# A Brief Introduction to Asset Allocation

Asset allocation is the process of combining different classes within an overall portfolio with the aim of meeting an investor’s specific goals, whatever they may be. These goals take into consideration an investor’s desired returns, the investment risk that they are prepared to take on, their individual constraints, their preferences and their investment horizons. This guide sets out the fundamentals of asset allocation to support investment fundamentals in fund selection by professional investors.

## Why Asset Allocation Over Equity Allocation?

Recent market volatility created by the world wide pandemic have created the first experience of a bear market for most investors. While equities have risen in value significantly more than government bonds in the long run, their returns have also been much more volatile than those of government bonds. Investors with a short-term horizon and high aversion to risk are therefore unlikely to want to allocate all their capital to equities. Long-term investors — even those willing to take on significant risk — may feel uncomfortable seeing their entire portfolio fall sharply in value in the short term, even if it’s likely to rebound later on.

One response could be to switch out of equities for bonds when the stock market is bad, and vice versa. However, as we can see in the following chart, leadership among the various asset classes diverges wildly from year to year. Even the most talented investor can’t predict with certainty which asset classes are going to perform best over a given period.

## Periodic Table

<table>
<thead>
<tr>
<th>Period</th>
<th>Emerging Europe Equity</th>
<th>Global Corporate Bonds</th>
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Source: Morningstar Direct, data as of 2020 October
Diversification and Correlation

Diversification is often referred to as the only “free lunch” in finance because it (theoretically) reduces an overall portfolio’s volatility without reducing its return potential. Diversification can be increased by diversifying to more asset classes, with one important caveat: they need to be subject to different return drivers. Common examples of diversifying assets include real estate, commodities such as oil and gold, infrastructure and hedge funds—assets that have a relatively low correlation with each other.

Correlation is a measure of how closely the returns of securities move in line with each other: a positive correlation means if one rises or falls, the other tends to do the same; a negative correlation means they tend to do the opposite; and a correlation close to zero means they move independently of each other.

Many asset classes have low correlations with each other because they are driven by different factors. For example, when investors are confident in the macroeconomic and geopolitical backdrop, stock markets generally perform well. Government bonds, in contrast, generally perform well in risk-off environments because they are seen as safer investments.

Therefore, combining equities with another asset class, such as government bonds, can smooth a portfolio’s returns and reduce its maximum loss.

A Word of Warning

Note that correlations can sometimes rise, particularly in sharp market downturns. In recent times due to Coronavirus, as well as in the 2008 market crash, for example, all risky assets slumped in value as investors flocked to safe-haven assets. That year, only government bonds and gold rose in value. Since then, correlations between asset classes have risen as quantitative easing has seen easy money being pumped into assets across the board. Both equities and government bonds have risen strongly over the past decade.

Asset Allocation Matters

While attempting to select under-valued stocks with the potential to skyrocket in value might seem the most glamorous aspect of portfolio management, there’s strong evidence to suggest that choosing the right asset allocation overall is much the most important decision that any investor has to make. In fact, a 2000 study by Roger Ibbotson and Morningstar researcher Paul Kaplan found that a portfolio’s asset allocation is responsible for around 90% of the variability of its return over time. Clearly, then, it’s an important decision to get right.
Approaches to Asset Allocation

The concept of asset allocation goes back a surprisingly long way. The Talmud, a record of Jewish law that dates back as far as 200 BC, states that people should break their money into three parts, investing a third in land, a third in business and keeping the remainder in reserve. Along similar lines, Shakespeare’s Antonio, the Merchant of Venice, stated that “My ventures are not in one bottom trusted, nor to one place; nor is my whole estate upon the fortune of this present year: therefore my merchandise makes me not sad.”

Of course, asset allocation has advanced considerably in the ensuing centuries, and now incorporates a wide range of techniques.

**Modern Portfolio Theory**

It’s impossible to talk about asset allocation without spending some time considering the mean-variance model, which is the foundation of modern portfolio theory and still at the heart of many asset allocation techniques today. Developed by Harry Markowitz in the US in the 1950s, the theory states that an investment’s risk and return characteristics should not be viewed alone, but take into account how it affects an overall portfolio’s risk and return. The theory assumes that investors want to minimise risk (or to maximise return for a given level of risk), so that out of two portfolios with the same expected return, rational investors will choose the less risky. It also assumes that an investor who wants higher expected returns must be willing to take on more risk.

Using statistical measures such as covariance and expected returns, an investor can construct a portfolio of assets that maximises potential return for a given level of risk. Markowitz showed that the total risk of a portfolio consisting of several asset classes was lower than would be expected based on the sum of the individual risks of each asset that the portfolio invests in.
It’s possible to plot every theoretical combination of assets on a graph, such as the one below, in which portfolio risk is on the x-axis and expected return is on the y-axis. We can see in the chart that all of the most efficient portfolios can be joined together by a curved line known as the efficient frontier. Investing in any portfolio to the right of and below this curve is not desirable for any rational investor. Investing in a portfolio to the left of and above the curve, while desirable, is impossible.

