

Reallocation Memo

062020

Morningstar® Lifetime Allocation IndexesSM

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Morningstar Investment Management LLC

Executive Summary

Over the past decade, the Morningstar® Lifetime Allocation IndexesSM (Indexes) offered by Morningstar, Inc. (Morningstar) have helped investors evaluate target-date funds. Morningstar Investment Management LLC determines the glide paths and the asset allocation for these Indexes based on our latest capital markets research and insights into how investors should save and invest to help meet their retirement goals, while also considering the range of glide paths available. Morningstar reconstitutes the Indexes—i.e., the Index composition is reset—annually to incorporate our latest research on capital markets, fundamental analysis of asset classes, and demographics data. The reconstitution occurs after the close of markets on the third Friday of June and goes into effect on the following Monday.

Our total-wealth approach continues to underpin the Indexes' glide-path design, designed to keep the equity glide path stable, but our updated research on capital markets has led to a couple of adjustments to the asset allocation of Indexes. In keeping with our methodology, Morningstar and Morningstar Investment Management work together to adjust the Indexes over time to reflect changes in the global markets and our corporate goal of helping investors achieve their retirement goals. In 2020, we made the following changes to the Indexes' asset allocation:

- ▶ Removed the allocations to Commodities
- ▶ Increased the allocations to Short-Term TIPS

Equity Glide Path Update

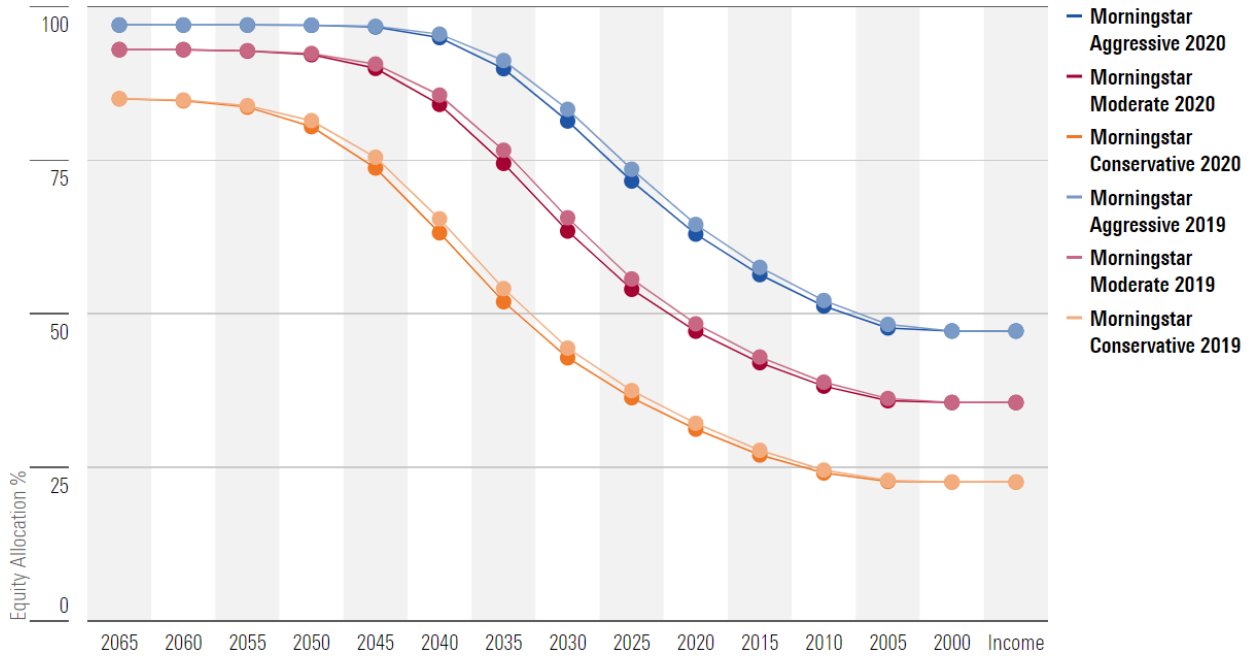
Our total-wealth approach for creating glide paths builds on the asset-allocation experience of Morningstar Investment Management. Within the Indexes, we apply our total-wealth approach to investing, using average U.S. demographic data. Our total-wealth approach takes a holistic view of an average investor's assets in constructing an appropriate glide path. We incorporate the total value and risk attributes of an average investor, and, for products where we have such information, use financial assets (e.g., a 401(k) plan balance) as a "completion portfolio" to help ensure diversification.

