Income Benchmarks came back into the green in November and December, but still underperformed our MBS Strategy by over 6% for the year.

We target a low net duration strategy, with the High Income of the portfolio doing our Total Return lifting, and do not rely on price change bets. Our fixed rate MBS did very well in

December, while our floaters were mostly unchanged in price, the opposite return attribute to October's returns, which were driven by our Floaters. Such a portfolio construction strategy lowers volatility of returns, maximizing risk-adjusted returns.

Our current portfolio is 90% invested, and consists of the following sectors and weights:

| | EOY Weights | 2023 Total Return |
|---|---|---|
| **Floaters - Non Agency** | **61.5%** | **11.0%** |
| **Fixed - Non Agency** | **29.6%** | **6.5%** |
| **Derivatives – Agency, Non Agency and CMBS** | **8.9%** | **23.9%** |

In 2022, we began increasing our floater weights, as we believed that this was, and still is, the greatest value trade in finance. We even wrote a case study about this sector, and believe that it is still 25% or more misvalued (cheap). (If you are interested in having us invest in this sector for you, please ask for a copy of the case study). We are also seeing value in certain derivatives sectors.

In the New Year, I am reminded of my August 2016's 'Will She, Won't She' Viewpoint. Then, the markets were in a frenzy with much speculation about whether conditions were right for Janet Yellen to normalize interest rates with a rate rise.

Today, we are concerned about whether Powell will normalize rates with a rate cut, assuming that they are already not-normal.

The new unknown is the friction in the Red Sea arena that is threatening shipping costs, and could lead to another theatre of war, causing tensions between Iran's proxies and everyone else. The result could be inflationary, or at least slow down the rate of decline of inflation, arguing for current high rates for longer.

The market is expecting 6 rate cuts in 2024, and is not believing the Fed's comments. I will remind readers that we do not consider 'hope' to be a strategy.

Will He, Won't He?

**Agg Plus Alpha – Systematic Active Fixed Income Model Portfolios**

**Co-incidentally, our Baseline Agg Plus Alpha portfolio of Fixed Income ETFs (Model Portfolio 20 or MP20) also returned 11.5% in 2023, the same as the MBS High Income Strategy.**

Our other model portfolios also returned similar results, with most over 10%. The 'Core Agg' portfolio, which sticks to the IG and UST construction of the AGG and does not use High Yield and other sectors, still outperformed the AGG by a few percent, highlighting the power of our rebalancing algorithms to create active management without resorting to riskier sectors, foreign bonds, or leverage.

Our September-23 and October-23 newsletters describe the strategy.

I've said this many times: "**Active Management in Fixed Income is almost impossible**".

This statement is a result of the studies I have done of Fixed Income Market Structure between 2016 and 2018, and my experience trading with Fixed Income Managers for over 30 years. The flawed market structure, combined with how Fixed Income portfolios are structured, makes Active Management an aspiration for most managers. Our ARAM AGG Plus Alpha strategy is a solution.

**We believe we have created one of the first, if not the first, active management strategies in Fixed Income that is scalable,** by using ETFs, and creating a systematic process to rebalance portfolios in response to regime changes.

We are currently working on a research piece titled ***'Are "Active" Fixed Income Funds Active?'***. This will be published shortly and send out to our mailing list. However, in the meantime, here is a preview.

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**Preview: *Are "Active" Fixed Income Funds Active?***

**What makes a Fixed Income Fund Active**

I asked ChatGPT some questions, and the answers matched my understanding.

***"Active fixed income funds have fund managers who actively make decisions to buy and sell securities in an attempt to outperform the market. Passive fixed income funds, on the other hand, aim to replicate the performance of a specific bond index."***

***"Making fixed income funds active typically involves the fund manager actively managing the portfolio to generate returns that outperform the benchmark. Common active strategies in fixed income funds include:***

- ***Security Selection***
- ***Duration Management***
- ***Credit Analysis***
- ***Sector Rotation***
- ***Yield Curve Strategies***
- ***Global Diversification***

***These strategies require active monitoring, analysis, and decision-making by the fund manager to navigate market conditions and generate returns beyond what might be achieved through passive management."***

Of these, we believe Sector Rotation to be the most powerful, and the one that is most out of reach of Fixed Income managers.

