The Evolution of Target Date Funds: Using Alternatives to Improve Retirement Plan Outcomes

A Report by Georgetown University Center for Retirement Initiatives

In conjunction with
Willis Towers Watson

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Background: Why are we talking about this now?

Defined Contribution of the Past

- **Supplemental Plan:** Focus on accumulation and not retirement outcomes
- **Choice Proliferation:** Participants given numerous options with a focus on offering selection
- **Limited Opportunity Set:** Need for liquidity led to typically stock / bond options

Defined Contribution of Today

- **Primary Vehicle:** 81% of sponsors offer only a DC plan to new hires*
- **Retirement Plan:** Holistic outcome focus considering benefit and investment design
- **Marginal Diversification:** Most typically through multi-asset options such as target date funds, where largest providers dominate assets under management and use diversification modestly

Enhancements Making Alternative Investment Implementation in Defined Contribution More Feasible

- **Target Date Popularity:** 93% of Qualified Default Investment Alternatives are Target Date Funds*, providing a stable multi-asset vehicle to enhance investment portfolio construction
- **Improved Operational Capabilities:** DC service providers addressing historical challenges such as daily pricing and liquidity needs and improved expertise with custom funds
- **Ability to Outsource Key Functions:** Growth in delegated service offerings allow for improved governance

* Willis Towers Watson's 2017 Defined Contribution Plan Sponsor Survey

Summary of findings

Georgetown Center for Retirement Initiatives worked in conjunction with Willis Towers Watson to write a paper examining the role of alternative investments in TDFs

Potential Advantages of including alternatives

Expected retirement income can be increased dramatically while also improving downside risks

- Expected annual retirement income* increases from **$53,000 to $62,200**
- Worst case results (5th percentile) increases from **$21,200 to $23,500**

- Asset only results were also improved:
- Expected returns at age 65 increased from **5.1% to 6.1%**
- Worst case results (5th percentile) improved from **-7.9% to -7.5%**

…and how the challenges can be overcome

Liquidity and pricing: Can utilize buffers and pricing estimates so that all participants get treated fairly

Fees: focus on net of fee value proposition though need to be mindful of headline number; formalize fee budgeting process

Governance: operational and investment complexity requires additional resources though external partners can help bridge the gap to supplement in-house expertise

Litigation: focus on the process including careful and prudent evaluation focused on enhancing potential outcomes for participants

Expected returns are based on Willis Towers Watson's Capital Markets Assumptions as of January 1st, 2018 and are enclosed as an Appendix. Worst case is a 1 in 20 probability (VaR95)). Return distributions incorporate fat tails and correlations between return-seeking asset classes increase when fat-tail events occur. The example does not imply a guarantee of future performance or risk reduction. Willis Towers Watson model results and assumptions may not be realized.

*Developed by simulating a participant's working life over 5,000 paths and converting at-retirement balances into inflation-adjusted annuities. Per $100,000 of pre-retirement salary.

Path forward

Challenges to creating better investment solutions in DC plans can be effectively managed to allow plan sponsors to take steps toward enhancing retirement outcomes for their participants

DC as primary retirement vehicle	Plan sponsors must pull all of the available levers	Policy makers have a critical role
▪ Changes the metrics on which to measure of success	▪ Plan design, communication and investment enhancements to date are beneficial but not sufficient	▪ Some plan sponsors are paralyzed by the prospect of litigation
▪ Plan design has evolved to use participants' passivity to their advantage – now time to do the same with investment design	▪ Administrative solution providers can overcome operational hurdles -- 66% of sponsors with over $5 billion in assets are utilizing custom white label funds*	▪ Sponsors look to regulators and policy makers for direct guidance, which is often followed by adoption
	▪ Third party investment partners can help bridge the gap to supplement in-house expertise	▪ Support is needed to encourage investment design evolution that can materially improve retirement outcomes

