TARGET DATE FUND COMMENTARY 2ND QUARTER, 2021

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TIAA-CREF LIFECYCLE

MEETING DATE: JULY 20, 2021

FOCUS AREA

Organizational Update

There were no changes to the target date portfolio management team during the guarter.

Investments Update

TIAA-CREF is currently reviewing the domestic/international allocation split within Lifecycle's equity portfolio. The portfolio is currently split 70% U.S./30% international. However. in the firm's most recent long-term capital market assumptions, the expected returns for U.S. equities came down while international equity expected returns were more stable. making them more attractive. As a result, the team began researching a larger allocation to non-U.S. equities in Lifecycle. While the decision is not final yet, we would expect the split to be moved to 65% U.S./35% international and to be implemented in Q4 2021, based on our conversations with the team.

This change reflects a trend we have observed across the target date and broader asset management industry. Several of TIAA-CREF's largest peers in the target date universe increased their international equity exposures in recent years. Given the outperformance of U.S. equities over the past several years, many asset managers are now forecasting better returns in international markets.

The Lifecycle team added Nuveen International Growth to the watch list in the second quarter. The strategy has posted disappointing results relative to other international growth strategies over the trailing 1-. 3-, and 5-year periods. According to Lifecycle Portfolio Manager John Cunniff, they want Lifecycle's international growth sleeve to be focused on the MSCI All Country World ex-U.S. index. However, Nuveen International Growth is more closely aligned with the MSCI EAFE index. John and his team are working to determine the best path forward for this sleeve of the portfolio and if a change needs to be made.

TIAA-CREF Quant Small Cap Equity has been removed from the Lifecycle team's fund watch list. The strategy was initially placed on watch in the fourth quarter of 2020 largely due to concerns about the impact of outflows from the redemptions of two large clients from the fund. However, the team was able to manage through this without a meaningful negative impact to performance. In addition, the strategy has shown solid performance since being placed on watch, outperforming both its benchmark and peers.

The Nuveen Dividend Value strategy remains on watch. The fund was first placed on watch in the first guarter. While it slightly outperformed peers and the benchmark in the second quarter, it had underperformed for the previous five consecutive quarters. The Lifecycle team is also concerned about additional responsibilities, the lead portfolio manager, David Chalupnik, recently took on as head of U.S. Active Equities Portfolio Management. They are watching to see how Mr. Chalupnik balances his new responsibilities with his existing portfolio manager duties and if there are any negative affects to the fund.



TIAA-CREF LIFECYCLE

MEETING DATE: JULY 20, 2021

FOCUS AREA

Performance and Positioning Update

TIAA-CREF Lifecycle Performance Update:

The TIAA-CREF Lifecycle series posted decent results in the second guarter as it outperformed the benchmark, and most vintages outperformed the peer group.

- Lifecycle's strategic glidepath and its underlying managers both contributed positively to performance during the guarter.
- From a glidepath and strategic allocation perspective, Lifecycle's smaller allocation to international equities added value as the U.S. continued to outperform.
- TIAA-CREF also keeps a smaller allocation to short-term bonds/cash relative to the market and this helped performance as intermediate and long duration bonds outperformed short duration.
- At the underlying manager level, TIAA-CREF International Opportunities was the largest contributor as it benefited from the market rotation back to structural growth
- Nuveen International Growth and TIAA-CREF Quant Small/Mid-Cap Equity also added value through positive security selection.
- Lifecycle's inclusion of private real estate had a mixed impact on performance.
- It contributed positively to results in the further-dated vintages where it is funded from the fixed income portfolio. However, it was a detractor closer to retirement where it is funded from the equity portfolio.

Positioning Update:

The Lifecycle team closed one tactical position and opened another during the quarter.

- TIAA-CREF closed its overweight position in emerging markets bonds versus U.S. core fixed income at the end of June.
- The team had held the position since May 2020 based on the attractive valuation and income carry of emerging markets debt relative to the U.S.
- · As yields have come down this year in emerging markets debt, the team felt the position was no longer attractive and decided to close it.
- TIAA-CREF initiated an overweight position to international developed and emerging markets equities relative to the U.S. at the end of the second quarter.
- The team feels that valuations are more attractive overseas and that the U.S. economy's growth may have peaked while growth in other regions are still accelerating.

Note: Benchmark relative performance refers to the series' performance compared to the S&P Target Date Indices.



TIAA-CREF LIFECYCLE INDEX

MEETING DATE: JULY 20, 2021

FOCUS AREA

Organizational Update

There were no changes to the target date portfolio management team during the quarter.

Investments Update

There were no changes to the Lifecycle Index portfolios during the quarter.

Performance and Positioning Update

TIAA-CRE Lifecycle Index Performance Update:

The TIAA-CREF Lifecycle Index series outperformed the benchmark in the second quarter but had mixed results relative to peers.

- Relative to peers, the series' further-dated vintages outperformed while those closer to retirement underperformed.
- The primary driver for the near-dated vintages' underperformance was the composition of its fixed income portfolio.
- Lifecycle Index's fixed income portfolio is 100% investment grade as it excludes high yield bonds.
- High yield outperformed investment grade in the second quarter, so Lifecycle Index was negatively impacted by not owning it.
- Relative to the benchmark, Lifecycle Index was helped by its generally larger allocation to equities as stocks outperformed bonds in the second quarter.
- The series' equity portfolio is tilted towards large-cap stocks, and this helped performance as large-caps rebounded in the second quarter, outperforming small-cap and midcap stocks.
- Lifecycle Index's smaller allocation to international equities relative to peers was also a contributor as the U.S. outperformed international markets.

There were no changes made to the series' strategic asset allocation during the quarter.

Note: Benchmark relative performance refers to the series' performance compared to the S&P Target Date Indices.

