The Art and Science of Our Asset Allocation Process

Cetera®
Investment
Management LLC

Cetera®

Asset allocation is the process of combining asset classes—such as stocks, bonds, and cash—to help pursue your goals. Cetera Investment Management takes a dual approach:

- Strategic asset allocation is the process of determining target long-term allocations to the asset classes that present an optimal mix of risk and return over a long-term time horizon. Over time, studies have shown that strategic asset allocation is the most important determinant of the total return of a broadly diversified portfolio with limited market timing.

- Tactical asset allocation is a dynamic strategy that actively adjusts a portfolio's strategic asset allocation based on short-term market forecasts, usually looking forward one to four quarters. The strategy attempts to systematically exploit inefficiencies across asset classes.

In the following, we discuss our underlying philosophy behind these two strategies and how they come to life, so that you can feel more confident in your portfolio options. While some of this process document may be technical in nature, we want to provide you with the most transparent explanation of how we construct models. When we implement an asset allocation or mutual fund change, we'll highlight the rationale behind these changes.

Strategic Asset Allocation

The following six-step process forms the foundation of our strategic asset allocation models. Balancing art and science, our methodology involves a quantitative mean variance optimization process and employs a more qualitative sensitivity overlay to combine historical data with forward-looking perspectives.

Our Six-Step Process

▶ **Step 1**: Establish Baseline Assumptions

▶ **Step 2:** Define Opportunity Set and Decompose Benchmarks

▶ **Step 3:** Generate Capital Market Assumptions

▶ **Step 4**: Incorporate Sensitivity Factors

▶ **Step 5:** Check Data and Present to Investment Committee

▶ **Step 6:** Monitor on an Ongoing Basis

Step 1: Establish Baseline Assumptions

To establish risk, return, and correlation parameters, we select a benchmark index for each of the three major asset classes that comprise an investment objective: stocks, bonds, and cash.

Stocks

For domestic equities, we use the Russell 3000 Index, which measures the performance of the largest 3,000 U.S. companies, representing approximately 98% of the investable U.S. equity market. For international equities, we use the MSCI EAFE Index, which is designed to measure the equity market performance of developed economies outside of the U.S. and Canada. The overall equity benchmark is represented by 60% domestic equities (Russell 3000) and 40% international equities (MSCI EAFE).

Bonds

For fixed income, we use the Barclays Capital Aggregate Bond Index, a broad-based benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, and mortgage-backed securities. This index is considered a representation of the domestic fixed income market.

Cash

Our cash proxy is the three-month Treasury Bill Index, which is based on the auction results that the U.S. Treasury provides for Treasury bills with a three-month maturity.

Despite our ability to allocate beyond these broad asset classes—such as commodities, REITs, and alternative investments—we consider any investment outside of these four core indices to be an asset allocation decision and their potential risk and return impact must be measured against the core benchmark.

Definitions

THE RUSSELL 3000 INDEX

The Russell 3000 Index measures the performance of the largest 3,000 U.S. companies representing approximately 98% of the investable U.S. equity market.

THE MSCI EAFE

The MSCI EAFE is designed to measure large and mid cap equity market performance of 21 developed markets, including three regions (Europe, Australasia, Far East) excluding the U.S. and Canada. The Index is market-capitalization weighted, covering 85% of the free float-adjusted market cap in each of the 21 countries.

THE BLOOMBERG US AGGREGATE BOND INDEX

The Bloomberg US Aggregate Bond Index, which was originally called the Lehman Aggregate Bond Index, is a broad based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate debt securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS and CMBS (agency and non-agency) debt securities that are rated at least Baa3 by Moody's and BBB- by S&P. Taxable municipals, including Build America bonds and a small amount of foreign bonds traded in U.S. markets are also included. Eligible bonds must have at least one year until final maturity, but in practice the index holdings has a fluctuating average life of around 8.25 years. This total return index, created in 1986 with history backfilled to January 1, 1976, is unhedged and rebalances monthly.

THE THREE-MONTH TREASURY BILL

The Three-Month Treasury Bill rate shows the average interest rate at which Treasury bills with a 3-month maturity are sold on the secondary market.

Portfolios and Objectives

Next, we focus on establishing five investment objectives differentiated by their risk–return characteristics (see sidebar). Then we input historical risk, return, and correlation statistics for the three primary asset classes into an asset allocation optimizer tool.