**<u>Statistical Characteristics (and Identification) of Active Funds</u>**

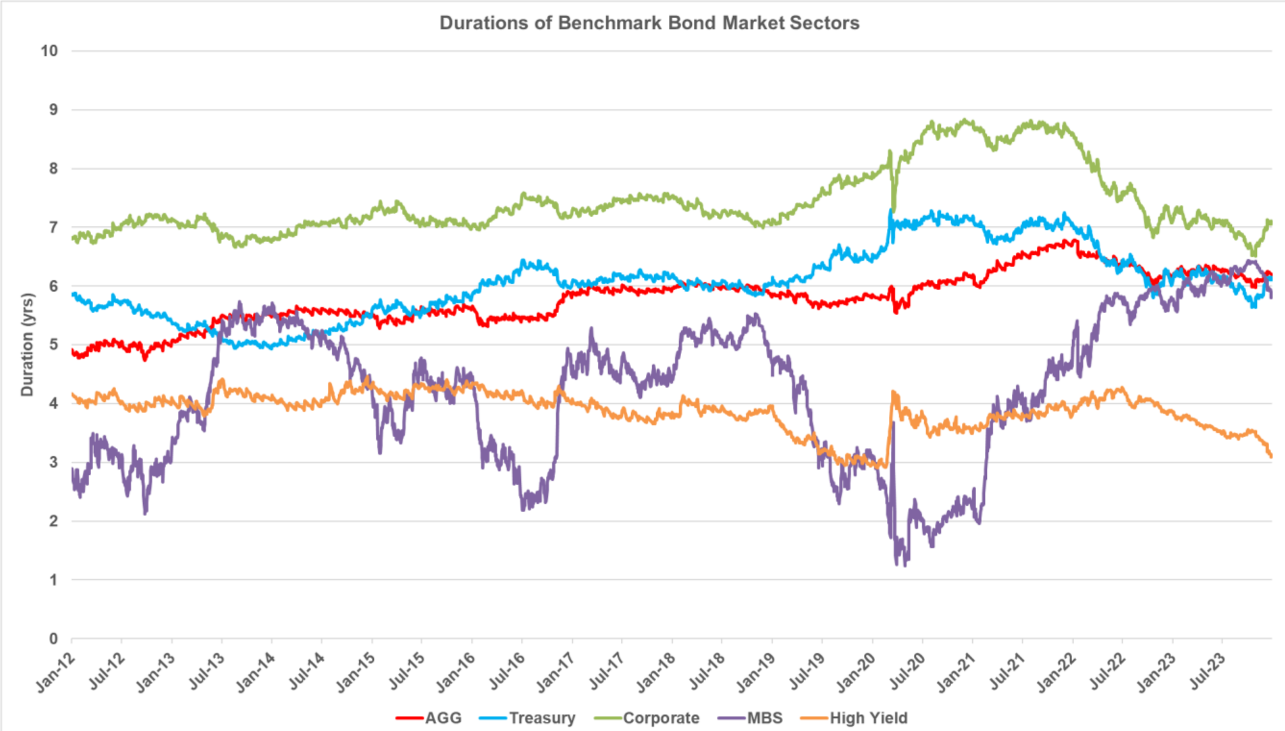
- A successful actively managed fund would have **low correlation** to their benchmark
- If the fund manager succeeds in finding Alpha (the intercept of a regression of total returns), **then the Beta to the benchmark index would be lower**
- The **Beta to the benchmark index of an Active manager should also vary though time** as market regimes change and the manager responds though sector rotation or changing portfolio duration
- **A higher or lower Beta could also indicate duration differences** compared to the benchmark, if the correlation is high, and can be used to estimate the implied duration of a fund
- **<u>A lowered Beta in a period would suggest a sector or duration change and active management</u>**
- **<u>Conversely, high correlations and stable Betas would imply that the fund is not truly 'Active'</u>**