Our total-wealth approach considers assets often overlooked, like human capital and pension wealth. Human capital can be thought of as the mortality-weighted net present value of an individual's future wage income, while pension wealth represents assets like Social Security retirement benefits and defined-benefit pensions. The dynamics between human capital and financial capital, two of the largest assets on an investor's balance sheet, and the investor's risk capacity and risk preference determine the shape of the glide path for our three risk tracks: Conservative, Moderate, and Aggressive.

The glide path is target-date funds' defining characteristic and is commonly used by investors and plan sponsors to evaluate and select a series of target-date funds. Investors should select a glide path that suits their risk preference (or appetite for risk) and risk capacity (financial ability to take risk). At Morningstar Investment Management, we strive to maintain a consistent glide path through time, making only minor changes year to year. Over time we haven't changed the glide paths, but rather moved the investors along the glide paths by implementing small adjustments that typically resulted in the equity allocation decreasing by no

more than 3 percentage points from the previous allocation. Besides aging the portfolios by decreasing the equity allocation as they approach the retirement year, other factors that could result in changes to the glide path are investor demographics, estimates of the asset allocation of the reference portfolio, and the risk profiles of the human capital. We have not made any changes to these factors in 2020. Figure 1 illustrates the 2020 glide paths for the three Indexes.

Figure 1. 2020 Morningstar Lifetime Allocation Index Glide Paths



Source: Morningstar Investment Management LLC. Data as of June 19, 2020.

Indexes are not available for direct investment.

Asset Allocation Update

After determining the equity glide path for the Indexes using our total-wealth approach, we then determine the desired exposures to underlying asset classes within stocks and bonds. We use multiple asset-allocation techniques to determine these weights, relying on our capital-market assumptions, incorporating non-normal returns, downside risk, and liability-driven investing into the portfolio optimization process.

With a focus on the long term, we apply fundamental, valuation-oriented views with the goal of helping investors ride out the market’s ups and downs and take advantage of potential opportunities that may arise. We believe this aspect to our investment process will serve investors for years to come.

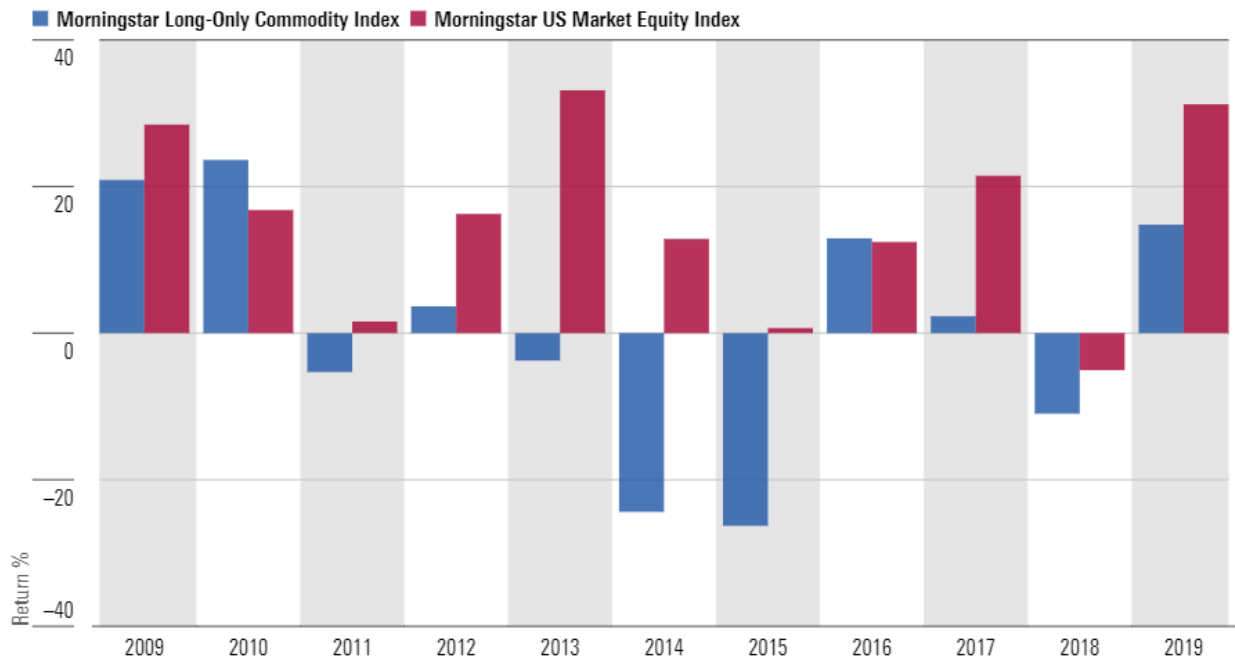
While valuation is a component of our capital markets research, Morningstar Investment Management believes that the asset allocation policy is an important determinant of a portfolio’s risk and return characteristics over time. When constructing a diversified, multi-asset portfolio, we feel it is critical to emphasize diversification over the long run. We believe that a diversified selection of asset classes has the potential to offer investors the opportunity to meet their retirement goals while taking on the appropriate amount of risk. Therefore, the Indexes offer exposure to a variety of asset classes, including non-U.S. developed equity, emerging-markets equity, non-U.S. bonds, and TIPS. Each year, we re-evaluate our expected returns for each asset class represented in the Indexes and analyze additional asset classes for inclusion in the Indexes. We generally aim to keep adjustments to asset allocations within 300 basis points. We’ve summarized our changes in 2020 below.