Asset Allocation Analysis
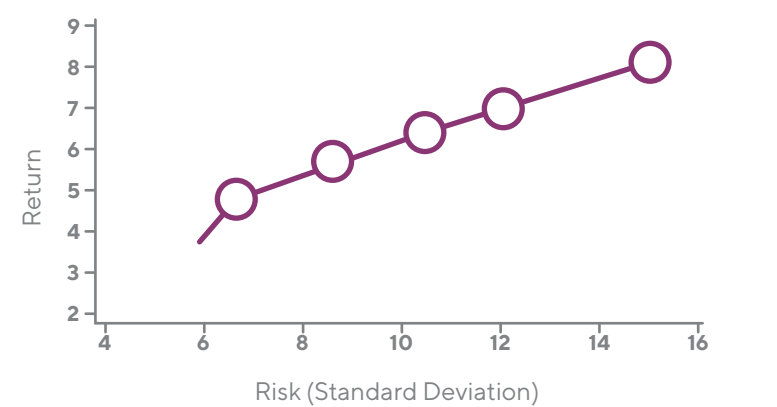
Given these inputs, the software uses mean–variance optimization to build an efficient frontier, which represents the set of portfolios that can be created. Each portfolio has the maximum expected return for a given amount of risk. We include a 3% percent cash position in each portfolio to provide liquidity for any fees charged in advisory platforms.

Based on this process, we establish the following allocations between stocks, bonds, and cash for the five investment objectives.

Investment Objective	Stocks	Bonds	Cash
Conservative	20%	77%	3%
Balanced	40%	57%	3%
Moderate	60%	37%	3%
Growth	80%	17%	3%
Aggressive	97%	0%	3%

Lastly, to create a benchmark for each investment objective, we use a simple blended benchmark comprised of each investment objective's allocation to stocks, bonds, and cash.

" Objectively Speaking "

The following outlines the goals of our five investment objectives, which range from most conservative to most aggressive.

Conservative:
Seeks to first generate income and then preserve initial investments

Asset Mix: Mix of income–producing investments with a low degree of volatility

Balanced:
Has both capital preservation and growth as its primary objectives

Asset Mix: A relatively equal mix of low- to moderate–risk securities and riskier assets with potential for long–term capital appreciation

Moderate:
Looks to generate long–term capital gains

Asset Mix: A mix of less-risky investments, as well as those with the potential for long–term capital appreciation and a moderate amount of volatility

Growth:
Seeks to generate long–term capital gains

Asset Mix: A mix of investments with the potential for long–term capital appreciation and a more-than-moderate amount of volatility

Aggressive:
Seeks to generate long–term capital gains

Asset Mix: Tend to invest in assets that may be considered high risk and have more volatility, but the potential for higher returns over the long term

Step 2: Define Opportunity Set and Decompose Benchmarks

In this step, we determine the opportunity set of asset classes that may be included in the allocation models. We also establish index proxies to represent each asset class, which enable us to study their historical risk, return, and correlation characteristics. As an example, the index proxy that we use for Domestic Large Cap Blend stocks is the Russell 1000 Index.

Equity Asset Classes	Fixed Income Asset Classes
Large Cap Blend	Intermediate Bonds
Large Cap Growth	Short-Term Bonds
Large Cap Value	Intermediate Government Bonds
Mid Cap Blend	Short-Term Government Bonds
Mid Cap Growth	TIPS
Mid Cap Value	Corporate Bonds
Small Cap Blend	High Yield
Small Cap Growth	Bank Loans
Small Cap Value	Global Bonds
All Cap	Emerging Market Debt
Developed International	International Government Bonds
Emerging Markets	Municipal Bonds
REITs	Convertible Bonds
Commodities	Treasury Bills
Developed Europe	
Developed Asia/Pacific	
Preferred Stock	

Once the opportunity set of asset classes is defined, we decompose the portfolio benchmark indices into neutral weights of the major asset classes comprising the respective benchmarks. Below are the benchmarks and their compositions.

