

# Multi-Model Rebalancing Methodologies in a Unified Managed Account

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Considerations for firms seeking to scale their investment process.



## Executive Summary

This paper explores how wealth managers are able to scale their practices through the delivery of a Unified Managed Account (UMA). These instruments allow wealth managers to construct multi-class strategies using a variety of different security instruments (mutual funds, equities, ETFs, etc.) and a mix of third party managers – that includes automated rule-driven rebalancing within models as well as across models – all in a single account.

## Introduction

The notion of rebalancing is an important function for wealth managers as it ensures portfolios remain well tuned and in alignment with their agreed-upon allocation. Unfortunately, in practice, a great number of challenges exist to implement an effective, repeatable and scalable rebalancing strategy, particularly for those portfolios that have multiple asset classes. And while there is much industry debate about the “correct” rebalance methodology or the most appropriate frequency for a rebalance, there is no disputing the benefit of a properly aligned portfolio. As asset classes shift and move away from their target allocations, the portfolio’s risk profile can become considerably less efficient than the intended one, landing somewhere below the efficient frontier. In addition, strictly adhering to a rebalancing policy forces the portfolio back on track by trimming over-performing classes, moving that excess to lower performing classes. In the process, the portfolio can take advantage of a ‘buy low, sell high’ tactic, capitalizing on mean reversion patterns as classes tend to ‘correct’.

The UMA solution has recently gained tremendous momentum as it allows wealth managers to construct multi-asset class strategies using a variety of different security instruments (mutual funds, equities, ETFs, etc) and third-party managers – that includes automated rule-driven rebalancing within the asset class as well as across asset classes – all in a single account. The UMA takes advantage of highly sophisticated technology to analyze portfolios daily to look for any condition signaling a rebalancing need.

These conditions may include asset-class drift, compliance violations such as a concentrated positions, or an opportunistic tax condition. All of these criteria and metrics for alerts are set by the advisor and implemented by a centralized entity called the Overlay Manager who is responsible for coordination, monitoring and trading of the portfolio.



Rebalancing effects on a portfolio that has drifted away from its agreed upon investment policy statement.



## Unified Managed Accounts In Use

Advisors using the Adhesion Wealth UMA platform are able to design a series of multi-style strategies that can contain weighted combinations of different asset classes. The instruments used to represent these asset classes are called models and may include any combination of Separate Account Managers, Mutual Funds, ETFs, Proprietary Models and Unmanaged Assets.

