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

A Report by the Georgetown University Center for Retirement Initiatives

In conjunction with
Willis Towers Watson

David O'Meara, ASA, CFA

July 19, 2018

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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

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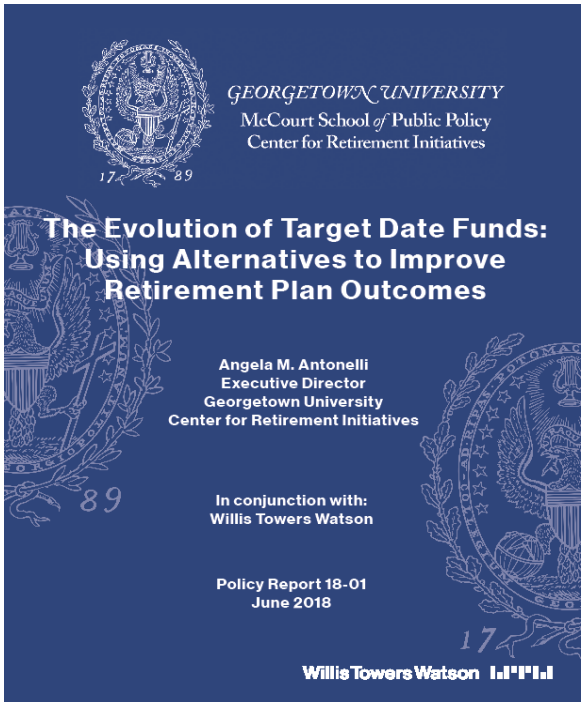
Georgetown University Center for Retirement Initiatives Paper

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

Given the current DC landscape, the Georgetown University Center for Retirement Initiatives undertook a research initiative to explore the impact alternative asset classes could have on DC participant outcomes, summarized in a 2018 policy paper



Georgetown Center for Retirement Initiatives

In conjunction with **Willis Towers Watson**

Objective: To consider ways to improve DC participant retirement outcomes within the strong stable asset base provided by target date funds by improving the underlying portfolios in the funds. Target date fund prevalence as a default option in DC plans allows for improved investment portfolios while maintaining a simple structure for plan participants.

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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.

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Key takeaways

Private equity	Potential long-term outperformance over public equity markets
	Seeks to improve downside results over long holding periods
	Illiquidity can be managed through use of buffers
Real estate	Real assets produce differentiated return profile
	Income generating with capital appreciation potential
	Looks to reduce downside risks without sacrificing returns
Hedge funds	Reliant on manager skill to exploit market inefficiencies
	Can be more liquid than other alternative assets
	Low market beta seeks to improve results across range of markets
Diversified portfolio	Combination better than any one alternative in isolation
	Potentially increases expected outcomes while managing tail risks
	Seeks to improve all metrics relative to the baseline portfolio

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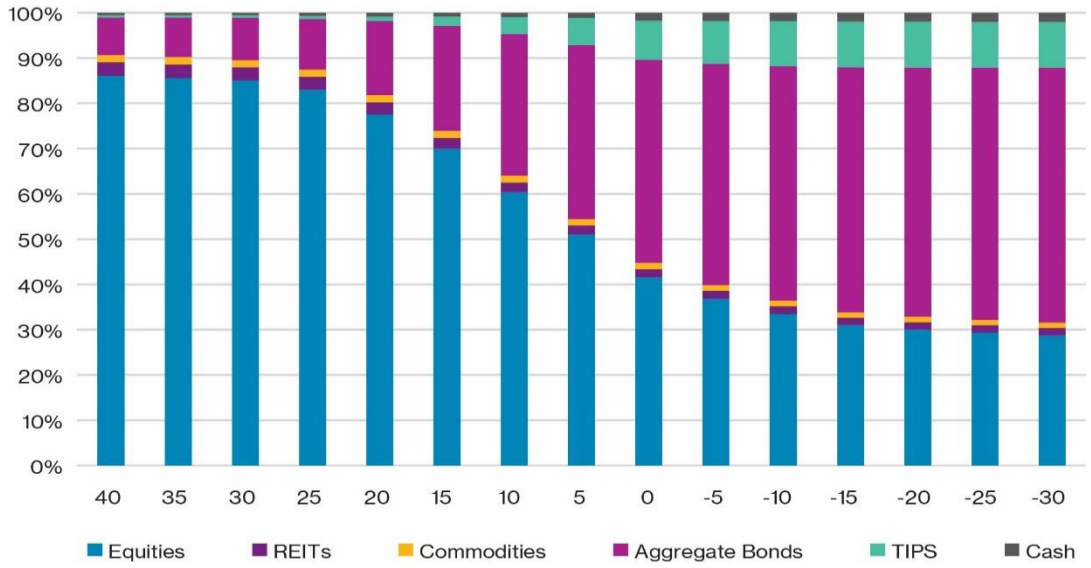
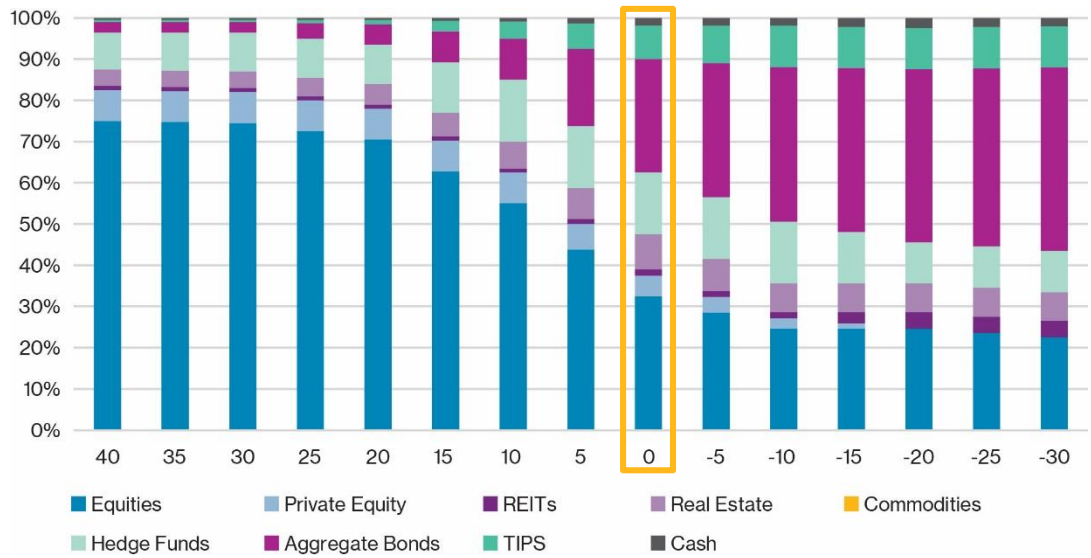
Glide path comparison

