Behind the Scenes
Constructing the Amerivest Core Mutual Fund and Amerivest Core ETF Portfolios Powered by Morningstar Associates, LLC

The Amerivest Core Mutual Fund and Core ETF portfolios are designed to be cost effective, one-stop, professionally managed investment solutions for an investor’s core assets. TD Ameritrade’s retail clients can select among five risk-based asset allocation models from Amerivest – Conservative, Moderate, Moderate Growth, Growth, and Aggressive. These portfolios can accommodate many different financial objectives, risk tolerance levels, and investment time horizons greater than one year. For their convenience, clients can choose between a no-load mutual fund version of the portfolios or an Exchange Traded Fund (ETF) version that may be potentially more cost-effective, as ETFs typically are available at a lower cost.

As the consultant to Amerivest Investment Management, LLC (Amerivest), we at Morningstar Associates, LLC recommend the asset allocations, investment selections, and portfolio allocations for the Amerivest Core Mutual Fund and Core ETF portfolios. However, Amerivest, an affiliated investment advisor of TD Ameritrade, retains discretion to accept, modify, or reject our recommendations. Once the client selects the most appropriate portfolio based on their suitability and financial goals, Amerivest handles all of the daily portfolio management responsibilities, including the initial account investing, periodic ongoing rebalancing, and other portfolio changes initiated by the client, such as when the client updates suitability information or requests cash withdrawals.

But what makes these portfolios different from any other risk-based asset allocation portfolios on the market today?
We believe it is the rigor of our investment process and the institutional quality of our fund selection and oversight. Our investment process—which was used to help construct both the no-load mutual fund and ETF versions of the portfolios—seeks to ensure that investors are properly positioned to align with their investment objectives. It also helps ensure that the portfolios are:

- Properly aligned with the portfolio’s risk profile
- Broadly diversified across investment styles, sectors, sub-asset classes, market caps, and regions
- Comprised of asset allocation targets that are designed to help investors pursue a good risk-adjusted rate of return for a given level of risk
- Constructed using funds from TD Ameritrade’s extensive platform that we believe will help investors pursue their goals

The following pages describe the investment process we employ, which drives our portfolio recommendations to Amerivest. Designed to help investors meet their long-term financial goals, that process comprises five integrated components: capital market assumptions, asset allocation, ETF / fund selection, portfolio construction and ongoing monitoring.

What drives our investment process is a rigorous due-diligence practice that relies on the expertise of a team of more than a dozen investment professionals who have years of experience evaluating funds, designing investment solutions, and overseeing and monitoring portfolios; many of whom began their careers as fund analysts at Morningstar, Inc. Our investment team’s efforts are augmented by Morningstar, Inc.’s database, which contains detailed holdings and performance information on approximately 500,000 investment offerings (as of June 30, 2015).
Strategic Asset Allocation

▶ Forecast risk and returns using a multi-faceted approach
▶ Identify asset allocation targets that have the highest risk/return profiles
▶ Construct portfolios across the risk spectrum

We believe that the ability of any portfolio to meet its goals hinges on the identification of the long-term asset allocation targets that, based on forecasts and historical data, will attempt to position investors to achieve the highest possible return for a given risk level. Because so much rides on the success of these targets, we don’t just rely on one forecasting or modeling method to determine our targets and estimates for both the ETF and mutual fund versions of the portfolios. Instead, we use a multifaceted approach that features innovative and traditional optimization and simulation techniques that test asset class return estimates and portfolios under thousands of different market conditions. Many of the steps in our Strategic Asset Allocation process are listed and briefly described below.

Forecasting Capital Market Assumptions for Each Asset Class
Morningstar Associates uses a supply-side building-block approach to forecast equity returns. First introduced by Diermeier, Ibbotson, and Siegel (1984), and later adapted to stocks by Ibbotson and Chen (2003), the supply-side model is based on the idea that equity returns can be decomposed into underlying economic and corporate fundamentals. Our approach separates the expected return of each equity asset class into five key return drivers: 1) Inflation 2) Total Yield 3) Growth 4) Size and/or Style Premium, and 5) Change in Valuation.