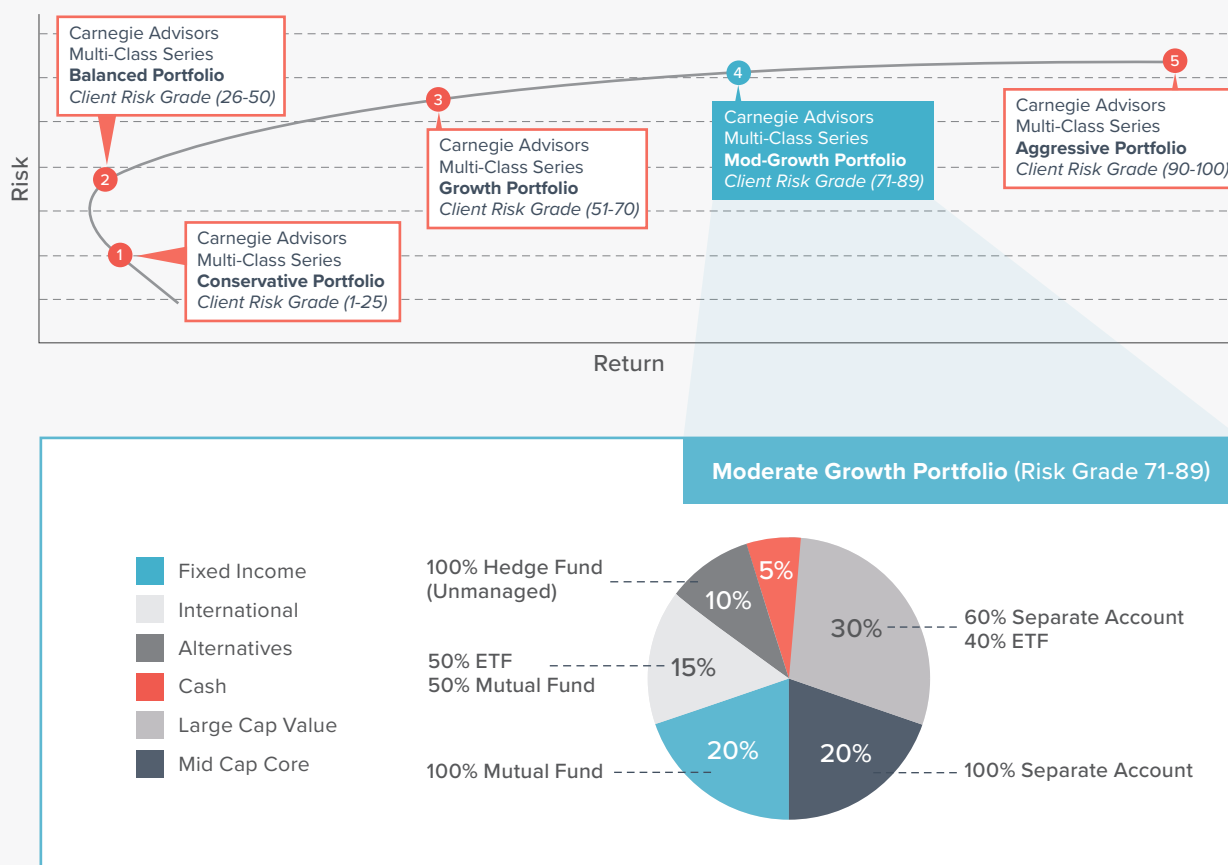
In building out UMA strategies, advisors generally craft them to represent logical risk/reward progressions along the efficient frontier. The thoughtful design of these strategies can be a tremendous tool in creating scalability for a firm's practice if they develop them in such a way that they may be reused for groups of portfolios that have similar risk/reward profiles. In designing a handful of reusable strategies, the advisor is developing a core risk/reward profile that can be highly leveraged.

Prior to the UMA, the introduction of client-specific personalization meant the advisor would need to create a unique 'one off' portfolio to accommodate any unique needs.

With this approach, most advisors quickly learned that while it was an effective message, the implementation, monitoring, research, administration and consistency invariably suffered and were difficult to scale. With the UMA, however, customization and restrictions are stored at the account level, leaving the strategy to be a pure reflection of the best ideas, untarnished from client-specific personalization.

So rather than creating hundreds of slightly different Strategies, advisors may instead create a handful of them, while still permitting slight, intentional deviations at the account level, to be implemented and managed in a very efficient and scalable way.

Example of UMA Portfolios Series with hypothetical allocation



## Institutionalizing Roles & Responsibilities

The UMA can effectively deliver an institutional portfolio management approach to high net worth clients: the delineation that now exists between the various specialists ensures that all parties are focusing on their specific responsibilities and doing their part to contribute to the overall health of the portfolio.

Specifically, the strategic allocation and manager selection are developed by the advisor or by one or more Strategists; the security selection and timing are prescribed by the money manager; and the tax-aware and customization rules are established by the client and advisor.

The coordination occurs through a centralized Overlay Manager who ensures that all parties remain focused on their core competencies – concentrating on their areas of expertise without drifting into any distracting ‘side-jobs’. This type of coordination and clear separation of duties is what has contributed to the rapid growth of UMAs.

In this piece, we explain the behavior of the rebalance algorithm, which is a central function of a unified managed account, and is invoked when an account becomes misaligned to its strategy. We will also touch on how the rebalance algorithm coexists in the presence of conflicting account-level constraints.

### Specialist activities and responsible parties in a UMA

Advisor: Client Relationship, Business Development and Asset Growth

Operations and Non-Scalable Overhead

Primary Drivers of Investment Performance

- Money Manager
- Strategist
- Overlay Manager
- Investment Manager



## Rebalancing in Action

For a traditional single-style portfolio (such as a separately managed account), rebalance has historically implied the money manager trimming back over-performing securities and purchasing underperforming ones.

For advisors using multiple separate accounts to represent a multi-style allocation, rebalancing across classes generally takes on added layers of complexities and maintenance – namely, to have a manager rebalance one separate account, generating excess cash that must then be journaled to another separate account, who must in turn invest that new cash.

