Portfolio Construction

Investment Philosophy

Independence
The powering agent behind **401k Plus** is Retirement Management Systems Inc. (RMS). **RMS** is an independent registered investment advisor with no affiliations with mutual fund management firms, banks, or insurance companies. We believe this gives us the ability to provide objective advisory services, free of the conflicts of interest that plague many firms in the defined contribution industry.

Computer-Based Analysis
Our research and portfolio construction processes are supported by the latest software. We use asset allocation optimization tools that can analyze and model thousands of investment options.

Disciplined, Consistent Approach
By maintaining a disciplined approach to investing, our portfolios capture the benefits of long-term equity exposure without the detrimental effects often associated with market timing strategies.

Investment Allocation Process

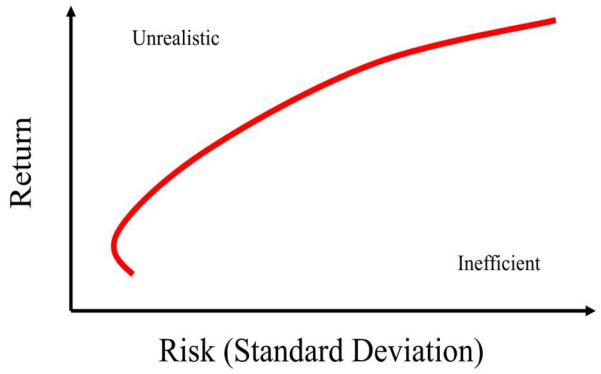
401k Plus uses the principles of Modern Portfolio Theory to construct **diversified** portfolios that have efficient characteristics of risk and return. Our experience has shown that 401(k) participants make some basic mistakes. First, they select investment options individually, without regard for the overall portfolio. Second, because they misunderstand, or are unaware of, the dynamics of investment risk, they generally construct a poorly diversified portfolio. They select top performing mutual funds from the previous year, they inadvertently overweight a single asset class, and they do not take advantage of the risk-reducing effects of combining different asset types.

Although return is the first thing on most investors' minds, we spend significant time evaluating the volatility of various investment options and how they behave when combined. While there are usually some risk-reducing advantages to combining different asset types, the real goal of diversification is to combine assets in such a way as to achieve the least amount of risk for a given level of expected return. We rely on the concepts of Modern Portfolio Theory, including mean-variance optimization to construct portfolios that have "efficient" risk and reward characteristics.

Modern Portfolio Theory, developed by Dr. Harry Markowitz in the 1950s, explores how risk-averse investors construct portfolios in order to optimize expected returns against market risk. The theory quantifies the benefits of diversification.

Markowitz showed exactly how an investor could reduce the standard deviation (risk as measured by volatility) of portfolio returns by choosing assets that do not move exactly together. When he graphed standard deviation against expected return, Markowitz developed a way to view the efficiency of a portfolio.

A portfolio is said to be optimally efficient if there is no portfolio having the same standard deviation (risk) with a greater expected return and there is no portfolio having the same return with a lesser standard deviation. The Efficient Frontier is the collection of all efficient portfolios and is represented on a graph as a sloping line rising gradually from left to right.



The Efficient Frontier represents the trade-off between risk and expected return faced by an investor when forming a portfolio. The investment decision is not merely which securities to own, but how to divide the assets among securities.

Structural Analysis

We begin our disciplined process by constructing seven portfolio models ranging from conservative to aggressive. These models are suitable for most investors, whether they are conservative, moderate or aggressive. They focus on reducing short-term volatility and chance of loss while giving the investor the opportunity to outpace inflation in both the short and long run.

The Conservative Investor
The conservative investor is particularly sensitive to short-term losses, but still has the likely goal of beating expected inflation over the long term. The conservative portfolios are characterized as having:

- *Approximately* a 90 percent chance of achieving a non-negative return over a one-year holding period.
- At least a 75 percent chance of keeping pace with expected inflation over a three-year span and 90 percent chance over a five-year span.
- An expected return (refers to the expected value) that outpaces expected inflation by at least three percent over a 20-year holding period.

The Moderate Investor
The moderate investor is willing to accept more risk than the conservative investor, but is still concerned about short-term risk and is willing to forego the potential for a long-term return dramatically above the inflation rate. The moderate portfolios are characterized as having:

- A 75 percent chance of achieving a non-negative return over a one-year time frame and at least a 95 percent chance over a three-year holding period.
- At least a 75 percent chance of keeping pace with expected inflation over a three-year holding period and 90 percent chance over a five-year span.
- A return that outpaces expected inflation by at least 6 percent over a 20-year holding period.

The Aggressive Investor
The aggressive investor seeks to maximize long-term expected returns rather than to minimize possible short-term losses. The long-term aggressive portfolios are characterized as having:

- A 90 percent chance of achieving a non-negative return over a three-year holding period.
- At least a 75 percent chance of keeping pace with expected inflation over the three-year holding period and 90 percent chance over a five year span.
- A return that is expected to beat anticipated inflation by approximately 9 percent over a 20- year holding period.

Asset Allocation Decisions

In formulating diversified portfolios, we employ a statistical technique known as optimization. The goal of optimization is to identify portfolios that maximize return for a given level of risk or minimize risk for a given level of return. Optimization requires forecasting returns, standard deviations and correlation coefficients of asset classes over the desired investing horizon. Appropriate employment of optimization as a tool also involves applying qualitative reasoning.