*Willis Towers Watson's 2017 Defined Contribution Plan Sponsor Survey

Assumptions and Disclaimer

Capital Market Assumptions

January 2018

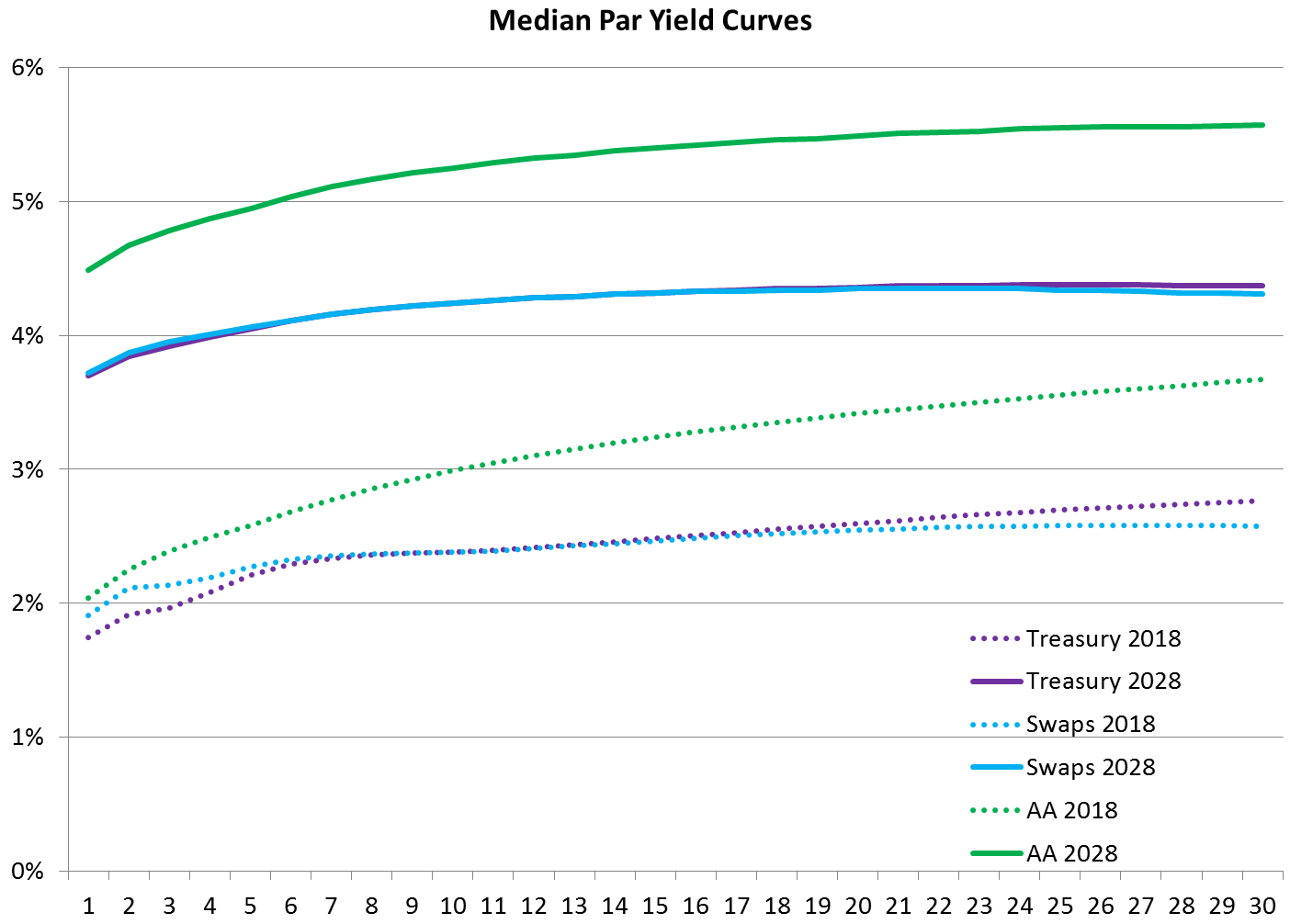
- Asset classes are described by their returns, volatility, and correlation with other asset classes
- Expectations for individual asset classes were developed by the Willis Towers Watson Investment Model as of January 2018
- With the exception of private equity and hedge funds, the asset class assumptions above assume net-of-fee performance for large institutional investors implementing passively. For strategies where passive implementation is not possible, assumptions represent median results.
- Return distributions incorporate fat tails
- Correlations between return-seeking asset classes increase when fat-tail events occur
- Simulated government yield curves and simulated corporate spreads are used in developing returns on fixed income
- For additional background on Towers Watson Investment Services' views and assumptions, please consult the January 2018 Asset Return Assumptions paper