Inflation is the expected increase in consumer prices reflected in future equity prices. Total yield is the expected payout from dividends and repurchases for a given equity asset class. Although dividends have been the primary way companies returned cash to shareholders historically, repurchases have become an important source of payouts in recent decades. The growth term measures the change in corporate cash flows per share (excluding repurchases). While generally smaller than total yields, the growth of corporate fundamentals is another key determinant of long-run equity returns. Change in valuation is the expected return due to the convergence of valuations to their fair value. Morningstar Associates uses several valuation models to estimate the fair value of equity asset classes and assumes reversion to fair value over a 10-year period. The size or style premium is the expected excess return of a size or value/growth index relative to a broad market equity index. Each equity market is represented by the pertinent MSCI broad market index.

Morningstar Associates uses a building-block approach to forecast returns of fixed-income asset classes. The key inputs into our fixed-income model are: 1) Inflation 2) Real Rate 3) Term Spread and 4) Credit Spread. The inflation forecast is the same as the one used in the equity model. The real rate is the expected return of cash after inflation. Morningstar Associates
forecasts real rates based on an examination of long-run historical real-rate data and consideration of the macroeconomic environment for each fixed-income asset class. The term spread is our forecast of the shape of the yield curve. We base our forecast of the term spread on the long-run shape of the yield curve, current market data, and surveys. The credit spread is the expected return of a credit bond in excess of a duration-matched government bond before accounting for default loss and credit migration.

Currency, managed futures, commodities, and other diversifying asset classes use customized processes that are customized to the unique building blocks that contribute to the long returns of each asset class and are too lengthy to detail in this document.

Morningstar Associates uses historical data to forecast standard deviation because it provides an unbiased estimate of future volatility. Ideally, we use historical standard deviations using all available and relevant data (beginning in 1926 and 1970 for equity and fixed income, respectively). We use the \textit{ratio method} to extend the standard deviation estimates of the shorter-lived asset class benchmarks so that they incorporate all relevant economic events. In the mean-variance analysis setting, the standard deviation of a portfolio is based not only on the risk of each asset class, but on the relationship between the returns of asset classes as well. The relationship between the returns of asset classes is measured by the correlation coefficient. We typically use correlation coefficients derived from the historical returns of the asset class benchmarks since 1973\footnote{1973 signals the breakdown of the Bretton Woods Agreement and the creation of a structural change in global markets}, which departs from the data periods for expected return and standard deviation. We believe this period to be most relevant for measuring the interaction between asset classes.

\textbf{Setting Strategic Asset Allocation Targets}

Morningstar Associates believes that the asset allocation policy is one of the most important determinants of a portfolio’s risk and return characteristics over time. When constructing an asset allocation portfolio, it is critical to take advantage of diversification benefits over the long run. We try to diversify among as many asset classes as possible, while keeping fund minimums, tax consequences, and turnover levels in mind. Our asset allocation models tend to tilt toward asset classes that produce exposure to factors that deliver superior risk and return than a pure market/index weighted portfolio. For example, within equity asset classes, we over-weight based on size and value factors.

As they are built with mathematical frameworks, optimizers do not take into account investor preferences or investability of asset classes. Performing a single unconstrained optimization will often result in asset allocations that are very focused on a small number of asset classes and are not deemed practical by the investor and the investment professional. We use multiple optimizers to build different portfolios for each risk level and we combine these portfolios together into the final version, considering the strengths and weaknesses of each optimizer. We incorporate information from each of the processes listed below when finalizing asset allocation models.
Traditional mean-variance analysis was developed by Harry Markowitz in the 1950’s and provides a mathematical framework for generating portfolios that maximize expected return for a given level of risk. This process is taught in every quantitative portfolio construction class today. The optimization considers the expected risk and return of each asset class, plus the covariance among asset classes, to determine the combination of asset classes that are expected to provide the highest expected return for any risk level.