**<u>The Case for Active Management in Fixed Income</u>**

**The chart below highlights duration volatility in Fixed Income sectors.**

**This creates opportunities for Active Management through duration management and sector rotation in response to rate, credit, yield curve and QE regime changes.**

**<u>As a result, we should expect to see many Active funds that are not "index huggers"</u>.**




## Methodology to assess the Activeness of Fixed Income Funds

I identified the universe of US Fixed Income funds flagged as ***'Active'*** on Bloomberg, both open end Mutual Funds as well as ETFs, and computed their monthly total returns. Significant screening was done to match funds to the appropriate indices to that correlated to their performance.

I compared the Total Returns of 314 selected funds to those of the appropriate benchmark indices (the process of doing so is described in the Appendix of the paper), and a number of statistics were computed.

The universe of 314 active funds initially selected for analysis referenced over 100 indices, many custom, as their benchmarks, making their performance relative to standard benchmarks hard to judge. Since the predominant Fixed Income Index is the Bloomberg AGG (formerly the Lehman AGG), with additional analysis, we reduced the number of core benchmark indices to 7, by removing other indices which showed high correlations to these indices. The core indices in our study are summarized in the tables below.

The beta (regression slope) and correlation of each benchmark's returns against the AGG benchmark for different time periods are also included. These metrics will be key in our analysis.

The indices cover a significant proportion of the US Fixed Income market, with the AGG alone representing $26+T.

| | Sector Indices | | Active FI Funds | | |
|---|---|---|---|---|---|
| **Benchmark Strategy** | **Assets $T** | **# Holdings** | **#Funds Mapped** | **Mkt Value ($BB)** | **% of Sector** |
| **U.S. Aggregate (AGG)** | $ 26.67 | 13334 | **126** | **$ 951.4** | **3.6%** |
| | | | | | |
| **1-3 Yr Govt/IG** | $ 5.54 | 1986 | **67** | **$ 265.9** | **4.8%** |
| **Intermediate** | $ 1.26 | 1919 | **27** | **$ 59.4** | **4.7%** |
| **U.S. MBS** | $ 14.18 | 5886 | **19** | **$ 92.2** | **0.6%** |
| **U.S. Credit (IG)** | $ 7.10 | 938 | **15** | **$ 61.5** | **0.9%** |
| **Long US Govt/IG Credit** | $ 7.65 | 8590 | **9** | **$ 30.0** | **0.4%** |
| | | | | | |
| **U.S. Corporate High Yield** | $ 4.82 | 3385 | **51** | **$ 181.7** | **3.8%** |
| | | | **314** | **$1,641.9** | |

| Benchmark Indices vs AGG | | | Correlation to AGG | | | Beta to AGG | | |
|---|---|---|---|---|---|---|---|---|
| **Benchmark Strategy** | **Bloomberg Ticker** | **Index Duration Dec-2023** | **Jan-17 to Dec-23** | **Jan-17 to Feb-20** | **Apr-20 to Dec-23** | **Jan-17 to Dec-23** | **Jan-17 to Feb-20** | **Apr-20 to Dec-23** |
| U.S. Aggregate (AGG) | LBUSTRUU | 6.3 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | | | | | | | |
| 1-3 Yr Govt/IG | LGC3TRUU | 1.9 | 0.86 | 0.90 | 0.86 | 0.26 | 0.29 | 0.26 |
| Intermediate | LF97TRUU | 3.9 | 0.97 | 0.98 | 0.97 | 0.64 | 0.70 | 0.63 |
| U.S. MBS | LUMSTRUU | 5.7 | 0.94 | 0.90 | 0.96 | 0.94 | 0.64 | 1.00 |
| U.S. Credit (IG) | LUCRTRUU | 7.1 | 0.92 | 0.92 | 0.97 | 1.25 | 1.09 | 1.27 |
| Long US Govt/IG Credit | LGC5TRUU | 14.5 | 0.97 | 0.97 | 0.97 | 2.22 | 2.56 | 2.15 |
| | | | | | | | | |
| U.S. Corporate High Yield | LF98TRUU | 3.8 | 0.54 | -0.06 | 0.76 | 0.83 | -0.08 | 0.99 |