	1st year arithmetic mean	10th year arithmetic mean	10-year geometric returns	Annual standard deviation
Global equities	7.3	8.9	6.6	18.3
REITs	6.0	7.6	5.7	15.9
Commodities	3.7	5.3	3.7	14.9
Private equity[1]	12.0	13.6	9.7	25.4
Real estate	4.7	6.3	5.2	9.8
Hedge funds[2]	6.4	8.0	6.9	9.9
High yield	2.4	5.4	3.8	10.0
Emerging market debt	1.0	5.1	3.1	9.5
Bank loans	3.6	5.2	4.3	7.9
Infrastructure	6.2	7.7	5.8	17.0
Aggregate bonds	0.8	3.9	2.6	4.2
TIPS	1.5	3.9	2.9	5.7
Cash	1.9	3.5	2.9	2.6

[1] Assumptions include 10-year geometric of 5.1% and standard deviation of 23.4% with net-of-fee alpha of 4.7% with a 10.0% tracking error
[2] Assumptions include 10-year geometric of 4.8% and standard deviation of 8.5% with net-of-fee alpha of 2.2% with a 5.2% tracking error

Assumptions – Yields

January 2018



Yields are expected to rise and yield curves to flatten

Capital Market Assumptions

January 2018

Fixed Income	▪ Within our 5,000 simulations, the yield curve can move in any direction or take on any shape, but at the median we reflect rising nominal yields ▪ Our normative assumption for cash is 3.75% and for 30-year Treasuries is 5.25% ▪ At the median, long yields rise with a half-life reversion speed of seven years starting immediately (i.e. half of the distance from “current” to “normative” is covered every 7 years) ▪ Median short yields, which rise at a half-life reversion speed of four years, are 1.9% at the end of the first year
Inflation & Equities	▪ Our inflation assumption is 2.0% for the 12 months following January 2018, trending up to an ultimate normative average level of 2.5% ▪ Our long-term normative assumption equity returns is 4.75% over inflation ▪ Our equity volatility assumption remains at 18% for US equities for both short and long term
Economic Uncertainty	▪ Economic conditions are uncertain over the near-term and do not in our view reflect equilibrium conditions ▪ Our capital market assumptions reflect this instability and are time-sensitive ▪ As a result, advice that is dependent on this set of investment beliefs is also time-sensitive; attractiveness of certain strategies will vary from quarter to quarter ▪ Alternative beliefs might well lead to different conclusions; thus it is important that the Trustees consider whether their beliefs and ours are aligned