We next improve on simple mean-variance analysis by incorporating resampling into the mean-variance optimization. In a forward-looking context, capital market assumptions are estimates. The true capital market assumptions are not known with certainty; therefore, it is more appropriate to use an optimizer that accounts for the uncertainty in the estimated capital market assumptions. Conceptually, resampled mean-variance optimization is like a giant scenario test in which multiple small adjustments to the starting capital market assumptions are made, and the resulting asset allocations from all of the different scenarios are averaged. We improve on these results again by adding constraints on various asset classes. An example is adding a cap of 40% on the percentage of equity that is invested outside the U.S. The Amerivest models are designed for U.S. investors, many of whom will retire and spend down their portfolios primarily in the U.S. and we want to “match our liabilities” to a great degree, particularly in the more conservative models (a technique that has been incorporated in pension plans for decades to with the goal of improving outcomes).

One of our proprietary optimizers is our Mean Conditional Value at Risk (MCVaR) optimizer. Although the normal distributions that are used in the optimizers above do a decent job modeling most return distributions at first glance, in reality asset class return distributions are not normally distributed. In particular, many researchers have pointed out that a traditional normal distribution (the bell-curve) underestimates the “tails” of most return distributions. Essentially, a normal distribution underestimates the downside of portfolio returns. We replace the normal distribution with a Truncated Lévy Flight (TLF) distribution that does a much better job on matching the return distributions of asset class returns than a normal distribution. We compute two measures of downside risk; value-at-risk (VaR) and Conditional value-at-risk (CVaR). VaR is the estimate of the loss on a portfolio that we expect to be exceeded with a given level of probability (5%) over a time period. CVaR is derived by taking a weighted average between VaR and losses exceeding VaR. CVaR is also called the expected tail loss. Our optimizer uses CVaR as the risk metric in place of standard deviation, and computes portfolios with the maximum return at each level of CVaR. This methodology avoids punishing portfolios with upside surprises, while helping us build portfolios with lower allocations to asset classes that are more prone to downside risks.

We also use a Black-Litterman model. This model uses market capitilizations and historical volatility to estimate alternative expected returns for each asset class. The Black-Litterman forecasting model produces allocations that are consistent across each risk-based portfolio, and are closely aligned with current market conditions and general investor expectations.
Testing Our Strategic Asset Allocations

Morningstar Associates puts each model through multiple tests before they are implemented in client portfolios.

Sensitivity analysis is employed to evaluate the stability of the asset allocation policy’s performance through a variety of alternative input assumptions. It is important that the sensitivity analysis shows that reasonable changes in the inputs do not significantly alter a model’s proximity to the efficient frontier. In other words, the models do not deviate dramatically from established risk targets (although a certain degree of risk deviation is unavoidable).

Scenario analysis helps us understand how our models would have acted during specific historical market events. Our forward estimates of return, standard deviation, correlation, skew, and kurtosis and Monte Carlo tools give us the means to project how models might act in the future, but they are not able to consider some of the unique market events that cause correlations to line up in unpredictable ways (popularly described as a “risk-on” environment).

It helps us analyze how each small year-over-year allocation change might alter the overall characteristics of the models due to the complex inter-relations between the asset classes. Examples of our scenarios include these historical market scenarios:

- The crash of the dot-com bubble (3/1/2001 - 10/31/2002)
- The 2008 financial crisis (Calendar Year 2008)
- The recovery period after the 2008 financial crisis (3/1/2009 - 1/31/2015)
- A short-term bear market (Q3 2011)