Russell 3000	MSCI EAFE	Barclays Aggregate Bond
50% Growth	65% Europe	55% Intermediate/Long
50% Value	35% Pacific/Asia	45% Short-Term
70% Large Cap	90% Large Cap	29% Agency
20% Mid Cap	10% Mid Cap	26% Investment-Grade Corporates
10% Small Cap		43% Treasuries
		2% Cash

Step 3: Generate Capital Market Assumptions

Using a set of historical data points, we develop a set of capital market assumptions, which are long-term return and risk assumptions, for each of the major asset classes identified previously. We then adjust the historical figures, looking at mean reversion, valuations, and the Cetera Investment Management's team outlook.

The Russell 1000 Index is a stock market index that tracks the top 1,000 stocks by market capitalization in the Russell 3000 Index, which represent about 90% of the total market capitalization of that index. The index, which was launched on January 1, 1984, is maintained by FTSE Russell, a subsidiary of the London Stock Exchange Group.

Step 4: Incorporate Sensitivity Factors

We also incorporate forward-looking market biases to make strategic adjustments that will further drive our calculations. Given strategic allocation's three- to five-year time horizon, our bias beliefs are based on our views of the markets and assumptions about how some nonmarket-specific factors may impact asset classes over that period. It's difficult to make solid projections past that point, as data and information integrity greatly diminish beyond five years.

In this step, for each investable asset class, we adjust the historical risk, return, and correlations with primary factors that we believe will likely impact these investment inputs going forward. Based on the most recent analysis, we include the following factors:

- **Valuation:** We believe cheaper asset classes will outperform more expensive ones in the long term. We look at valuations relative to long-term averages and relative to other asset classes, adjusting for growth factors.
- **Mean reversion:** Long-term laggards may rebound and outperform in the future.
- **Economic indicators:** Asset class strength rotates throughout the economic cycle.

Once we've established the impact of the sensitivity factors, we then optimize the midline investment objective (Moderate) and adjust equity and fixed income allocations for the other models

Step 5: Check Data and Present to Investment Committee

This is the step where sensibility checks and investment tweaks are made to the calculated weights. Here we apply "art" to "science" and shift weights to ensure that models can be effectively and efficiently implemented to pursue the needs of your clients. In doing so, we consolidate some asset classes to help with the implementation of underlying funds and managers. The outcome is our final strategic asset allocation models, which we then present to the Cetera Investment Management Investment Committee for final approval.

Step 6: Monitor on an Ongoing Basis

Once the models have been constructed and approved, our work has really just begun. We don't believe in static portfolio management— the market is always changing, and allocations should move with it. With this in mind, we monitor performance daily and have deeper reviews on a weekly, quarterly, and annual basis.

Tactical Asset Allocation

Tactical investing is opportunistic investing. It seeks to capitalize on changes in the markets by being flexible, choosing to take timely action during ups and downs, and making the most of pricing anomalies or benefiting from strong sectors.

Key Factors in Our Tactical Asset Allocation Process
We believe the optimal way to make investment decisions is to follow a structure that offers the rigidity of a process but the flexibility to identify significant factors in each unique investment opportunity. Therefore, our process focuses on three financial and economic variables to predict performance, and assigns relative short-term asset class weightings to our strategic asset allocation model portfolios:

- Valuation factors focus on an investment's current value relative to its history, other asset classes, and the overall market.

- Fundamental factors emphasize evaluating an asset class to measure its intrinsic value by examining economic, financial, and other qualitative and quantitative factors.

- Momentum factors suggest that asset classes are likely to keep moving in the same direction.

Valuation
As part of this process, we review the valuations of each investable asset class and investment sector relative to its history, its peers, and the overall broader market. We focus on valuations that include price-earnings, price-book, price cash flow, and price-sales ratios.

For example, the table below shows an example of key valuation metrics that we focus on: the relative valuation of large cap, mid cap, and small cap U.S. equities relative to their 15-year average.

	Value	Growth
Large Cap	117.1%	155.6%
Mid Cap	108.3%	138.6%
Small Cap	87.4.8%	103.1%

Source: Cetera Investment Management, Morningstar, Russell Investments. Data as of 12/31/2020.

Fundamentals
We believe earnings growth is the primary determinant of intrinsic value for a sector or an asset class. Given that prices tend to follow earnings growth, we focus on micro- and macro-fundamental factors that can affect earnings, including:

- Where we are in the current economic cycle

- What sectors or asset classes have historically done well in the market environment that we envision going forward

- The geopolitical environment

- Fiscal and monetary policies

For fixed income, these same factors help drive the allocation decisions to economically sensitive asset classes or sectors. Some factors we analyze include the direction of interest rates and yield spreads.