Baseline TDF



90% of portfolios throughout the glide path are split between public equities and aggregate bonds

Diversified TDF



Greater portfolio diversity allows for higher return-seeking allocations without increasing risk

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

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

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Assumptions and Disclaimer

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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

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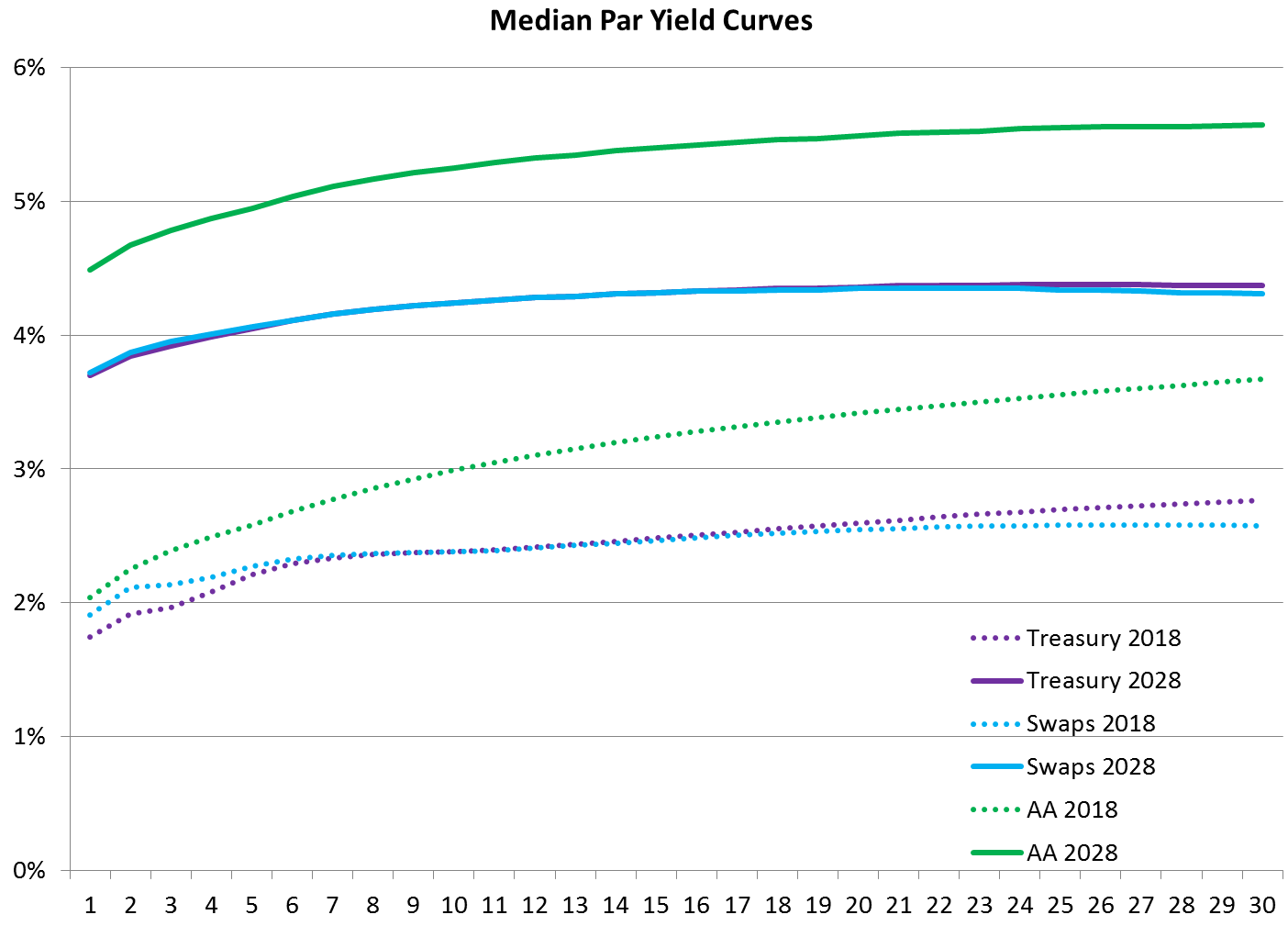
Assumptions – Yields

January 2018



Yields are expected to rise and yield curves to flatten

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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

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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

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