Our final test is an outcome analysis that we compute using a Probability of Success metric and our wealth forecasting engine’s Monte Carlo analysis tools. Each year, Morningstar Associates’ Retirement Team assembles data on average salary information, savings rates, financial capital levels, and other demographic data for U.S. investors. We use this data in combination with our portfolios and capital market expectations to estimate how successful investors might be using our models throughout the savings and spend-down phases of their investing programs. Over the course of an investor’s lifetime, small changes in allocations can have important impacts on retirement dates and income replacement levels. We strive to minimize the predicted probability of shortfall in retirement.
The end result is a set of strategic asset targets that are diversified across a range of investment categories. We use a broad range of asset classes and many different strategies to help improve the overall risk-return characteristics of our portfolios. For the Amerivest Core Mutual Fund portfolios—which comprises five risk-based models—we recommended, and Amerivest approved, the following sub-asset classes and weights for 2015:

### Core Mutual Fund Portfolios

#### Target Allocations

<table>
<thead>
<tr>
<th>Equity</th>
<th>Conservative %</th>
<th>Moderate %</th>
<th>Moderate Growth %</th>
<th>Growth %</th>
<th>Aggressive %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large-Cap Growth</td>
<td>5</td>
<td>7</td>
<td>19</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>Large-Cap Value</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Mid-Cap Growth</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Mid-Cap Value</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Small-Cap Growth</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Small-Cap Value</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Micro-Cap</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Developed Markets</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Developed Markets Small-/Mid-Cap</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total Equity</strong></td>
<td>20</td>
<td>34</td>
<td>45</td>
<td>64</td>
<td>80</td>
</tr>
</tbody>
</table>

#### Fixed Income

<table>
<thead>
<tr>
<th>Fixed Income</th>
<th>Conservative %</th>
<th>Moderate %</th>
<th>Moderate Growth %</th>
<th>Growth %</th>
<th>Aggressive %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-Term</td>
<td>14</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Intermediate-Term</td>
<td>18</td>
<td>14</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Long-Term</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Mortgage-Backed Securities</td>
<td>14</td>
<td>11</td>
<td>9</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>TIPS</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>High-Yield</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>International Bonds</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Emerging Market Debt</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Cash &amp; Equivalents</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Fixed Income</strong></td>
<td>77</td>
<td>63</td>
<td>52</td>
<td>32</td>
<td>15</td>
</tr>
</tbody>
</table>

#### Specialty

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Conservative %</th>
<th>Moderate %</th>
<th>Moderate Growth %</th>
<th>Growth %</th>
<th>Aggressive %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global REITs</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Commodity</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Managed Futures</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Specialty</strong></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Morningstar Associates, LLC proprietary data. Target Allocations are subject to change without notice. For illustrative purposes only.
For the Amerivest Core ETF portfolios – which compromise five risk-based models – we recommended, and Amerivest approved, the following sub-asset classes and weights for 2015.

<table>
<thead>
<tr>
<th>Core ETF Portfolio</th>
<th>Target Allocations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>![Pie Charts]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Large-Cap Growth</th>
<th>“Large-Cap Value”</th>
<th>Mid-Cap Growth</th>
<th>“Mid-Cap Value”</th>
<th>Small-Cap Growth</th>
<th>“Small-Cap Value”</th>
<th>Micro-Cap</th>
<th>Developed Markets</th>
<th>Developed Markets Small-/Mid-Cap</th>
<th>Emerging Markets</th>
<th>Total Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>14</td>
<td>16</td>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Fixed-Income</td>
<td>Short-Term</td>
<td>Intermediate-Term</td>
<td>Long-Term</td>
<td>Mortgage-Backed Securities</td>
<td>TIPS</td>
<td>High-Yield</td>
<td>International Bonds</td>
<td>Emerging Market Debt</td>
<td>Cash &amp; Equivalents</td>
<td>Total Fixed Income</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>18</td>
<td>14</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>65</td>
</tr>
<tr>
<td>Specialty</td>
<td>Global REITs</td>
<td>Commodity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Source: Morningstar Associates, LLC proprietary data. Target Allocations are subject to change without notice. For illustrative purposes only.