With a Unified Managed Account, on the other hand, all models live within a single account and rebalancing may occur within the class or across multiple classes. To properly rebalance across models requires a sophisticated set of algorithms to ensure both cash and securities are properly aligned within their tolerance ranges. The algorithm grows even more complicated as it permits rule-entry from all members of this process (Advisor, Money Manager, Overlay Manager, Client Restrictions) and harmonious coexistence between these parties must be enforced at all times.

## Rebalance Options

These two types of rebalances that occur within the Adhesion UMA Platform: a rebalance **within** a single model known as a Tactical Rebalance and; and a rebalance **across** multiple models known as a Strategic Rebalance.

### 1. Tactical rebalances

This is a standard rebalance function, typically invoked within a separate account manager model or an advisor's proprietary model. The Tactical Rebalance command is given to the Overlay Manager from the 'owner' of the model, whether it's the money management firm, or the advisor controlling their proprietary model.

When a tactical rebalance is performed, all securities that have under- or over-performed relative to their target weights are brought back into alignment with the model through a series of buys and sells. The rebalance is effectively contained within the model (however, for tax managed accounts within a Adhesion UMA, there are frequently cases in which the Rebalancer will determine it advantageous to transfer a security to another asset class to avoid an adverse tax consequence).

While advisors or strategists generally establish the bigger-picture strategic asset allocation as well as some base assumptions around how to manage the entire portfolio, the money manager typically establishes 'preferred' rebalance/trading treatment within their model either to stay in line with target security allocations or to adjust securities held. So, when a condition is encountered that triggers a tactical rebalance, the manager's model handling preferences are typically invoked. An example of some of these model-level tactical rebalance settings include:

- a. minimum opening trades (smallest trade size for new positions);
- b. how to handle excess cash from compliance rules (keep in cash, keep sectors aligned, pro-rate, etc.)
- c. security weight ranges and relative/absolute drift (how far can position drift);
- d. are there buy-list securities to consider as replacement for "hold" securities;
- e. share-based or weight-based model (static or dynamic model);
- f. identification of a proxy security the manager would recommend to use for reinvestment when performing tax harvesting.

### 2. Strategic Rebalance

This type of rebalance, also known as multi-model rebalance is generally conducted when one or more asset class models becomes over or underweighted relative to the overall portfolio. A Strategic Rebalance may also be conducted upon some designated frequency. This rebalance type is a combination of tactical rebalancing designed to realign holdings through intra-model buys and sells, combined with a strategic rebalancing which attempts to align asset classes to the overarching, portfolio target allocation through the movement of cash and securities across models.

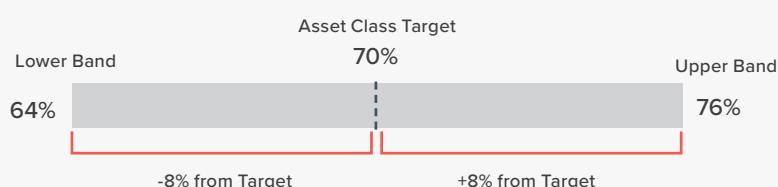
This does not attempt to lay an academic foundation for the best rebalancing approach, nor does it advocate an ideal rebalance timeline or frequency. Rather, the intent of this paper is to further explore the iterative methodology - and resulting hypothetical outcome - associated with a strategic, multi-model rebalance in a unified managed account as well as provide some clarity on the rebalance mechanism in use by the Adhesion platform.



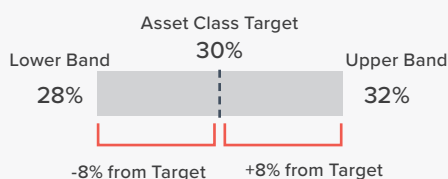
## A Case Study: Strategic, Multi-Model Rebalancing In Action

For any Adhesion Wealth multi-model unified managed account, the strategist may establish target upper and lower model target weight ranges; referred to as “bands”, these indicate the maximum a model may drift before forcing a Strategic Rebalance. As an example, assume the Strategist creates a two-model strategy with Large Cap Growth having a target weight of 70% and Small Cap Value having a target weight of 30%.