Modern portfolio theory is not without its problems. It uses expected returns, risk and correlations of the various asset classes as inputs, and these are hard to determine accurately. What’s more, in practice, it tends to produce portfolios that combine extreme longs with extreme shorts, so very small changes in expected returns for an asset can lead to big changes in asset class weights. This means that portfolio managers have to be careful how they apply the theory.

**Building on Markowitz**

At Morningstar we’ve developed Markowitz’s original theory into what we call Markowitz 2.0. While the original theory was all about optimising risk and return, where risk is defined as volatility, our researchers have highlighted that volatility is actually not the best indicator of risk. It assumes returns are normally distributed in a bell-shaped curve, which is not the case in practice: periods in which returns are extremely poor occur more frequently than would be expected. Our approach takes this into account, and produces portfolios that are robust in all circumstances, and focuses on forward-looking assumptions rather than using purely historical data.
Current Asset Allocation Techniques
While modern portfolio theory still plays a major role in many asset allocation techniques, there have been considerable advances made in the field since the 1950s. Today, asset managers use a number of different ways to produce asset class splits that match their investors’ key objectives.

Quantitative and Qualitative Approaches
Many asset managers build quantitative models to help them find the combination of assets that offers the best possible risk-adjusted returns for a given set of constraints. These models may take into account factors such as asset class valuations, bond yields and the momentum of asset class returns.

Other managers prefer predominantly fundamental, bottom-up-based asset allocation techniques. These rely primarily on in-depth fundamental analysis of the various asset classes to determine which are the most attractive investments. Other approaches are based on an assessment of variables including market conditions, the macroeconomic outlook and political developments, coupled with diversification analysis to determine the asset allocations that the managers believe are most likely to prosper.

Which is the best approach—quantitative or qualitative? Quantitative models help process all the information involved in determining capital market assumptions—expected asset class returns, risk levels and correlations. But at the same time, a purely quantitative approach rarely produces a portfolio that is likely to perform robustly in all market conditions. There is therefore a lot to be said for a combined fundamental-quantitative approach.

A popular technique that combines quantitative and fundamental inputs is the Black-Litterman model. It enables fundamental managers to input their chosen allocation in the model, then uses quantitative techniques to enhance the allocation.

Strategic and Tactical Approaches
After an asset allocation has been determined comes the question of how long to stick with it. Some investors choose to stand by their strategic asset allocation, picking fixed asset weights and regularly rebalancing back to them by selling the winners and buying the losers. Others adopt a more active approach through tactical asset allocation—tilting portfolio weights around the strategic asset allocation based on their near-term expectations for asset class performance, despite the known challenges of outperforming the market over the short term.

While there’s clear scope to add value through tactical asset allocation, it does involve the risk of underperforming the strategic asset allocation and can expose investors to increased transaction costs, hitting the returns they ultimately receive.

Other Approaches to Asset Allocation
Asset allocation isn’t just about standard balanced portfolios: the technique can be used to produce a range of strategies that target specific outcomes for investors.
For example, target-date funds shift their asset allocation based on their investors’ ages. They start off with a heavy weight in stocks to help them accumulate wealth before moving into bonds to lock in gains as their retirement approaches. This is not a different approach to asset allocation in itself, but rather a recognition that people’s objectives change over time as they age.

Constant Proportion Portfolio Insurance (CPPI) strategies produce a different kind of balanced portfolio, in which the investor sets a monetary value that the portfolio cannot fall under (known as the floor) and invests any money in excess of this level in risky assets. Unlike many other strategies, these funds buy stocks in rising markets and sell them in falling markets. Such strategies rely heavily on high levels of liquidity in the markets at all times, and therefore can involve considerable risk.

Meanwhile, some asset managers choose to allocate according to a factor-based approach. This is based on the premise that asset classes are subject to a number of different underlying drivers of returns, such as value, quality and momentum. The theory is that allocating to factors rather than asset classes improves diversification and, in turn, risk-adjusted return potential.

**Is There an Optimal Approach to Asset Allocation?**

There’s no best way to approach asset allocation: investors need to carefully assess the available options and choose the one that best suits their needs and beliefs. Our main view would be to avoid fully quantitative approaches, because they may not always produce robust portfolios, and avoid strategies that trade too tactically because they can incur unnecessary trading costs and there’s no guarantee they’ll make the right calls.

**The Morningstar Approach**

Morningstar Investment Management’s asset allocation approach is valuation-driven. It is deeply rooted in comparing an asset’s current price with our estimate of its intrinsic value—the value of its underlying cash flows. We believe that risk is very much affected by valuation, with assets becoming more risky as they become more overpriced.

While we build our portfolios with the long term in mind, that doesn’t mean we don’t adjust. We refer to our asset allocation as dynamic rather than tactical, only making modest changes when they are fully warranted. This mean we keep transactions costs low, helping us maximise the returns our investors receive.
What Does a Great Portfolio Look Like?

The most important thing to remember about asset allocation, whichever technique you choose, is that there’s no one ideal portfolio. Each investor needs to come up with a solution that best meets their individual needs.