Our recommended strategic targets, as well as our use of a wide range of asset classes, are designed to provide investors with what we believe will improve expected returns over a long-term time horizon.
Fund Selection

- Analyze the universe of open-end mutual funds and ETFs
- Narrow down the universe using quantitative and qualitative screens
- Recommend investments that can work well in combination

Core Mutual Fund Portfolios
For clients seeking more actively managed investments, one of the most overlooked areas in constructing a portfolio of mutual funds is fund selection. We believe that investment quality and how funds work in combination can have a quantifiable impact on the performance of a portfolio of mutual funds. Subject to Amerivest’s approval, we populate the portfolios with funds we believe have the greatest potential to drive the portfolios’ long-term performance.

Consider the Morningstar Large-Cap Growth category, for example. According to the chart below, over this trailing five-year period, the top-decile funds in that category gained nearly 30% more on a cumulative basis than the bottom-decile funds. That difference is why we focus so many resources on fund selection and ongoing manager evaluation in our portfolios.

<table>
<thead>
<tr>
<th>Fund Style</th>
<th>Top Decile (10th Percentile)</th>
<th>Bottom Decile (90th Percentile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>40.3%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Mid</td>
<td>51.4%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Small</td>
<td>50.7%</td>
<td>12.9%</td>
</tr>
</tbody>
</table>

Source: Morningstar Associates, LLC. Data represents the difference between five-year cumulative returns of the top decile and bottom decile funds in two Morningstar, Inc. fixed-income categories as of December 31, 2013. Categories shown were selected to illustrate concept.

The first step in recommending funds for inclusion in the Amerivest Core Mutual Fund portfolios is to analyze the thousands of mutual funds available for purchase.

In determining which mutual funds to recommend for inclusion in the Amerivest Core Mutual Fund portfolios, our overall goal is to select those that meet our high quality standards and that will help us hit our asset allocation targets with accuracy. In our opinion, the key indicators of fund quality include manager experience, a strong track record, a clear, well thought-out investment process, and the quality and quantity of firm-level resources that support the manager’s investment process.
Although we evaluate the past performance of a fund, it’s not a major consideration as past performance doesn’t tell you how well the fund will perform in the future. Instead, we seek funds that perform differently under different market conditions. This is important in helping ensure the portfolios are working hard to carve out attractive relative returns under a variety of market conditions. Beyond gauging fund quality and performance, therefore, we must give equal attention to how the fund fits into the portfolio with regard to expected performance behavior relative to other funds and portfolio overlap with funds in adjacent styles. We generally can work around the style impurity inherent in most underlying funds, but we need for our fund choices to appropriately complement other funds in the portfolios, from both performance and holdings perspectives.

In a sense, it is a little like assembling a winning basketball team. The most successful teams are comprised of position players rather than utility players. Those position players possess a particular set of skills that complement the skills of the others on the team. A tall, lumbering player that is a fearsome shot blocker or rebounder, for instance, is usually paired up with a fast and nimble player with exceptional ball-handling and passing skills. Each player has a specific role to play that balances out the team. That same concept applies to the selection of the underlying managers of a portfolio.

Our mutual fund selection process also includes analyzing each fund’s style, accessing the holdings of each fund using Morningstar, Inc.’s database of portfolio holdings, and conducting in-depth manager interviews. The latter allows us to gather the most current information on investment managers and their strategies, and to quickly narrow down the universe of managers to a select group. We believe it is important to find managers who have a proven track record of success.

Selecting Active Managers

Factors Considered in the Fund Selection Process

- In-depth analysis of risk-adjusted returns, fees, and up-market/down-market capture ratios
- Examination of the source and consistency of the funds’ income streams
- Quantitative scoring of all available funds
- Meetings with portfolio managers to better understand strategies, skills, and resources
- Top-down and bottom-up fund strategy appraisals
- Assessment of the role managers will play in security selection and portfolio construction
- Detailed assessment of manager success with other strategies
- Evaluations of the risks that managers took to achieve past results
- Holdings-based analysis to examine credit-quality, sector, and interest-rate exposure
- Expert insight from specialized asset allocation teams
We also attempt to identify funds that are tax-efficient and have low expenses and low minimums. However, we may recommend a mutual fund that doesn’t meet these requirements. In such cases, Amerivest will attempt to pursue waivers of short-term redemption fees and purchase minimums, as well as negotiate access to the share class. The outcome of these negotiations may determine whether we include that fund in the portfolios.