Removed Commodities

Morningstar Investment Management removed commodities as an asset class from Indexes. Prior to 2020, the Indexes gained exposure to commodities through the Morningstar® Long-Only Commodity IndexSM which measures the performance of future contracts on eligible long commodities. Investors may use commodities to seek enhanced returns, provide portfolio diversification and hedge inflation which is why we included the exposure in the Indexes since they launched in 2009. However, each of the three attributes have become less attractive over the years, resulting in our decision to remove the asset class. Moreover, looking for pure exposure to contract-based spot prices on an exchange can be inefficient and costly.

First, over the past decade commodities have underperformed the overall U.S. equity markets as can be seen in Figure 2. While not a driver of our decision to remove commodities from the allocation of the Indexes, our forward-looking return and risk estimates suggest that there are more attractive asset classes than commodities. At the beginning of 2020, Morningstar Investment Management updated the methodology for calculating the expected returns for commodities, aiming to capture both sources of commodity returns--price change and roll yield. The negative roll-yield in estimating expected returns has generally led to a lower expected return than the previous methodology that focused on the commodity-return premium. We believe that the low roll yield for commodities will remain persistently lower than at the beginning of the commodity investment cycle in the early 2000s, limiting its attractiveness on both an absolute and relative basis.

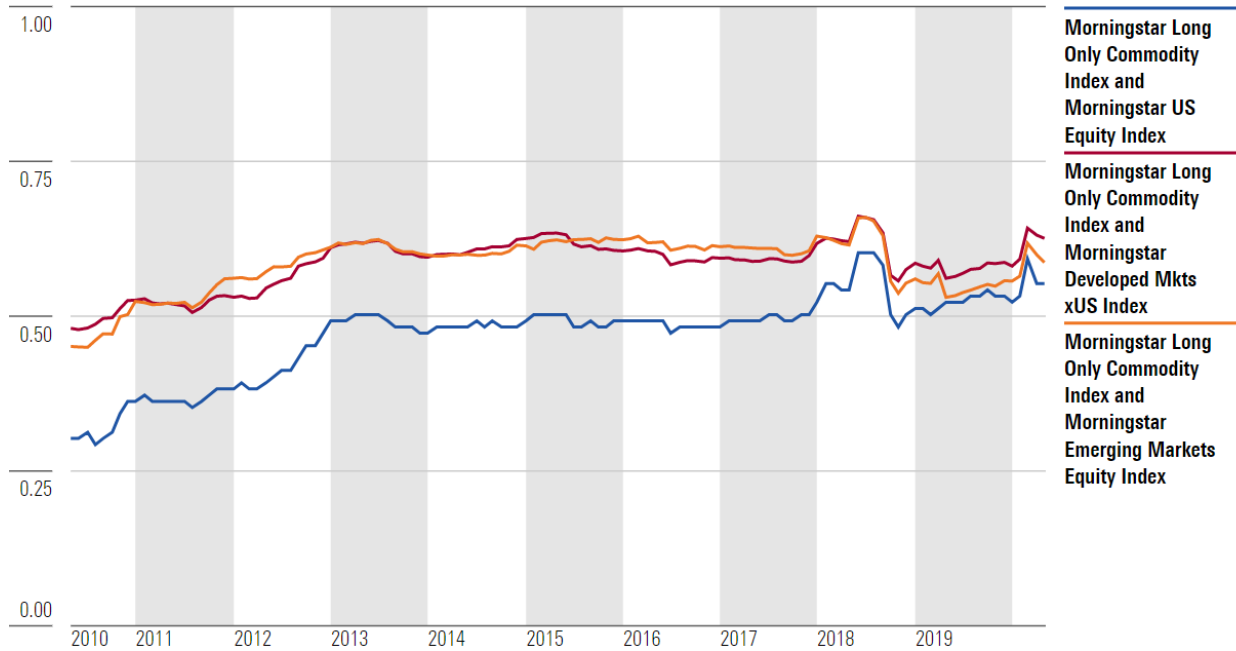
Figure 2. Calendar Year Return (%) for Commodities vs. U.S. Equity Markets