Momentum
Typical momentum signals, such as technical indicators, attempt to add value by following the short-term momentum in markets. At times, momentum signals can be at odds with fundamental or business-cycle signals, such as during the technology stock bubble of the late 1990s. However, we believe when momentum signals are appropriately combined with fundamental and valuation signals, they can produce complementary strategies.

Altering Portfolio Characteristics
The Tactical Asset Allocation models will include an allocation to alternative investment strategies, which represent a broad classification of investments that includes any investment that's considered less traditional or non-traditional. These strategies have historically shown a greater tendency to move independently of the broader market.

The role of alternative investment strategies in model portfolios has traditionally been that of diversification, due to their lower correlation to stocks and bonds. Their diversification benefits can mean better protection in down markets rather than a generator of alpha, or outperformance, relative to stock markets. We believe these strategies may also provide both a diversification benefit and alpha generation possibilities in upward-moving markets.

Some common alternative investment strategies are described in the following table. We've also broadened the definition of alternative to include categories not traditionally associated with alternative strategies. Because of their ability to alter overall portfolio characteristics (i.e., increase portfolio risk or decrease portfolio risk), we've included all cap equity, unconstrained equity, unconstrained fixed income, and world allocation categories.

Absolute Return	Strives to generate a positive return in any market at any time. The investment's return is not evaluated relative to a specific index or the market's performance.	**Market Neutral**	Seeks to create portfolios that aren't correlated to overall market movements and are insulated from systemic market risk.
All Cap Equity	Invests in equities regardless of market capitalization.	**Real Estate**	Commits capital into real estate asset (or part thereof) with the expectation of near-term increases in cash flow and value.
Arbitrage	Takes advantage of price differences in separate markets to generate profits. Accomplishes this strategy by purchasing securities in one market for immediate resale in another market at a better price.	**Unconstrained Equity**	Attempts to invest in the best equity opportunities wherever they're found, and aren't compelled to invest in a region, sector, or stock simply because it forms part of an index.
Commodities	Invests in commodities' asset class directly or indirectly using futures contracts.	**Unconstrained Fixed Income**	Attempts to invest in the best fixed income opportunities wherever they're found, without being compelled to invest in a region, sector, certain credit quality, or maturity/duration because it forms part of an index.
Global Macro	Attempts to profit from global mispricing and trends across various markets. In a volatile environment, these strategies may find more mispricing and therefore more possible investment opportunities.	**World Allocation**	Seeks to provide both capital appreciation and income by investing in three major areas: stocks, bonds, and cash. They may also invest outside these areas, like in commodities, through the use of exchange-traded funds (ETFs).
Long/Short	Holds stocks long and shorts other stocks to hedge the underlying long position. Unlike traditional long strategies, the ability to short stocks allows these portfolios to seek possible opportunities during weak markets.		

From an implementation standpoint, we believe alternative strategies can modify the characteristics of a portfolio to benefit from market expectations. For instance, when market signals suggest danger, an allocation to low-correlated or low-volatility strategies may help improve diversification and reduce the anticipated risk. On the other hand, when market signals suggest opportunity, higher-risk strategies may increase expected returns. The following table highlights some potential market scenarios and the most likely alternative strategy that we would implement.

Increasing Market Risk	Decreasing Market Risk	Rising Inflation	Increasing Market Volatility
Absolute Return	All Cap Equity	Commodities	Global Macro
Global Macro	Arbitrage	Managed Futures	Market Neutral
Long/Short	Commodities	Real Estate	Unconstrained Equity
Market Neutral	Real Estate	TIPS	Unconstrained Fixed Income
			World Allocation

	Conservative	Balanced	Moderate	Growth	Aggressive
Equity	17%	35%	54%	71%	86%
Fixed Income	77%	57%	37%	17%	0%
Alternative Strategies	3%	5%	6%	9%	11%
Cash	3%	3%	3%	3%	3%
Total	100%	100%	100%	100%	100%

From an allocation perspective, we limit the exposure to these nontraditional investments. The following table gives a broad picture of asset class exposure across each investment objective.