## Active Fund Analysis

**2022 and 2023 should have been the great years for Active funds to perform and differentiate themselves from their indices and passive benchmark ETFs, by demonstrating lower correlations and Betas versus their Benchmarks, through Active rebalancing and sector rotations. There were significant regime changes**, with Powell raising rates in the early part, followed by a massive rally in the last 2 months of 2023. **Yet, correlations and Betas in 22-23 were not much different for most funds.** (As a reference, our ARAM Active AGG Plus Alpha portfolio's Beta to the AGG dropped from ~0.9 to ~0.4 between 2022 and 2023.)

**Most 3yr and longer duration funds, including MBS and High Yield, do not meet the criteria I posited to be considered Active.**

**While there were a few exceptions with low correlations (< 0.7 average) and volatile Betas, they are usually smaller funds, with very different portfolios than the AGG. It is very hard to conclude that most AGG funds and other intermediate and longer Fixed Income funds can be viewed as 'Active'.**

It should be noted that March 2020's deleveraging, and the QE re-leveraging, that did not re-lever all assets equally, created some volatility in the statistics. In our view the lowering of correlations and Betas relative to the respective indices from that event was exogenous and cannot be considered 'Active'. For this reason, I isolate March 2020, and 2020 as a whole.

## Analysis of grouped Active Mutual Funds

| | Correlation to Benchmark (Weighted Average) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Benchmark Index | Jan-17 to Dec-23 | Jan-17 to Feb-20 | Apr-20 to Dec-23 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| U.S. Aggregate (AGG) | 0.96 | 0.95 | 0.98 | 0.94 | 0.95 | 0.96 | 0.82 | 0.96 | 0.99 | 0.99 |
| | | | | | | | | | | |
| 1-3 Yr Govt/IG | 0.65 | 0.74 | 0.84 | 0.79 | 0.62 | 0.76 | 0.27 | 0.76 | 0.90 | 0.84 |
| Intermediate | 0.91 | 0.88 | 0.96 | 0.91 | 0.86 | 0.88 | 0.74 | 0.87 | 0.96 | 0.98 |
| U.S. MBS | 0.94 | 0.94 | 0.98 | 0.95 | 0.98 | 0.94 | 0.42 | 0.91 | 0.98 | 0.99 |
| U.S. Credit (IG) | 0.98 | 0.95 | 0.98 | 0.89 | 0.95 | 0.95 | 0.98 | 0.97 | 0.99 | 0.99 |
| Long US Govt/IG Credit | 0.97 | 0.97 | 0.99 | 0.94 | 0.96 | 0.98 | 0.90 | 0.99 | 0.99 | 1.00 |
| | | | | | | | | | | |
| U.S. Corporate High Yield | 0.97 | 0.96 | 0.97 | 0.94 | 0.96 | 0.96 | 0.98 | 0.92 | 0.97 | 0.98 |