**Deciding What You Need From Your Investments**

The most important part of any asset allocation process is determining exactly the investment goals are at the outset: without a clear goal, it’s impossible to decide upon the right asset allocation. At Morningstar we provide our clients with a detailed questionnaire to find out exactly what they need their investments to do for them. Managers have to consider funds are appropriately positioned with investors and their investing goals and tolerances.

Key investor goals include:
1. Looking for high risk and high returns or lower risk but lower potential returns?
2. Looking for income or growth?
3. Target redemption of your investments?
4. How would you react to a 20% loss of your investment—would you stay the course?
5. Concerns about potential losses or potential gains?

All of these questions are important in helping assess what balance of asset classes to take on given their risk profile.
Some Example Asset Allocations

In the table below, we show some sample asset allocations that Morningstar’s investment management group offers to its UK adviser clients. We can see that they come in five risk profiles, each designed to match the needs of different kinds of investor.

The expected returns are not a reliable indicator of future returns and the expected volatility is subject to change

<table>
<thead>
<tr>
<th>Asset Name</th>
<th>Cautious</th>
<th>Moderately Cautious</th>
<th>Moderate</th>
<th>Moderately Adventurous</th>
<th>Adventurous</th>
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<td>38.0%</td>
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<td>Global Government Bond ex UK (Hedged)</td>
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<td>Geometric Expected Return (20-Year)</td>
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<td>41.8%</td>
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Source: Morningstar Investment Management, reflects model portfolios as at 31 May 2019

These portfolios have different expected risk bands based on our analysis of their long-term asset class exposure (including the allocation across local equities, local bonds, international equities, international bonds and cash) and Morningstar’s long-term risk assumptions.
A Portfolio Checklist

There’s no single best way of building a balanced portfolio, and different investors and companies adopt very different approaches.

We believe that high-quality, robust portfolios share a number of characteristics:
1. They invest in relatively cheap assets
2. Their investments are subject to a range of fundamental, qualitative and thematic return drivers
3. They make use of low-cost sources of diversification with positive return potential
4. Their returns come from a variety of sources rather than just one or two markets
5. The level of risk they take is consistent with the reward potential of the markets they invest in
6. Their performance doesn’t rely on low-probability macroeconomic scenarios
7. The most extreme losses that they are likely to suffer are still within the investor’s risk budget.

We never know how any security, fund or asset class will perform on a given day, nor whether or when a storm will hit, but we believe that following these guidelines maximises the chances of producing strong results over the long term.

Scenario Analysis

It’s all very well producing a portfolio that’s likely to perform robustly in benign market conditions, but what if things take a turn for the worse? An important part of any asset allocation process is scenario analysis — assessing how the different portfolio components are likely to behave, on their own and combined, in a range of conditions, such as periods of higher or lower economic growth or rising and falling inflation, as well as in more severe events such as market crashes.

Scenario analysis can consider how a portfolio is likely to perform in historical scenarios or prospective scenarios. All else being equal, more balanced performance across various macro environments is preferable. This can only be achieved by diversifying across assets that can be expected to behave differently in different market environments.
How Morningstar Direct Can Help

While many professional investors choose to allocate to our ready-made multi-asset strategies, others prefer to decide upon their own asset allocation. For them, Morningstar Direct’s asset allocation module and risk module provide invaluable support as they seek to pinpoint the right asset allocation for their needs.

Asset Allocation Module

Morningstar Direct’s asset allocation module provides investment professionals with the flexibility they need to create optimal asset allocation policies. Emerging from the work of Morningstar researchers, the statistical capabilities built into Morningstar Direct use industry standard methodologies as well as Morningstar proprietary methodologies for asset allocation. Users can tailor their distribution assumptions to each asset class, accounting for both normal and non-normal distributions.

Incorporating a range of models, including mean-variance optimisation and Black-Litterman, the tool enables investors to identify their potential preferred asset allocation strategies and simulate the probabilities of loss, wealth, returns and other variables that they involve.

Risk Model

The Morningstar Global Risk Model helps investors identify and assess the amount of risk in their portfolio. By tracking every holding’s underlying economic exposure to 36 factors, including six unique to Morningstar, our model enables them to quickly understand how their portfolio could behave in a variety of market conditions.

Drawing upon Morningstar’s long history in investment research, our model is also able to forecast the amount of risk a holding faces during extreme market events, calculating skewness/kurtosis, value at risk and conditional value at risk, and the probability of negative returns. This gives our clients an idea of what’s at stake if a “black swan” event were to hit the market.

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- Learn more about Morningstar Direct morningstar.com/products/direct
- Learn more about Morningstar Global Risk Model morningstar.com/products/cloud/risk-model
How Manager Selection Services Can Help

Morningstar’s Manager Selection Services team can help institutions with the Research, Investment Selection, Maintenance, Monitoring and Governance of their party fund ranges. It can help a client’s existing internal manager research teams by analysing, creating and monitoring Select Lists of funds for their client portfolios, or can deliver a complete end to end tailored solution where the client does not have the internal capability to do so.

Morningstar has a rigorous, independent research process, helping firms deliver better outcomes while helping reduce costs, complying with regulatory and governance pressures, and differentiating themselves from competitors. Ultimately, Morningstar’s independence and research-driven approach can guide investors to better investment products.

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