



Back to the Future: Hybrid Co-op Pensions and the TIAA-CREF System

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TIAA-CREF Institute



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The views expressed are the authors and do not necessarily reflect the views of TIAA-CREF or the TIAA-CREF Institute. We thank Jeff Brown, David Brown, Jim Poterba, and Beth Sutherland for helpful comments and suggestions. Any errors are our own.

The Basics of TIAA-CREF System



- **Teachers Insurance and Annuity Association (TIAA)**
 - Founded in 1918 under leadership of Andrew Carnegie
 - Contributory guaranteed fixed annuity plan
- **College Retirement Equity Fund**
 - Began in 1952 under leadership of William Greenough
 - First commercially available variable annuity
- **Co-operative structure**
 - “Owned” by participants
 - Population and cohort risk pooling
 - Assets fully portable within system
- **Hybrid structure**
 - Pure hybrid until 1980s – changed by market and regulatory pressures
 - Retains features of hybrid system



TIAA-CREF: 2013 System Assets

- **Over \$600 billion in total assets**
- **\$430 billion in accumulating pension assets**

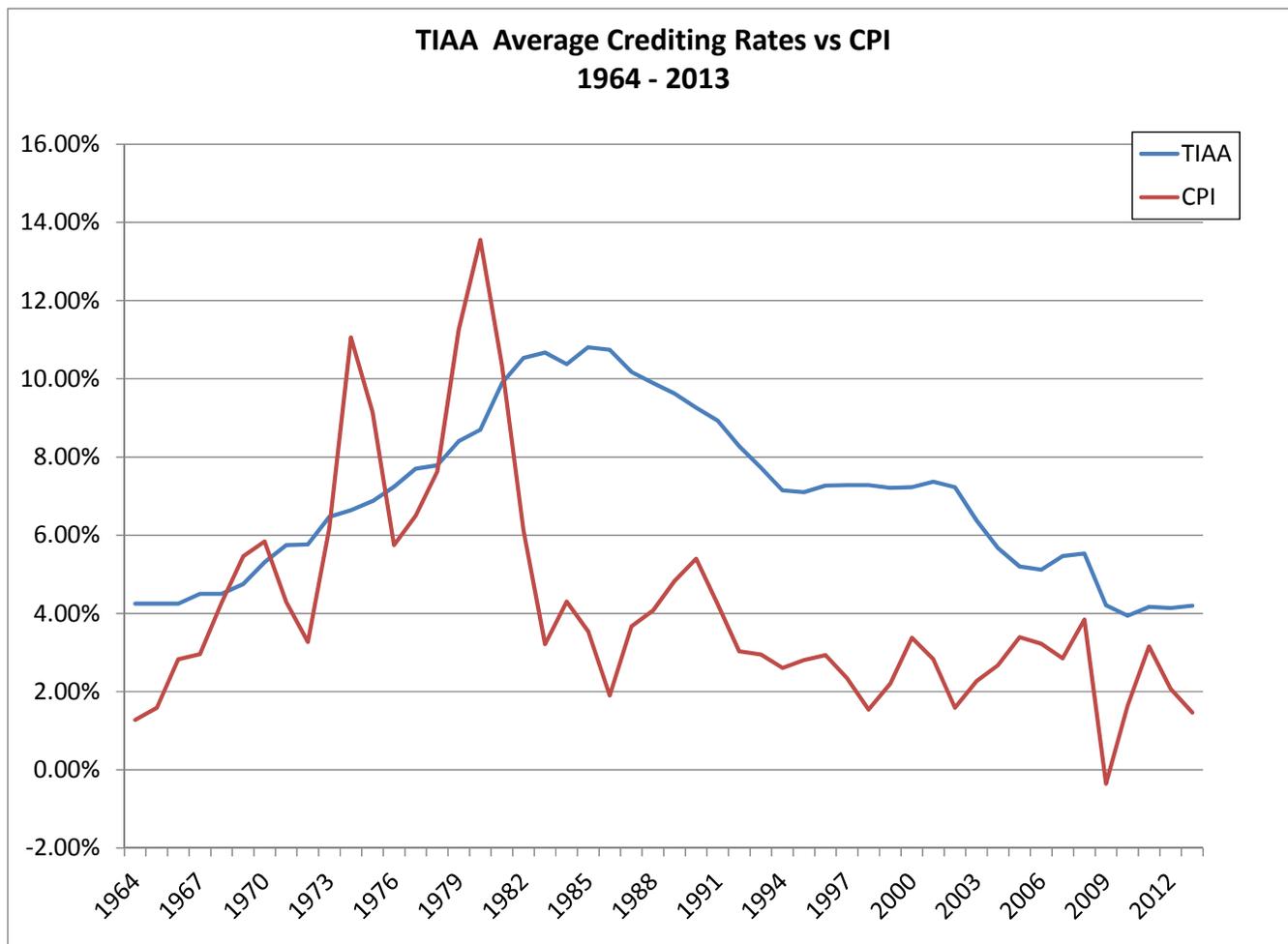
Investment Account	inception	% of assets
TIAA Traditional	1918	33.2%
TIAA Real Estate	1995	3.8%
CREF	1952-2007	48.7%
TIAA-CREF Mutual Funds	2002	10.2%
TIAA-CREF Target Date Funds	2004+	4.1%