| | Beta to Benchmark (Weighted Average) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Benchmark Index | Jan-17 to Dec-23 | Jan-17 to Feb-20 | Apr-20 to Dec-23 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| U.S. Aggregate (AGG) | 1.00 | 0.90 | 1.02 | 0.92 | 0.83 | 0.90 | 1.22 | 0.93 | 1.00 | 1.01 |
| | | | | | | | | | | |
| 1-3 Yr Govt/IG | 1.01 | 0.71 | 1.14 | 0.91 | 0.57 | 0.71 | 0.87 | 1.09 | 1.10 | 0.97 |
| Intermediate | 0.95 | 0.81 | 0.98 | 0.86 | 0.79 | 0.77 | 1.08 | 0.73 | 0.95 | 1.01 |
| U.S. MBS | 0.94 | 0.94 | 0.98 | 0.95 | 0.86 | 1.11 | 0.16 | 1.08 | 0.85 | 0.93 |
| U.S. Credit (IG) | 1.14 | 1.11 | 1.19 | 1.01 | 1.22 | 1.10 | 0.94 | 1.10 | 1.22 | 1.26 |
| Long US Govt/IG Credit | 1.01 | 0.96 | 1.02 | 0.93 | 0.93 | 0.96 | 1.10 | 0.99 | 1.02 | 0.99 |
| | | | | | | | | | | |
| U.S. Corporate High Yield | 0.93 | 0.96 | 0.92 | 0.90 | 0.97 | 0.96 | 0.92 | 0.95 | 0.94 | 0.94 |

Correlations in recent periods, as well as over the longer periods, remain high in almost all the sectors.

**Beta's in AGG, HY and IG and Long IG funds are relatively stable**. Almost no sectors reduced Beta in 2023. MBS, 1-3yr, and Intermediate funds do exhibit Beta volatility, but these sectors compromise a greater proportion of funds with smaller AUM investing in specific sub-sectors of their markets.

**Since we target the volatility of the AGG in our active strategies, we limit the rest of the analysis in our paper to AGG-benchmarked funds.** The AGG Index is identified as "LBUSTRUU

Index" in Bloomberg's nomenclature. It represents $29T of bonds and consists of Investment Grade (IG) US bonds: USTs: 41.7%; Securitized (including MBS): 28.7%; Corporate: 24.8%; and Government-Related 4.8%.

The following is a summary of our analysis showing how different the correlations and Betas of the AGG Plus Alpha portfolios are compared to those of AGG-benchmarked Mutual Funds.

**We use 4 of ARAM's Active Model Portfolios (MP) to compare against the performance of AGG Funds.** The four Model Portfolios chosen each represent different portfolio construction and risk parameters.

All ARAM portfolios attempt to dynamically match a Risk target. For the AGG Plus Alpha portfolios we target the volatility of the AGG.

- MP1 includes all US Fixed Income ETFs, including Convertible bonds
- MP20 is our Baseline model portfolio and excludes convertible bonds
- MP33 limits sectors to "Core AGG", excluding TIPs, HY, Convertibles, Bank loans etc
- MP55 scales risk to attempt to reach Beta=1