Portfolio Monitoring

We continuously monitor the model portfolios toward pursuing the goals of each investment objective. Portfolios are monitored daily, and we perform a deeper review on a weekly, quarterly, and annual basis.

Tactical Shifts

In general, the strategic allocation target for each portfolio serves as a guideline against which the portfolio will be managed. However, allocations within the portfolio models will vary from the strategic targets when, in our opinion, a somewhat modified tactical shift within the Tactical Asset Allocation model offers short-term opportunities to enhance the portfolio.

Strategic Allocation Weight	Maximum Allocation Shift
0%–5%	+/- 2%
5%–10%	+/- 2%
10%–20%	+/- 4%
20%–30%	+/- 6%
30%+	+/- 9%

For questions about Cetera Investment Management, the team's asset allocation processes, or their latest market insights, please contact your financial professional.

About Cetera® Investment Management
Cetera Investment Management LLC is an SEC registered investment adviser owned by Cetera Financial Group®. Cetera Investment Management provides market perspectives, portfolio guidance, model management, and other investment advice to its affiliated broker-dealers, dually registered broker-dealers and registered investment advisers.

About Cetera Financial Group®

Cetera Financial Group (Cetera) is a leading financial advice firm. It empowers the delivery of an Advice-Centric Experience® to individuals, families and businesses across the country through independent financial professionals as well as trusted tax professionals and banks and credit unions. It's headquartered at 655 W. Broadway, 12th Floor, San Diego, CA 92101.

Comprehensive services include: wealth management solutions, retirement plan solutions, advisory services, practice management support, innovative technology, marketing guidance, regulatory support, and market research.

"Cetera Financial Group" refers to the network of independent retail firms encompassing, among others, Cetera Advisors LLC, Cetera Advisor Networks LLC, Cetera Investment Services LLC (marketed as Cetera Financial Institutions or Cetera Investors), Cetera Financial Specialists LLC, and First Allied Securities, Inc. All firms are members FINRA / SIPC.

Individuals affiliated with Cetera firms are either Registered Representatives who offer only brokerage services and receive transaction-based compensation (commissions), Investment Adviser Representatives who offer only investment advisory services and receive fees based on assets, or both Registered Representatives and Investment Adviser Representatives, who can offer both types of services.

The portfolio construction methodology listed in this document is for illustration purposes only and is not intended to serve as specific investment advice for any financial professional or client. No recommendation or solicitation is being made in relation to any particular security or investment model listed herein.

Asset allocation, which is driven by complex mathematical models, should not be confused with the much simpler concept of diversification. Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

Additional risks are associated with international investing, such as currency fluctuations, political and economic stability and differences in accounting standards. Emerging markets involve heightened risks related to the same factors as well as increased volatility and lower trading volume.

Disclosures
The material contained in this document was authored by and is the property of Cetera Investment Management LLC. Cetera Investment Management provides investment management and advisory services to a number of programs sponsored by affiliated and non-affiliated registered investment advisers. Your registered representative or investment adviser representative is not registered with Cetera Investment Management and did not take part in the creation of this material. He or she may not be able to offer Cetera Investment Management portfolio management services.

Nothing in this presentation should be construed as offering or disseminating specific investment, tax, or legal advice to any individual without the benefit of direct and specific consultation with an investment adviser representative authorized to offer Cetera Investment Management services. Information contained herein shall not constitute an offer or a solicitation of any services. Past performance is not a guarantee of future results.

For more information about Cetera Investment Management, please reference the Cetera Investment Management LLC Form ADV disclosure brochure and the disclosure brochure for the registered investment adviser your adviser is registered with. Please consult with your adviser for his or her specific firm registrations and programs available.

No independent analysis has been performed and the material should not be construed as investment advice. Investment decisions should not be based on this material since the information contained here is a singular update, and prudent investment decisions require the analysis of a much broader collection of facts and context. All information is believed to be from reliable sources; however, we make no representation as to its completeness or accuracy. The opinions expressed are as of the date published and may change without notice. Any forward-looking statements are based on assumptions, may not materialize, and are subject to revision.

All economic and performance information is historical and not indicative of future results. The market indices discussed are not actively managed. Investors cannot directly invest in unmanaged indices. Please consult your financial professional for more information.

Additional risks are associated with international investing, such as currency fluctuations, political and economic instability, and differences in accounting standards.