ARP/403(b) PLAN INVESTMENT LINE UP OUTPERFORMS TIAA-CREF ANNUITIES ACROSS THE BOARD

In January 2006, the State of Connecticut introduced a new investment menu for its defined contribution plans, including the Alternate Retirement Plan ("ARP") and the 403(b) Plan. The new investment line-up, the result of a rigorous evaluation process, includes index funds in all major asset classes, "best in class" actively managed mutual funds, fixed income options, and target retirement date funds.

From 1976 through 2005, participants in the ARP were restricted to variable annuities offered by TIAA-CREF. During the same period, a significant number of participants the 403(b) Plan also invested solely in TIAA-CREF annuities. Participants may be interested in a recent academic study showing that significantly higher returns are possible under new ARP/403(b) Plan investment menu than were achievable with TIAA-CREF annuities alone.

Background of the Study.

In 2007, finance and mathematics professors at Claremont Graduate University published an article entitled, "What's in Your 403(b)? Academic Retirement Plans and the Costs of Underdiversification."[1] The authors set out to determine how a portfolio based on TIAA-CREF variable annuities—the only choice offered in many college and university retirement plans—would compare to those that might be achieved by participants with access to a broader range of investments. The authors concluded that over a 20-year period an employee who invested in an expanded investment menu that included both TIAA-CREF annuities + Vanguard standard index funds could gain over 40 % more in "terminal wealth" than one who invested only in TIAA-CREF annuities.

Summary of the ARP/403(b) Research

Because of its long history with TIAA-CREF annuities, the State asked the authors of the original Claremont study to compare potential returns under the new ARP/403(b) Plan investment line-up to those achievable with TIAA-CREF annuities alone. The results were even more dramatic: Over a 10-year period, the study concluded, a highly risk tolerant participant whose retirement savings were invested using the current ARP/403(b) menu could achieve an ending account value three times higher than was possible using TIAA-CREF annuities only. A copy of the Study is posted on the Plan's website: www.CTdcp.com.

Using historical returns for the period from 1997 to 2007, the authors calculated cumulative performance of different "model portfolios" that were based on the current ARP/403(b) Plan options or TIAA-CREF annuities. The model portfolios, with different asset allocations depending on the level of assumed risk (conservative, moderate, aggressive, etc.), are the same ones suggested by the ARP/403(b) Plan "Portfolio Allocation Worksheet"[2] or proposed by TIAA-CREF for its variable annuities.

The ARP/403(b) model portfolios based on the current investment menu outperformed the comparable TIAA-CREF models at every risk level. For example, $10,000 invested in the CT Aggressive Model over a 20-year period, was found to have an expected terminal value of $120,000, versus $69,300 using TIAA-CREF's Aggressive

[1] The original study was published in the Summer 2007 issue of *Financial Management.*
[2] The composition of the model portfolios can be found in the "Portfolio Allocation Worksheet' on the Plan's website: www.CTdcp.com

Model—a difference of 74 % in terminal wealth. Over a 10-year period, the expected result for a $10,000 investment in the CT Aggressive Model was $65,900 compared to $42,700 using TIAA-CREF's Aggressive Model—a difference of 54 % in terminal wealth.

Under the CT Moderately Aggressive Model, over a 20-year period, a $10,000 investment would have yielded $100,260 as opposed to $59,000 using TIAA-CREF's Moderately Aggressive Model—a difference of 70 % in terminal wealth . Over a 15-year period, $10,000 invested in the CT Moderately Aggressive Portfolio would yield $57,300 versus $42,700 using the similar TIAA-CREF portfolio—a difference of 34 % in terminal wealth.

Superior Diversification Potential

The authors also considered how effectively the current ARP/403(b) line-up allowed participants to manage risk through diversification. In order to obtain this benefit, participants must have access to a sufficient number of asset classes with different risk and return characteristics. When two investments react the same way to fluctuations in the financial markets, their results are said to be highly correlated. If two investments tend to move in the opposite direction, say, like equities and real estate, their results are negatively correlated.

The study concluded that the current ARP/403(b) Plan investment line-up, which covers most major asset classes, provides participants with a greater potential for diversification. Although TIAA-CREF offers several equity annuities with different sounding names, like CREF Stock, CREF Global Equity, CREF Growth and CREF Equity Index, the study found that their results were so highly correlated (essentially investing in similar or overlapping securities) that participants using TIAA-CREF annuities only "are exposed to a degree of risk that they cannot effectively mitigate through diversification among available options."

Conclusion

By upgrading the investment options in the ARP/403(b) Plan and reducing overall administrative expenses, the State sought to provide participants with the opportunity to build well-diversified retirement portfolios. As with all investments, it is important to remember that past returns do not guarantee future results. However, the Claremont study confirms that over time a participant with a diversified portfolio based on the current ARP/403(b) Plan investment options has the ability to achieve higher returns than one confined to TIAA-CREF annuities alone. In large part, these higher returns are possible because the new investment line-up provides participants with access to a more complete range of asset classes with different risk and return characteristics.

Since 2006, the State has required that all new contributions to the ARP or 403(b) Plan be invested under the new platform. Many ARP and 403(b) Plan members have already transferred money from their old TIAA-CREF accounts to the new investment menu. This study should be of interest to all plan participants, but especially to those who are thinking about consolidating all their retirement assets—including amounts still invested in TIAA-CREF annuities—in one place.

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