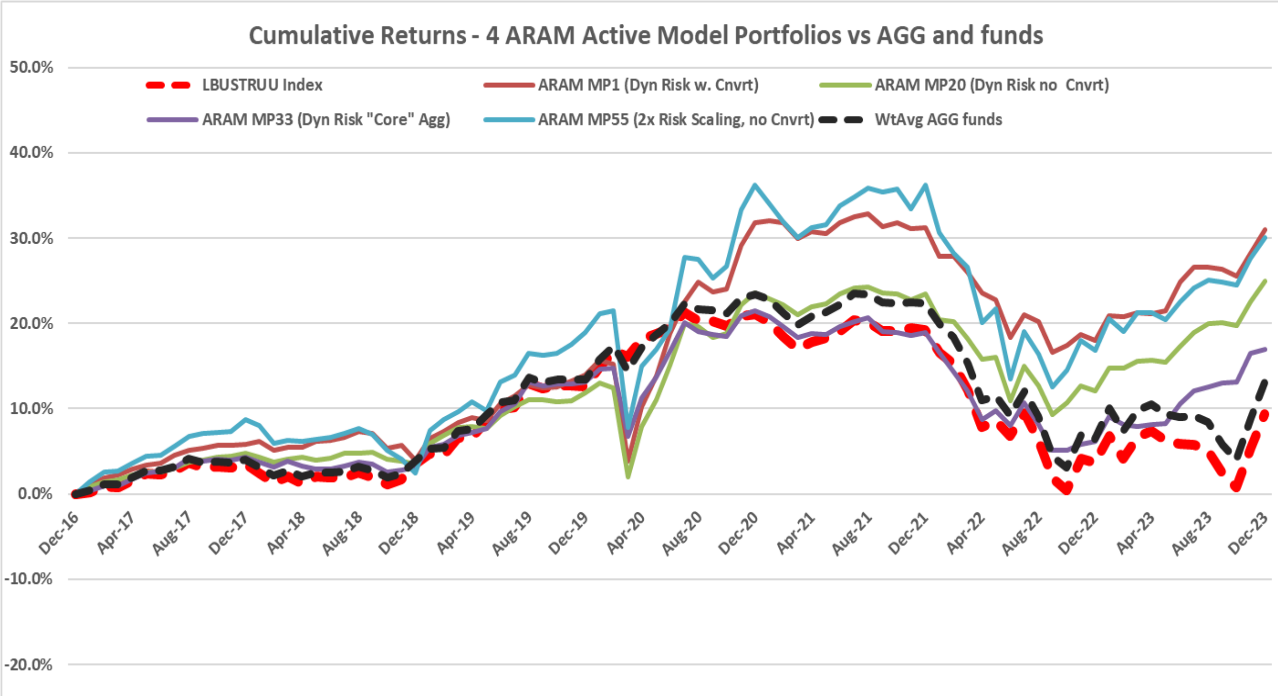
| | Correlation to AGG | | | Beta to AGG | | |
|---|---|---|---|---|---|---|
| **Model Portfolios** | **Jan-17 to Dec-23** | **Jan-17 to Feb-20** | **Apr-20 to Dec-23** | **Jan-17 to Dec-23** | **Jan-17 to Feb-20** | **Apr-20 to Dec-23** |
| **ARAM MP1** | 0.48 | 0.34 | 0.63 | 0.59 | 0.31 | 0.63 |
| **ARAM MP20** | 0.55 | 0.35 | 0.70 | 0.64 | 0.23 | 0.71 |
| **ARAM MP33** | 0.65 | 0.75 | 0.73 | 0.62 | 0.59 | 0.61 |
| **ARAM MP55** | 0.59 | 0.40 | 0.71 | 0.96 | 0.58 | 1.01 |
| **Wt-ed Avg AGG Funds** | 0.96 | 0.95 | 0.98 | 1.00 | 0.90 | 1.02 |

The following charts compare the performance of ARAM's Active Model portfolios to the Universe of AGG targeting mutual funds that are supposed to be "Active" (almost $1T AUM).

MP33, the Core AGG model portfolio, demonstrates that it is possible to be active even within the confines of the AGG's sectors, lowering Beta and Correlations and generating Alpha.

As a whole, the mutual funds mostly track the AGG Index, with a small amount of Alpha mostly from investing in sectors outside of the AGG's definition, which shows up as greater risk in times of stress. The 6-month Beta's and Correlations shown in the following graphs, in aggregate are also closely related to the AGG's risk.