### Large Cap Growth



### Small Cap Value



An 8% band is established for the entire strategy (which can be set as a relative or absolute threshold to the target). In this case, the bands are established relative to the target, and are shown below: mechanism in use by the Adhesion platform.

If the allocations of a given model fall outside of the bands, the Overlay Manager is alerted to a rebalance condition (there are other conditions that might trigger a full or partial rebalance, such as deficient/excess cash – however that is outside the scope of this particular example). At this point, a full Strategic Rebalance is

generally performed – the intent of which is to ensure that not only are the model weights brought back to their target, but also the individual securities within the models are brought back into alignment with their targets. All of this is done in fashion consistent with any mandates on the account, model or strategy, such as minimum trade sizes, tax-aware settings, pre-trade compliance restrictions, do-not-buy/sell/hold requirements and overriding cash targets.

## Rebalance Ranges

When the upper or lower target for any model inside a strategy is breached and a strategic cross-model rebalance is invoked, Rebalance Ranges are applied to determine the appropriate ‘stopping point’. Available Rebalance Range settings are:

### Target Rebalance:

A target rebalance instructs Adhesion to rebalance a portfolio back to its asset class target weight.

### Band Rebalance:

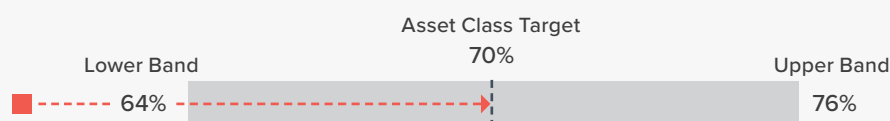
A band rebalance instructs Adhesion to rebalance a portfolio back to within its nearest tolerance band.

### Interior Rebalance:

An interior rebalance instructs Adhesion to rebalance a portfolio back to a point between its outer band and its model target weight. This number is generally represented as a percentage-to-target, ranging from 99% (just inside the band) to 1% (just outside the target).

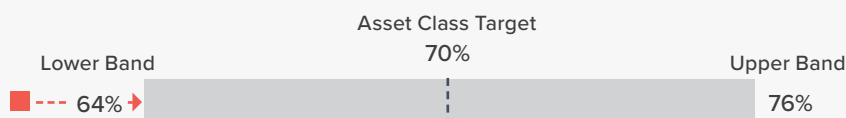
As an example, many strategists elect to establish wider rebalance bands coupled with an interior rebalance range, thus encouraging well-performing asset classes to maintain their momentum. The three Rebalance Range options are illustrated below:

### Target Rebalance



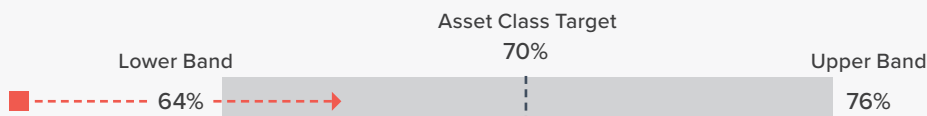
Explanation: Cash is generated from other asset classes within the account and transferred to this underperforming asset class. Securities in this class are then purchased to bring it up to its class target weight. This approach tends to reduce overall tracking error.

### Band Rebalance



Explanation: Cash is generated from other asset classes within the account and transferred to this underperforming asset class. Securities in this asset class are then purchased to bring it up to its nearest band. This may generate smaller and more frequent trades.

### Interior Rebalance



Explanation: Cash is generated from other asset classes within the account and transferred to this underperforming asset class. Securities in this asset class are then purchased to bring it up to its asset class target weight.

## Iterative Approach to Multi-Model Rebalancing

During a strategic, multi-model rebalance, the algorithm attempts to identify models that are out-of-band, needing to be moved back to their target. When doing so, cash is created from the overweight model and moved to underweight models. However, in many cases, the underperforming models are sufficiently in-band but not on-target. As a result, these underweighted models become a candidate for the resulting cash excess – since permitting cash to sit idle is not a desired outcome. Specifically, the platform uses a multi-step process designed to take advantage of the model/classes momentum and will rebalance only those bands that are in need. The process used to bring models into alignment is as follows:

1. All out-of-bands models are rebalanced to their desired rebalance point.
2. If there is more cash to allocate, the models that are in-band but are outside of the rebalance target in the necessary direction are rebalanced to their rebalance target. If there is more than one to choose from, the Rebalancer starts with the one that has the highest dollar drift from the strategy target in the proper direction.