TIAA: The Basics

- Guaranteed Fixed Annuity Product
- Purchase deferred annuity units during working life at \$1 per share
- Cumulative units receive guaranteed minimum crediting rate.
- Vintage system (Part 1): Crediting rate depends on when units are purchased.
- Participants have the **right, but not obligation**, to annuitize assets.
- Vintage system (Part 2): Annuity payout rate depends on when units are purchased.
- Full menu of annuity options available.

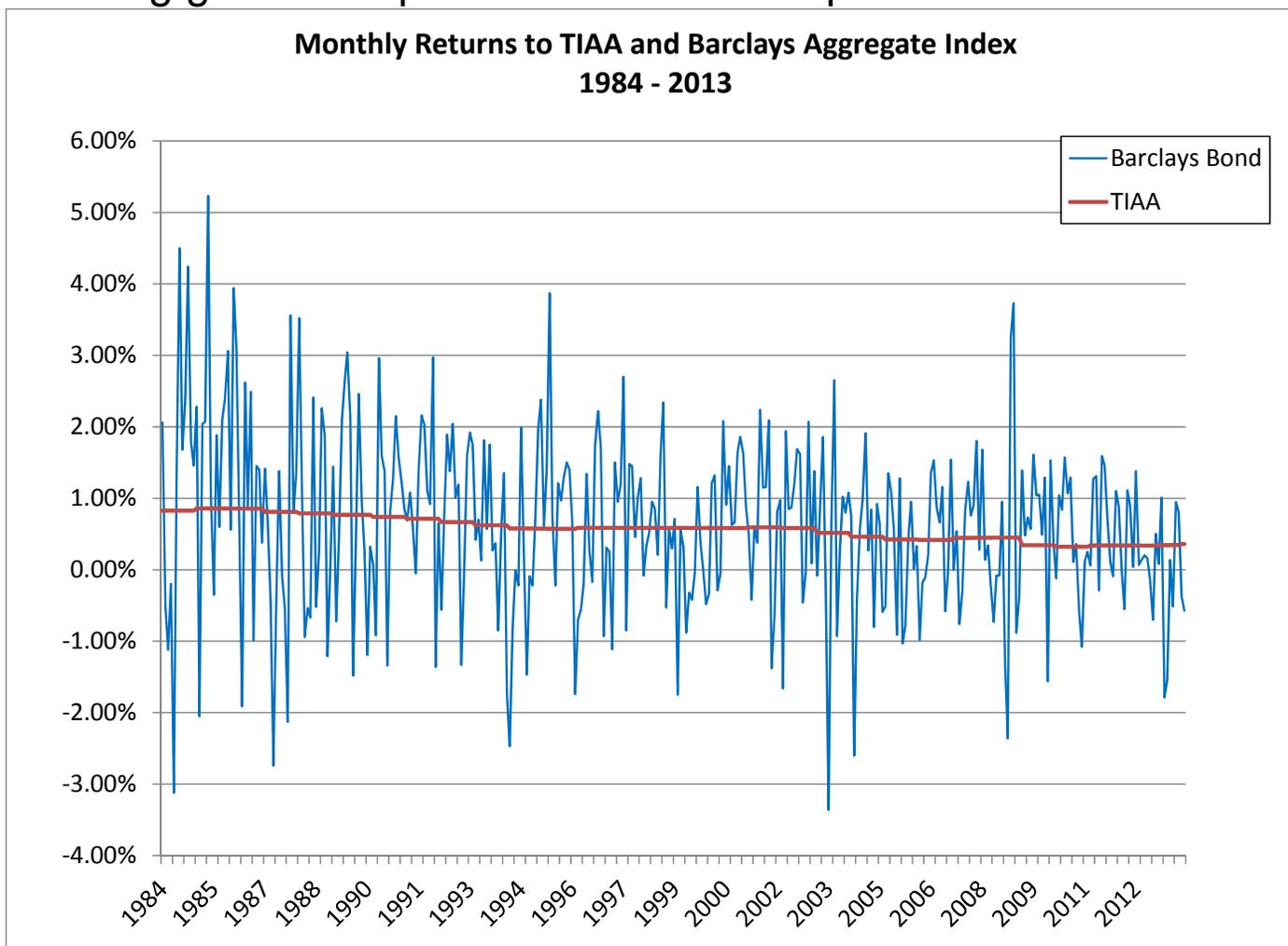
TIAA during working life

- Participants can allocate a portion of contributions to TIAA
- TIAA pays guaranteed crediting rate during accumulation (usually 3%)



TIAA during the accumulation period

- TIAA returns are more stable than comparable bond funds.
- The crediting guarantee provides a floor for expected returns.





TIAA during the accumulation period

- TIAA average returns provide similar average returns with much less risk to the participant.

Average Returns to TIAA Traditional and Barclays Bond Aggregate				
	5 years	10 years	20 years	30 years
TIAA Traditional				
Average Return	4.5%	4.3%	5.9%	7.4%
# of Neg. Months	0	0	0	0
Sharpe Ratio				2
Barclays Agg Bond				
Average Return	4.3%	4.4%	5.6%	7.5%
# of Neg. Months	17	38	77	106
Sharpe Ratio				0.3

TIAA Traditional – The Vintage System

- Crediting rates are calculated relative to when the contribution is made.
- The Vintage system of crediting is designed to treat different cohorts equitably.
- Example: Calculating returns in the TIAA Vintage System

Vintage	Accumulation	Interest Rate
2000-2007	15,555	4.25%
2008	10,234	5.00%
2009	9,479	4.50%
2010-2013	12,905	3.75%
TOTAL	48,173	4.32%

TIAA Traditional – The Vintage System

- The Vintage system also determines initial payout rates.
- The older the vintage, the higher the typical payout rate.
- Due to return of contingency reserves.
- Example: Current Payout Rates by Vintage

Vintage	Payout Rate at Age 65
Pre-1992	9.73%
1992-1997	7.72%
1998-2008	7.19%
2009-2013	6.33%-7.01%
New Money	6.50%
Average Policyholder	7.60%