Source: Morningstar Direct. Data as of May 30, 2020.

Second, our research indicates that over the past 20 years, diversification uses of commodities have been exaggerated, with correlations between commodities and other asset classes increasing, limiting the potential benefits of allocating to commodities. Figure 3 illustrates the rolling 10-years correlations between commodities and U.S. and Non-U.S. equity markets. Due to the increased correlations and historical underperformance the asset class has had a limited impact on wealth outcomes for investors. Even with no allocations to commodities, the Indexes remain diversified across various asset classes, geographies, sectors and currencies.

Figure 3. Rolling 10-Years Correlations (January 2010 to May 2020)



Source: Morningstar Direct . Data as of June 19, 2020.

Third, a strategic allocation to a basket of inflation-hedging asset classes may help our portfolios maintain their purchasing power over the long term or increase in value by producing higher nominal returns that closely track realized inflation over medium- to short-time horizons. While commodities could be viewed as an inflation-hedging asset class, historically we had allocated between 2% and 3% to commodities across the glide paths. After removing commodities, the Indexes will maintain a substantial portion of the fixed-income portfolio allocated to inflation sensitive asset classes, such as TIPS, which play an increasing role in the portfolio as the investor ages because human capital provides less and less inflation protection.

Finally, unlike many asset classes where multiple indexes effectively serve as proxies, commodity indexes do not display the same consistency. Dramatic differences in constituents and weighting schemes as well as rebalancing rules are likely the cause of the performance differences in the commodities indexes which makes it harder to analyze and forecast the performance of the asset class. In addition, the absence of cash flows does not make commodities a good fit for our fundamental and valuation-based models which coupled with commodities’ marginal benefit to inflation hedging and overall portfolio diversification contributed to our decision to remove the asset class from the Indexes and proportionally reallocate the 2%-3% weights to the other equity asset classes, such as U.S. equities, non-U.S. developed equities, emerging markets equities and REITs.