**The ARAM Agg Plus Alpha returns demonstrate volatile Correlations and Betas relative to the AGG, in spite of frequently rebalancing to match the risk of the AGG. This volatility in Beta and Correlation is a sign of Active Management through sector rotation.**


Cumulative Returns - 4 ARAM Active Model Portfolios vs AGG and funds
LBUSTRUU Index
ARAM MP1 (Dyn Risk w. Cnvrt)
ARAM MP20 (Dyn Risk no Cnvrt)
ARAM MP33 (Dyn Risk "Core" Agg)
ARAM MP55 (2x Risk Scaling, no Cnvrt)
WtAvg AGG funds
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
-10.0%
-20.0%
Dec-16
Apr-17
Aug-17
Dec-17
Apr-18
Aug-18
Dec-18
Apr-19
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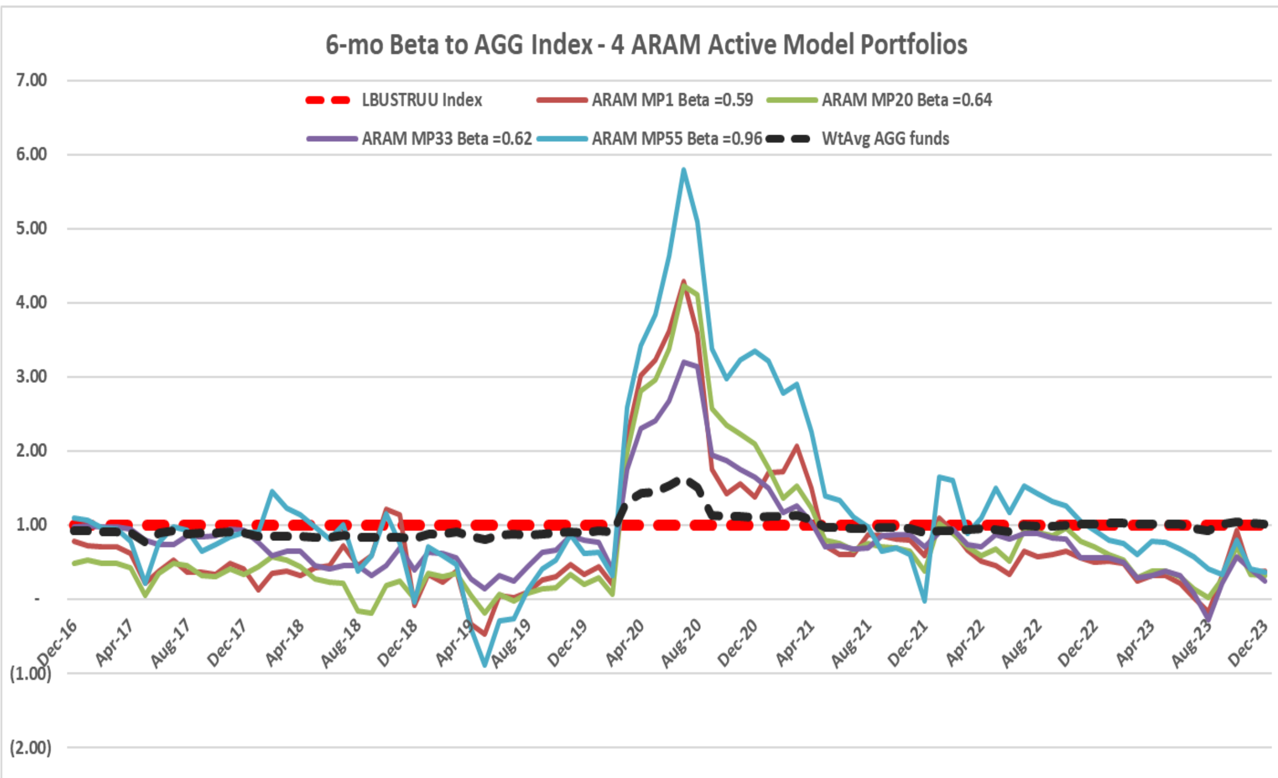
Dec-23