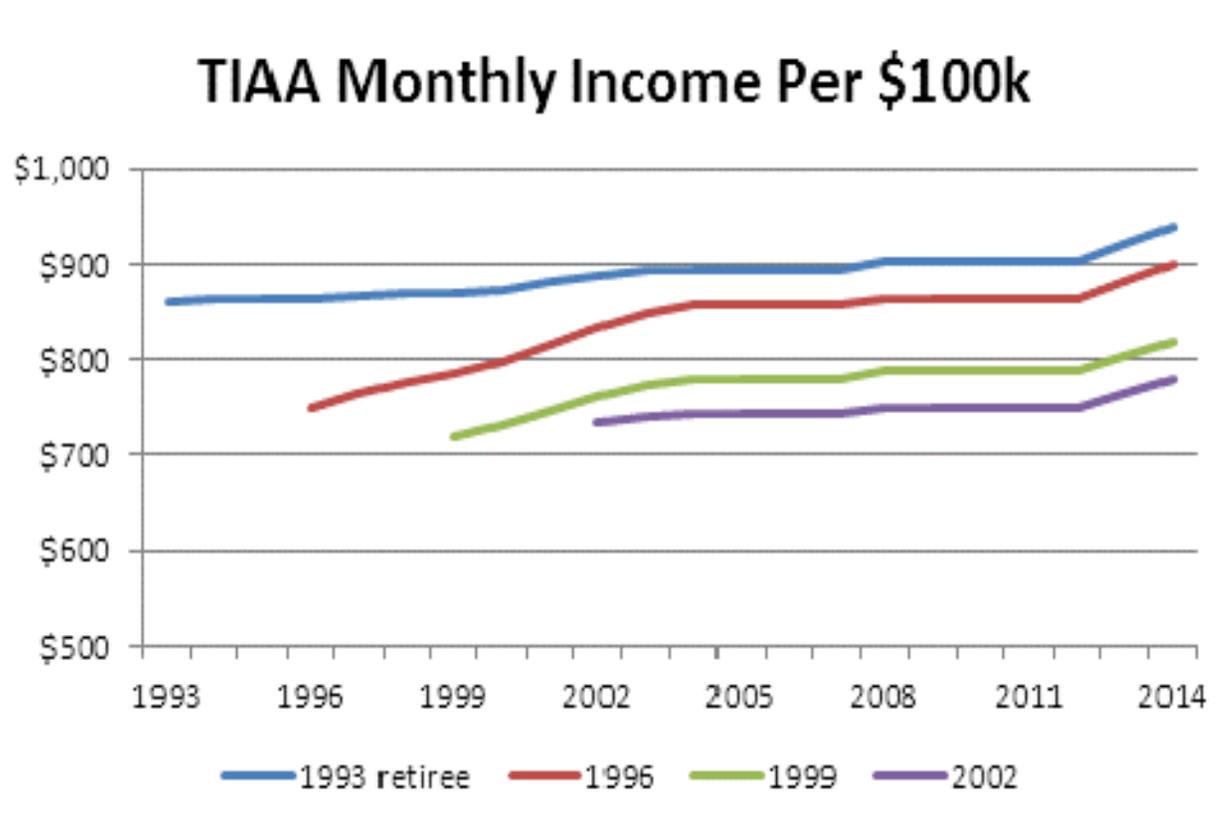
TIAA Traditional – Payout Rates and Income

- Challenge: unlike mutual funds, no single “price” for annuities.
- Annuity pricing depends on age, option, interest rate, and the additional impacts of vintage system and additional credited amounts.
- Annuitants typically do not know payout rates until close to the settlement date.
- Example: New Money payout rate by age and option (as of Jan 1, 2014).

	Single No guar. Age 65	Single No guar. Age 55	Single No guar. Age 75	Joint and 100% No guar. Ages 65	Single 20 year guar. Age 65
Payout Rate	6.6%	5.5%	8.9%	5.7%	6.0%
Guar Min rate	4.9%	4.1%	6.4%	4.3%	4.7%

TIAA Traditional – Payout Rates and Income

- Reductions in income are rare but have occurred.
- No reductions since adoption in current methodology in 1993.
- Payout rates can increase after settlement.