Our next step is to establish a thorough understanding of the style and other intrinsic factors that make the selected fund stand out, and to determine what role the fund should play in the portfolios. One of the key considerations when finalizing the lineup is how well the funds fit together in a portfolio. Our fund selection process is not just about finding the most appropriate individual funds, but rather a group of funds that complement each other and whose underlying holdings have minimal unnecessary overlap. Amerivest, prior to implementation, must approve all of our allocation and security recommendations.

**Core ETF Portfolios**

The process for selecting investments for the ETF version of the portfolios is a little different than the mutual fund version, as ETFs are usually passively managed. As such, the Amerivest Core ETF portfolios are designed for those who are concerned more about costs and tax efficiency than accessing actively managed mutual funds. ETFs generally seek to match the performance of a specific market index, asset class, or sector. They usually have lower annual expenses than mutual funds as they require little manager oversight, and are more tax-efficient than conventional mutual funds, as measured by Morningstar, Inc.’s tax-cost ratio.2

In making our ETF recommendations we spend a great deal of time evaluating the particular risk characteristics of ETFs (such as trading volume, liquidity, and discounts). We also spend a great deal of time determining how best to combine ETFs, as these funds can be much more narrowly focused than mutual funds and may offer less asset class coverage.

**ETF Selection Criteria**

The ETFs were selected based on a variety of factors including:
- Tracking error
- Net expense ratio
- Average daily volume
- Net assets
- Average 12-month premium/discount
- Number of owners, buyers, and sellers
- Correlation versus a set of asset allocation benchmarks
- Attribution to a set of asset allocation benchmarks
- Benchmark construction methodology

Although ETFs are generally a lower-cost solution than mutual funds, ETFs have some limitations. The main limitation is that they don’t have a manager at the helm who can dynamically execute the fund’s strategy through upturns and downturns and can identify and avoid trendy stocks and market bubbles. ETFs simply seek to replicate the risk and return profiles of the underlying benchmarks that they follow.

That said, ETFs are generally a good option for those who are looking to put more of their money to work in their investment portfolios and seeking greater tax-efficiency. Amerivest, prior to implementation, must approve all of our ETF recommendations.

---

2 The Morningstar Tax Cost Ratio measures how much a fund’s annualized return is reduced by the taxes investors pay on distributions.
Portfolio Construction

► Analyze the underlying holdings of each fund
► Aggregate the holdings to calculate specific fund weights
► Reduce individual security and sector risk

Our portfolio construction process (recommending the specific asset weights to each fund) begins with our fund selection process. When we recommend a fund for inclusion in a portfolio, we take inventory of each of its underlying holdings in what is called “holdings-based style analysis.” This is an important step as no fund or investment type is style pure. A large-cap growth fund, for instance, may have significant positions in other styles and market caps (see illustration below). If you simply allocate according to the fund’s prospectus objective, your portfolio will be most likely overweight or underweight in certain styles. This could significantly alter the portfolio’s risk/return characteristics and could unknowingly increase volatility.

Uncovering a Fund’s Underlying Holdings

Our holdings-based approach to portfolio construction overcomes this problem by using Morningstar, Inc.’s database to X-ray each fund so we can see exactly what each fund holds, as well as to measure style consistency. This helps us better understand portfolio overlap, turnover, and correlations.

Source: Morningstar Associates, LLC. For illustrative purposes only. Categories and funds shown were selected to illustrate concept.
Once we have mapped the holdings of every fund, we aggregate them to determine the recommended fund weights that will allow us to hit our asset allocation targets with greater precision (see illustration below). The objective of our recommendations is to weight funds based on how they actually invest, rather than simply relying on a description of their investment style. Our holdings-based approach also is designed to reduce individual security risk, sector concentrations, and portfolio overlap.