6-mo Beta to AGG Index - 4 ARAM Active Model Portfolios
LBUSTRUU Index
ARAM MP1 Beta =0.59
ARAM MP20 Beta =0.64
ARAM MP33 Beta =0.62
ARAM MP55 Beta =0.96
WtAvg AGG funds
7.00
6.00
5.00
4.00
3.00
2.00
1.00
-
(1.00)
(2.00)
Dec-16
Apr-17
Aug-17
Dec-17
Apr-18
Aug-18
Dec-18
Apr-19
Aug-19
Dec-19
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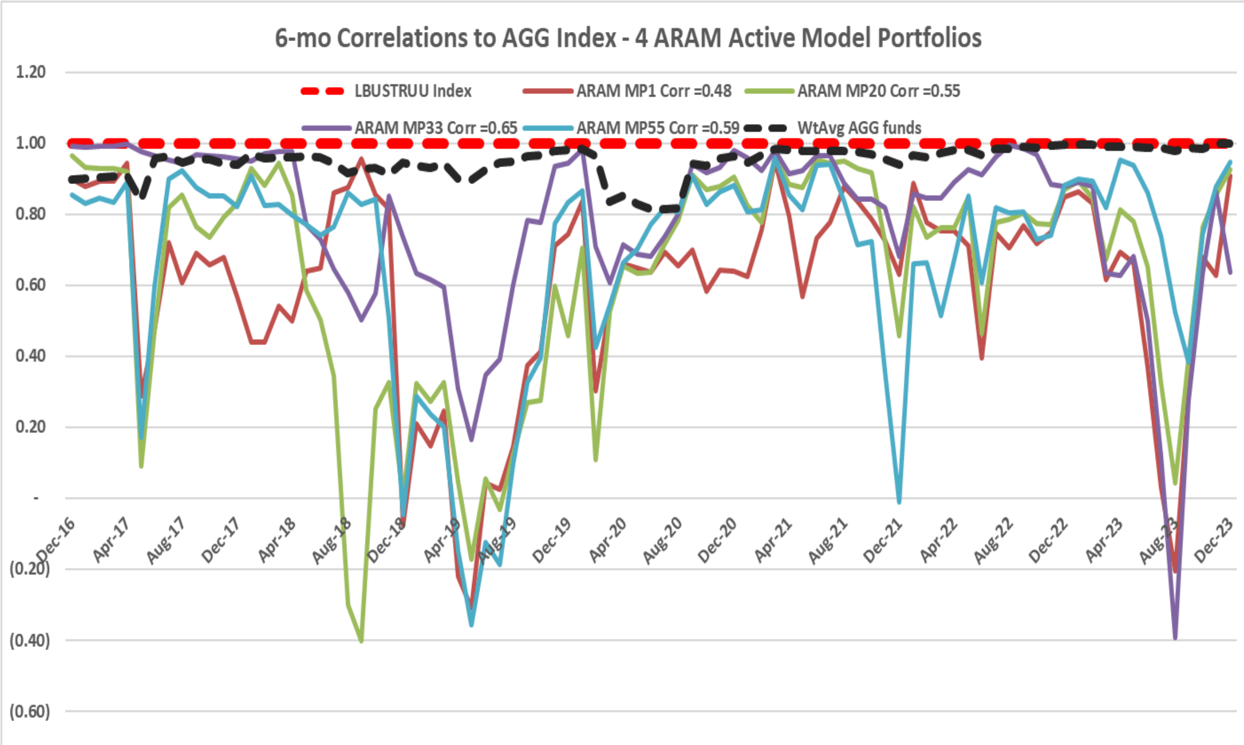
Apr-23
Aug-23
Dec-23




A tiny percentage of AGG-targeting Mutual funds can be classified as Active. They mostly add investments in bonds and sectors outside of the AGG, such as MBS Credit, foreign bonds, preferred stock, etc. to attempt to outperform the AGG. They are less than 10% of all funds in number, and about 2% of the total AUM in AGG-targeting funds.

**Our Conclusion: For the most part, Fixed Income is not actively managed.**

More details in the paper, which will go out soon.

**Happy New Year and good navigation of these uncertain markets.**

**Samir Shah**

**January 17, 2024**

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