3. The rebalance range is systematically decremented by 1% at a time, which moves the rebalance target closer to the strategy target. The balance is applied to the model that is outside its rebalance target with the highest drift amount from its strategy target. This minimizes the amount any model is brought toward the target, maintaining the sleeve's momentum. In certain cases, the Rebalancer is permitted to 'overshoot' the position's target, if it's within a designated range, doesn't exceed the outer band, accomplishes the account's tax objective and a feasible outcome may be accomplished given any minimum trade size restrictions.





Below is an example of a multi-model strategy with an interior rebalance range set to a point halfway between the band and the target:

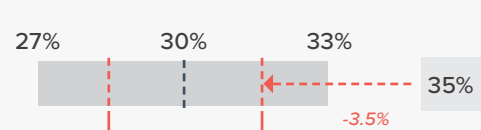
1. Initially, the Rebalancer identifies a Large Cap model as being overweighted and out-of-band and determines it must trim the model to the rebalance range of 31.5%, generating excess cash of 3.5%. Other models are now analyzed to determine how the excess cash should be applied.
2. The Mid Cap Model is currently within band, however outside the rebalance range - consequently, the excess cash generated from trimming Large Cap is transferred here, because it has more drift than any other eligible model, rebalancing the model upwards by 1.5% to its rebalance range of 47.5%. The model is now in-band and at its rebalance range. There is still 2% excess cash to be allocated.
3. The Small Cap Model, which is currently in-band and at its rebalance range, does not have a need for excess cash. Since the Rebalancer still has 2% to apply towards underweighted models, and all models are now at their rebalance range, its new objective is to get underweighted models closer to their target. It will do this in 1% incremental passes, re-evaluating

each asset class, and determining if it requires attention. During the first iteration, the Rebalancer determines that the only underweighted asset classes are Mid Cap and Small Cap, and they are -2.5% and -1% from target, respectively.

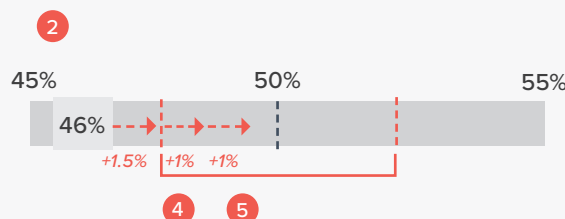
4. Because Mid Cap is the furthest from its target, the Rebalancer transfers 1% of the 2% excess cash to the Mid Cap model and purchases securities here, bringing it to -1.5% from target. The model is now in-band and in-range. There is now only 1% excess cash left to spend.
5. During its second iteration, the Rebalancer determines that Mid Cap is still furthest from the target at -1.5% (Small Cap is only at -1%). It transfers the remaining 1% of excess cash to this model and purchases securities. The model remains in-band and in-range. minimum trade size restrictions.

Note that after these steps, if there was remaining cash, the Rebalancer would continue to iterate through the asset classes trying to get each of them closer to target. The next candidate would be Small Cap because it is now 1% from target, whereas Mid Cap is only .5% from target. Also, this rebalance scenario assumes no constraints or restrictions are placed on the overlay manager, such as tax considerations, minimum trade sizes, etc. Also, all tactical rebalancing steps occurring within the model are done in a fashion consistent with instructions provided by the money manager.

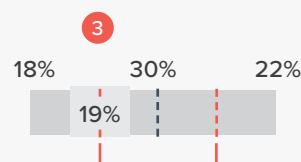
## Large Cap



## Mid Cap



## Small Cap





Adhesion Wealth is a leading provider of outsourced managed accounts, including sophisticated and customized investment solutions, integrated with practice management tools and outsourced back- and middle-office, to wealth advisory firms. These solutions enable advisors to easily provide separately managed account (SMA) and unified managed account (UMA) portfolios and create personalized solutions for investors. Its platform empowers advisors with highly scalable, flexible, and customized portfolio solutions, enabling them to deliver better investor outcomes. Adhesion Wealth is a wholly-owned subsidiary of Vestmark, Inc. Vestmark enables financial institutions and advisors to efficiently manage and trade their clients' portfolios through an innovative software-as-a-service (SaaS) platform, VestmarkONE®.

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