Source: Morningstar Associates, LLC. For illustrative purposes only. Categories are funds shown were selected to illustrate concept.
Monitoring

► Evaluate funds’ performance and contributions to risk
► Maintain contact with managers to keep abreast of planned changes
► Analyze portfolios characteristics relative to targets
► Recommend the removal of “underperforming” funds

To help ensure that portfolios continue to meet their strategic and diversification objectives, our investment professionals continue to work with Amerivest’s team to monitor them on an ongoing basis. Our ongoing monitoring generally focuses on the following:

Holdings
We continually evaluate the overall holdings within the portfolio to make sure the allocations remain on target. Ongoing communication with the managers helps ensure that we are aware of any changes that may impact performance or their role in the portfolios.

Individual Fund Performance
We measure individual fund performance against many different metrics in an effort to understand the specific drivers of a fund’s returns. Our performance evaluations account for changes in market conditions that might impact certain strategies more than others. We discuss the results of our evaluations with each manager as part of an ongoing, open communication process.

Areas of significant concern to us include:

► Uncharacteristic performance slump
► Material change to the investment process
► Drift in investment style
► Manager change
► Organization changes

As issues like these arise, we immediately communicate our concern to the manager. If our concerns aren’t addressed within a reasonable amount of time we will remove the fund, we will then conduct a new fund search.
Ongoing Allocations

► Recommend allocation changes when needed
► Allow managers some flexibility to make strategic adjustments
► Review strategic asset allocation targets annually

Although Amerivest is responsible for all account-level activities (such as suitability and rebalancing decisions), we will make reallocation recommendations in response to changing market conditions and changing strategies/performance/yields of the underlying funds.

While we can strive to hold the portfolios precisely at their asset class targets, we must balance that desire with respect for what the underlying fund managers are trying to do within their own portfolios. For example, one of the portfolios may be overweight in foreign markets because international stocks have outperformed U.S. stocks and because our domestic-oriented managers have been holding more international stocks than usual. Before recommending that Amerivest rebalance from international to domestic fund, we first want to know whether our domestic managers are themselves planning to reduce exposure to international stocks. That’s one reason we maintain ongoing communications with every manager.

If we routinely neutralize every bet the underlying managers are trying to make, it defeats the purpose of having spent so much effort choosing the funds in the first place. Instead, what we do is research which funds are driving us off our targets, understand the rationale behind the manager’s decisions, and form a judgment as to how far we’re willing to let the funds move us from our targets before taking some action to rein things back in.

We also revisit our strategic asset targets at least once a year. Because asset class returns, risks, and correlations evolve over time, we want to keep our strategic targets “fresh” with the most recent data fed into our various estimates and forecasts. We also periodically incorporate enhancements to our asset allocation policy that grow out of our ongoing experience working with the portfolios. In some cases, we may take into account some near-term reality affecting the market or our forecasts, such as a bubble in a certain asset class, which may lead us to temporarily adjust a strategic target for the time being until the dislocation dissipates.
Summary

Our investment process is designed to help investors pursue their financial objectives by striving to create portfolios with asset allocation targets that aim to maximize returns for a given risk level. It is impossible to predict which investments will do best at any given time and past performance never guarantees future results. By including a broad range of sectors, sub-asset classes, market caps, and regions, we also increase the likelihood that some part of the portfolio will benefit from broad diversification. Lastly, our monitoring efforts and reallocation recommendations are designed to keep the Amerivest Core Mutual Fund and Core ETF portfolios on track without driving up expenses and unnecessarily disrupting the portfolios.

At the heart of our investment process, however, is an experienced investment team that is skilled at calculating the strategic asset allocation targets that help position investors to strive to reach their long-term investment/financial objectives or goals. That team is also skilled at identifying the funds that can help drive performance and weighting those funds in order to hit the asset allocation targets with requisite accuracy.