Assumptions - Correlations

January 2018

Summary assumptions for January 1, 2018 Towers Watson Investment Services

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
1	Global Equity (unhedged)	1.0																																				
2	Global Equity (hedged)	1.0	1.0																																			
3	US Equity	1.0	1.0	1.0																																		
4	US Large Cap Equity	1.0	1.0	1.0	1.0																																	
5	US Small Cap Equity	0.8	0.8	0.8	0.8	1.0																																
6	International Equity (unhedged)	1.0	0.9	0.8	0.8	0.8	1.0																															
7	International Equity (hedged)	0.9	0.9	0.8	0.8	0.8	0.9	1.0																														
8	International Developed Equity (unhedged)	0.9	0.9	0.8	0.8	0.7	1.0	0.9	1.0																													
9	International Developed Equity (hedged)	0.9	0.9	0.8	0.8	0.7	0.9	1.0	0.9	1.0																												
10	Emerging Market Equity	0.8	0.8	0.7	0.7	0.7	0.9	0.9	0.8	0.8	1.0																											
11	Median-skilled Private Equity Fund-of-Funds	0.7	0.7	0.7	0.7	0.5	0.6	0.6	0.6	0.7	0.5	1.0																										
12	REITs	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.4	1.0																									
13	Real Estate	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	1.0																								
14	Infrastructure Listed	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.2	0.2	1.0																							
15	Infrastructure Direct	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.2	0.2	0.9	1.0																						
16	Median-skilled Hedge Fund-of-Funds	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.6	0.5	0.5	0.4	0.3	0.3	0.3	1.0																					
17	Reinsurance	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	1.0																				
18	High Yield	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.4	0.1	1.0																			
19	Emerging Market Debt Sovereign	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.4	0.1	0.6	1.0																		
20	Emerging Market Debt Corporate	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.4	0.1	0.6	0.9	1.0																	
21	Bank Loans	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.2	0.2	0.5	0.2	0.6	0.6	0.6	1.0																
22	Securitized Credit	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.2	0.2	0.5	0.2	0.6	0.6	0.6	1.0	1.0															
23	Structured Credit	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.2	0.2	0.4	0.1	0.6	0.6	0.6	1.0	1.0	1.0														
24	Emerging Market Currency	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	1.0													
25	Volatility Premium	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.2	0.2	0.4	0.1	0.3	0.3	0.3	0.4	0.4	0.3	0.2	1.0												
26	Commodities	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.1	0.1	0.3	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	1.0											
27	US Aggregate Investment Grade Bonds	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	0.1	0.1	-0.1	-0.1	-0.1	1.0										
28	US Intermediate Government Bonds	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.9	1.0									
29	US Intermediate Credit Bonds	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.9	0.7	1.0								
30	US Intermediate Gov/Credit Bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.9	0.9	0.9	1.0							
31	US Long Government Bonds	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.1	0.8	0.8	0.5	0.7	1.0						
32	US Long Credit Bonds	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.8	0.4	0.7	0.6	0.5	1.0					
33	US Long Government/Credit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.1	0.0	0.1	-0.1	0.0	0.0	0.9	0.7	0.7	0.8	0.8	0.9	1.0				
34	STRIPS	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2	-0.2	0.8	0.8	0.5	0.7	1.0	0.5	0.8	1.0			
35	US TIPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.5	0.3	0.4	0.3	0.2	0.2	0.2	1.0		
36	Cash	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.3	0.5	0.1	0.1	0.1	0.4	0.4	0.2	0.3	0.2	0.2	-0.1	0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.2	0.1	1.0	
37	Inflation	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	-0.1	0.0	-0.1	0.0	-0.3	-0.2	-0.3	-0.3	0.5	0.4	1.0

Disclaimer

The capital market assumptions used in this report have been derived by Willis Towers Watson using a blend of economic theory, historical analysis and opinions provided by investment managers. They inevitably contain an element of subjective judgement. Any opinions or return forecasts on asset classes contained in our analysis are not intended to imply, nor should they be interpreted as conveying, any form of guarantee or assurance by Willis Towers Watson of the future performance of the asset classes in question. Naturally, future events and actual experience will vary from the assumptions we have employed and calculations prepared with actual data will vary from estimates or summaries used for modeling purposes. Because we use assumptions and estimates or summary information, actual experience may differ from our projections. The numbers in this report are not necessarily rounded. The use of unrounded numbers does not imply precision. Actuarial calculations are inherently imprecise.