Increased Short-Term TIPS

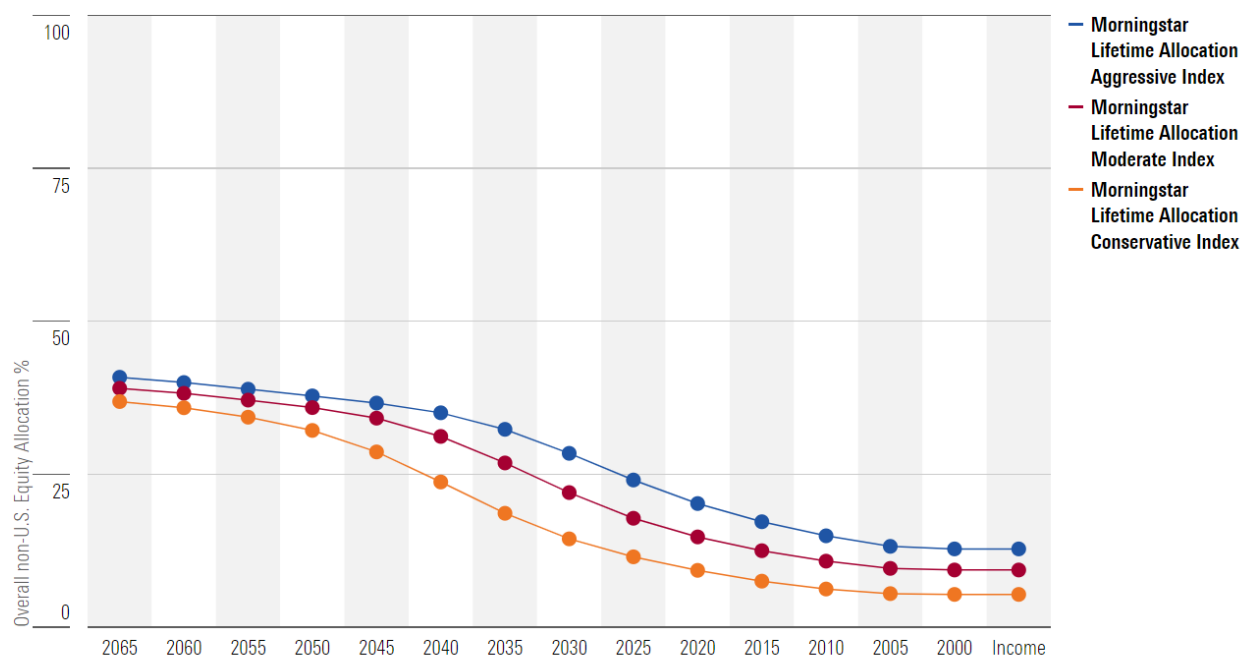
Real return asset classes, such as TIPS and real estate, typically can play an increasing role in the portfolio as the investor ages because human capital, which offers a natural hedge against inflation is converted into financial capital. The intra-bond allocations of the financial capital should gradually shift across the glide path from high-return, long-duration, nominal bond-oriented asset allocations toward a less volatile, shorter-duration, real return-oriented asset allocation. In conjunction with removing commodities, we have slightly increased the allocations to short-term TIPS to help our portfolios maintain their purchasing power over the long-term. Our research shows that short-term TIPS, as represented by the Morningstar® Short-Term TIPS IndexSM TR (1-5 years), has been more highly correlated to actual monthly and annual inflation due to lower duration and faster responsiveness to unexpected inflation. In addition, short-term TIPS have exhibited less volatility than commodities, making them very attractive for risk-averse investors close to retirement or in retirement.

Overall Asset Allocation Positioning

Based on our forward-looking capital market assumptions, we expect most asset classes to deliver lower returns over the next 10-20 years, than our estimates for the long-term, equilibrium returns, which are independent and unconditional to current valuations levels. Although not all asset classes appear extremely overpriced, our valuation models suggest the broad market is on the expensive side. The U.S. market remains expensive compared with its long-term history, with CAPE at its 95th percentile over the 1881-2019 period. Given the importance of the U.S. economy and the size of the U.S. market from a global perspective, this is very meaningful and commands a negative valuation score.

The Indexes favor U.S. equities relative to foreign stocks especially for the close-to-retirement portfolios, though the allocation to foreign stocks has increased over time. In addition to having the potential to improve returns, foreign stocks provide a valuable diversification use to a multi-asset portfolio that we believe can help long-term investors better weather fluctuations in the domestic equity markets. We believe valuations appear to be stretched in the U.S. and that returns are likely to be challenged in an environment of lower growth. Figure 4 below illustrates the overall portfolio allocations to total non-U.S. equities across the three glide paths.

Figure 4. Overall Allocations to Non-U.S. Equities



Source: Morningstar Investment Management LLC. Data as of June 19, 2020.

We maintain our U.S. Growth underweight relative to U.S. Value stocks across the target-date portfolios. Value continues to lag its growth counterparts, while areas such as financials and energy continue to look more attractive to us from a relative valuation perspective. Value-oriented stocks looked cheaper than other parts of U.S. market coming into 2020. The divergence between the returns of growth-oriented stocks and value-oriented stocks continued so far this year with growth outperforming again. Historically, value stocks tend to be more closely tied with economic activity, and the global economic slowdown we experienced in early 2020 brought more harm to their valuations. In our view, this means we should be positioned for that valuation divergence to converge. Therefore, we continue to favor value sectors. Figure 5 below illustrates the proportion of Value as a % of total U.S. Equity.

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