As a result, we believe the Amerivest Core Mutual Fund and Core ETF portfolios are ideally suited for investors seeking a long-term investment strategy steeped in a rigorous investment process that is overseen by investment professionals with a long history of putting the interests of investors first.

About Morningstar Associates

For more than 30 years, our parent company, Morningstar, Inc. has helped investors make more informed investment decisions, resulting in a brand that is trusted by investors worldwide. Morningstar Associates builds on this tradition by combining its expertise in analyzing managed investments with sophisticated, institutional-level portfolio management practices.

As a registered investment advisor and wholly owned subsidiary of Morningstar, Inc., Morningstar Associate, LLC provides investment management and consulting services on more than $53.4 billion in assets (as of June 30, 2015). Morningstar, Inc. and Morningstar Associates, LLC are not affiliated with Amerivest and TD Ameritrade.
Disclosures

Before investing in an Amerivest portfolio, be sure to carefully consider the underlying funds’ objectives, risks, charges, and expenses. For a prospectus containing this and other important information about each fund, contact an Amerivest Specialist at 888-310-7921. Please read the prospectus carefully before investing.

Past performance does not guarantee future results. There is no assurance that the investment process will consistently lead to successful investing. Asset allocation and diversification do not eliminate the risk of experiencing investment losses.

Mutual funds are subject to market, exchange rate, political, credit, interest rate, and prepayment risks, which vary depending on the type of mutual fund.

ETFs can entail risks similar to direct stock ownership, including market, sector, or industry risks. Some ETFs may involve international risk, currency risk, commodity risk, and interest rate risk. Trading prices may not reflect the net asset value of the underlying securities.

Amerivest Portfolios is an investment advisory service of Amerivest Investment Management, LLC (Amerivest), a registered investment advisor. Brokerage services provided by TD Ameritrade, Inc., member FINRA/SIPC. TD Ameritrade, Inc. and Amerivest Investment Management, LLC are both wholly owned subsidiaries of TD Ameritrade Holding Corporation. Amerivest is a trademark of TD Ameritrade IP Company, Inc. Amerivest provides nondiscretionary and discretionary advisory services for a fee. Risks applicable to any portfolio are those associated with its underlying securities. For more information, please see the Amerivest Disclosure Brochure (ADV Part 2) http://www.tdameritrade.com/forms/TDA4855.pdf.

Morningstar Associates, LLC (“Morningstar Associates”) is a registered investment advisor and wholly owned subsidiary of Morningstar, Inc. Morningstar Associates provides consulting services to Amerivest Investment Management, LLC (“Amerivest”) by providing recommendations to Amerivest regarding asset allocation targets and selection of securities appropriate for the Amerivest Portfolios; however, Amerivest retains the discretion to accept, modify or reject Morningstar Associates’ recommendations. Morningstar Associates selects securities for the Amerivest portfolios from the universe of investments made available through TD Ameritrade. In performing its services, Morningstar Associates may engage the services of its affiliate, Morningstar Investment Services, Inc. (“MIS”), a registered investment advisor and wholly owned subsidiary of Morningstar, Inc. Neither Morningstar Associates nor MIS is acting in the capacity of advisor to Amerivest’s clients. Asset Allocation target allocations are subject to change without notice. Morningstar Associates establishes the allocations using its proprietary asset classifications. If alternative classification methods are used, the allocations may not meet the asset allocation targets. The Morningstar name and logo are registered marks of Morningstar, Inc. Morningstar Associates is not affiliated with Amerivest or TD Ameritrade.

<table>
<thead>
<tr>
<th>Investment Products:</th>
<th>Not FDIC Insured</th>
<th>No Bank Guarantee</th>
<th>May Lose Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

©2015 Morningstar Associates, LLC, a registered investment advisor and wholly owned subsidiary of Morningstar, Inc. The information, data, analyses, and opinions presented herein do not constitute investment advice, are provided as of the date written and solely for informational purposes only and therefore are not an offer to buy or sell a security, and are not warranted to be correct, complete or accurate. Past performance is not indicative and not a guarantee of future results.