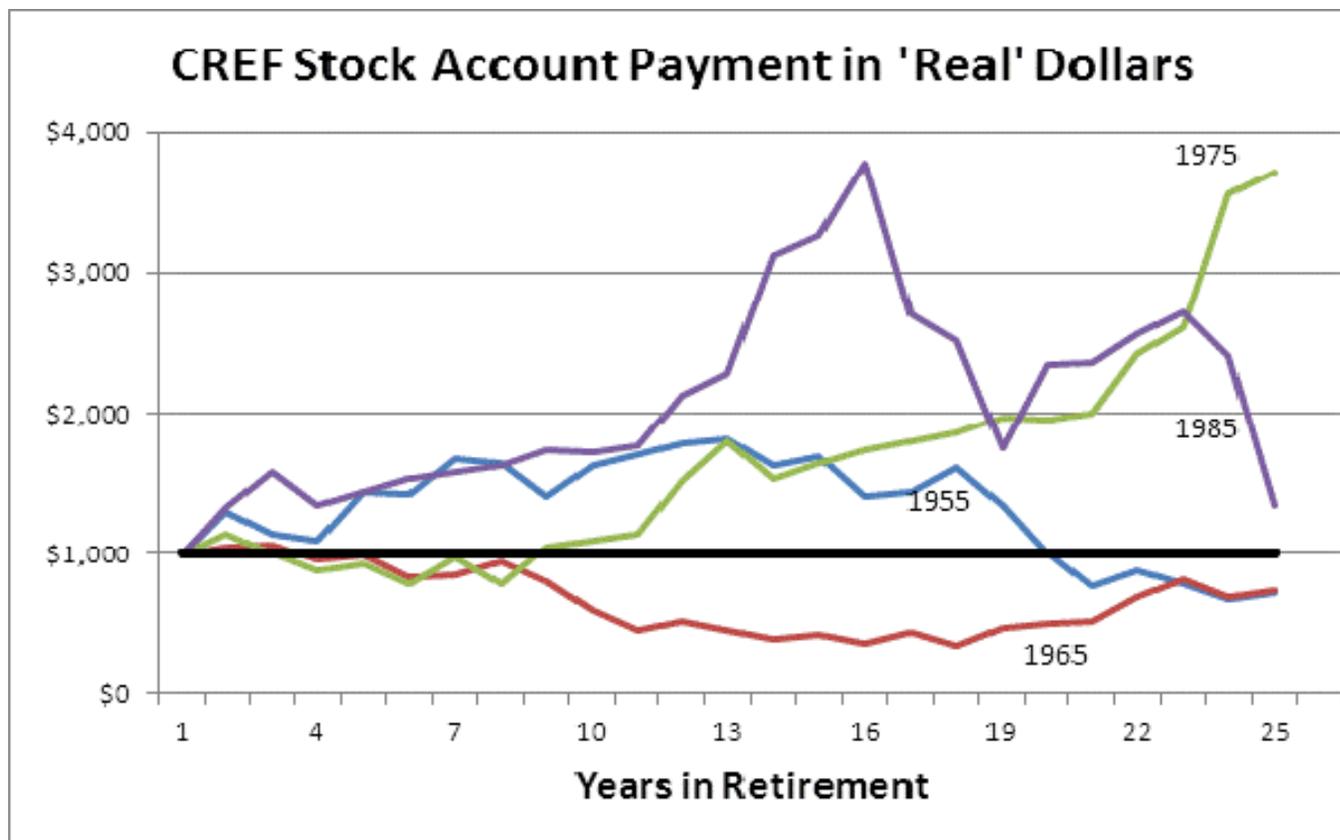




- Variable Annuity Product – can be thought of as a Mutual Fund in the accumulation phase.
- Purchase deferred annuity units during working life by purchasing any of 8 funds valued at market price.
- Funds include: Stock, Global Equities, Growth, Equity Index, Money Market, Bond Market, Inflation-Linked Bond, and Social Choice.
- Participants have the **right, but not obligation**, to annuitize assets.
- Participants have the right to post-settlement asset reallocation.
- Full menu of annuity options available.
- Annuity payout rates include assumption on the investment portfolio return (AIR).

CREF – Payout Rates and the AIR

- Current AIR = 4%
- Goals of sufficient initial income and potential for increases that keep pace with inflation.
- Historically mixed experience depending on settlement date.





- **Accumulation Phase**

- Decline in participation and average contributions to TIAA and CREF over the past 10 years.
- Conditional Averages have not changed significantly over the past 10 years.
- Older, wealthier, and longer tenure participants tended to customize their investment portfolios across asset classes, including a substantial portion for TIAA and CREF funds.
- Younger, less wealthy and shorter tenure participants tended to rely on target date funds to achieve auto-diversification.

- **Distribution Phase**

- Long decline in percent of participants who take an annuity payment as a first income draw. Currently around 40%
- Overall, about 70% of participants receiving retirement income had an annuity as part of the overall draw.
- Partial annuitization is the most common income strategy

Conclusions

- The TIAA-CREF system provides an example of how a retirement plan can successfully incorporate hybrid components.
- Hybrid components can provide greater choice and increase the likelihood of participants achieving retirement security.
- Carefully designed co-op systems can help diversify risk while minimizing the possibility of inter-generational transfers.
- The next generation of default products should consider incorporating hybrid structures that help individuals make it “to and through” retirement.
- Regulatory and/or legislative changes are needed to have many plan sponsors (and especially 401(k) sponsors) take up hybrid components.

Important Information



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