Asset classes are defined as categories of investments with common characteristics. We use commonly available tools to help define asset classes such that no one security can be classified into more than one category. As a result, securities within well-defined asset classes should react similarly to changes in market and economic circumstances.

Mean Variance Analysis and Inputs
The forecasts we make for portfolio construction are not attempts to predict the market. Rather, they are attempts to ascertain the market's expectations. Mean-variance analysis is designed to assist investors in making strategic asset allocation decisions. The analysis should not be used to make market timing, security selection, or sector rotation decisions since these strategies assume some degree of market inefficiency.

Mean-variance analysis requires three statistical estimates for each asset class:

1. Expected return
2. Expected standard deviation
3. Expected correlation coefficients

We develop forecasts for each of these statistics using a combination of historical data and current market information.

Historical data incorporate a number of economic events and are therefore helpful to develop forecasts. Pure historical analysis, however, can be misleading. Historical data reflect the economic and market events that occurred in a specific time period. Therefore, data that do not contain the same events do not provide useful comparisons. This is problematic when the benchmarks of different asset classes have different periods of historical data available.

We maintain that all data from 1926 to the present for equity asset classes and data from 1970 for fixed income asset classes are relevant. Structural changes in interest rates, inflation, and currency exchange rates make fixed income data available before 1970 irrelevant to making forecasts.

Expected Return
When choosing a risk-free rate, we use the yield of non-callable U.S. Treasury bonds or Notes with a remaining maturity similar to the investment period.

The risk premium is derived from a historical analysis of asset class returns relative to a risk-free investment. Premium is estimated as the difference between returns of certain benchmarks over time. Various premiums are added to the current risk-free rate in order to forecast the expected return unique to each asset class.

We estimate the additional return investors holding stocks of various sizes and styles expect to receive over the risk-free rate when forecasting the expected return of the **equity** asset classes. We calculate the premium investors demand for holding bonds of various maturity and credit quality when estimating the expected return of **fixed income** asset classes.

Standard Deviation
Mean-variance analysis requires a quantifiable risk measure for each asset class. We use standard deviation to estimate the risk of each asset class. Standard deviation measures dispersion around an average return.

We use historical data to forecast standard deviation because we believe it provides an unbiased estimate of future volatility. Ideally, we use historical standard deviations using all available and relevant data.

Correlation Coefficient
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 risk and return of asset classes as well. The relationship between asset classes is measured by the correlation coefficient and can range from +1 (move in perfect tandem) to 0 (no perceptible relationship) to -1 (move in opposite directions).

Portfolio Spacing
Other considerations, such as portfolio "spacing" are also reflected in these allocations. Portfolio spacing refers to the change in standard deviation (risk) from one portfolio to the next. The goal is to ensure that the risk spread between each portfolio is relatively equal (i.e., there is no benefit in offering seven portfolios if they all have similar risk characteristics).

Because standard deviation estimations are based on historical data, they are more stable than nominal return estimations (which rely partly on current inflation expectations as expressed in the treasury yield curve). As a result, we prefer to base "spacing" upon the variable that will change least from year to year. This helps to ensure that the *target portfolios* will not experience a drastic shift in asset class weightings from one period to the next.

Security Selection Decisions

Our research team can track and provide information on any number of publicly traded mutual funds and stocks. They can incorporate into the analysis any proprietary fund for which information is provided. The team also can track commingled funds or company stock if information is available about the percent of allocation to specific assets.

The analysis of mutual funds is both quantitative and qualitative, involving frequent meetings with representatives of funds, as well as fund managers. For quantitative analysis we incorporate information from Ibbotson Associates, Morningstar, and S&P.

Incorporated into the analysis is proprietary scoring for:

- The investment's **strategy** (is the investment staying true to its objective?),
- Its **people** (are managers frequently changing?, what is their track record within the asset class?),
- Short and long-term **performance** (is the investment showing value above the benchmark?),
- **Expenses** (are costs dragging down long-term performance and is the investment showing value for the costs?), and
- The overall **role** in the portfolio (does it contribute to the risk and return objectives of the portfolio?).

Reallocation and Rebalancing

Monitoring the portfolios is an ongoing process. We're regularly evaluating whether the portfolio stays in line with its stated characteristics; whether the investment options are exceeding benchmarks; and whether market conditions are unduly influencing the portfolio's behavior.

When the Investment Committee meets quarterly, they will analyze the portfolios and market conditions. If conditions suggest the portfolio's risk or return levels would benefit, the Committee may decide to reallocate the portfolios by making adjustments to the asset class weightings, all the time staying within the guidelines of each portfolio's investment policy statement.

Studies show that regular rebalancing enhances a portfolio's long-term results. The Investment Committee uses two rebalancing criteria. First, it will rebalance the portfolios at least semi-annually. Second, they assign each asset class with a deviation collar (e.g., +/- 3% of the target allocation) and will decide to rebalance the portfolios if the investments exceed those collars. Rebalancing decisions are made quarterly at the scheduled Investment Committee meetings.

There is no guarantee that asset allocation strategies will result in profit or protect against a loss in a declining market. Performance statistics are historical in nature and do not guarantee future results. Statistics generated by Ibbotson Associates.

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