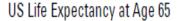
Creating effective and innovative longevity solutions

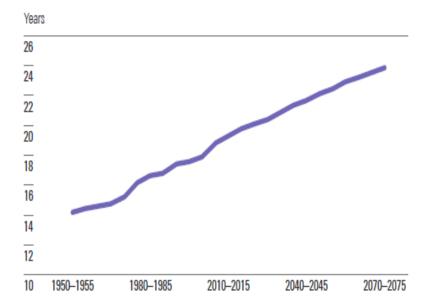
Nigel Aston — Global Head of DC Strategy September 2018

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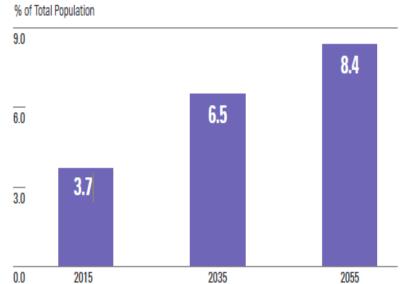
We are Living Longer

The fastest growing share of the population is the 80+ group.





Share of US Population Aged 80+



Source: UN Population Prospects, 2017 revision.

Retirement is Changing

Shrinking Access to DB **16%** of aged 50–59 workers participate in a DB plan¹

Low DC Balances **\$280,000** average DC balance for a full career 60 year-old²

Working Longer in Primary Career

Employees
Pursuing
Second Careers

62% of individuals ages 45 to 60 plan to delay retirement past 65³

> 30% of retirees re-enter the workforce⁴

Impact to the individual:

- Lower levels of preparedness
- Greater exposure to longevity risk
- The 'new old'

Impact to the Employer:

- Higher compensation costs
- Less predictability in turnover
- Evolving priorities for attraction and retention of key employees

Source:

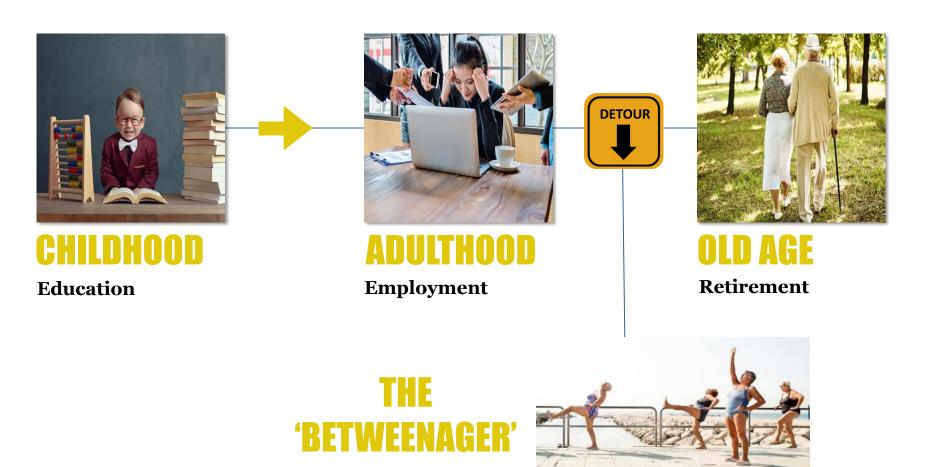
¹ Boston College Center for Retirement Research, Pension Participation of All Workers, by Type of Plan, 1989-2016 (2015).

² EBRI, 401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2015. Full career defined as > 30 years of tenure (2017).

³ US News, Emily Brandon, Why More Americans Are Working Past Age 65 (2013).

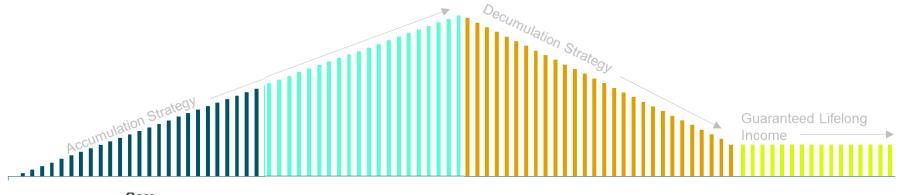
⁴ Labor Force Transitions at Older Ages: Burnout, Recovery, and Reverse Retirement, Jacobs and Piyapromdee (2016).

New Retirement Roadmap



Source: SSGA. The information contained above is for illustrative purposes only.

Introducing a Deferred Annuity to a Target Date Fund to Improve Outcomes



Core Accumulation (<55) Phase 1A

Portfolio Accumulate Characteristics assets and

Accumulates assets and operates like a normal target date strategy. PRE-RETIREMENT (55–65*) PHASE 1B

The fund starts to allocate a portion of the assets to an annuity prefunding portfolio to prepare for annuity purchase at 65.

DRAWDOWN (65*-80) PHASE 2

Part of the accumulated target date assets are used to purchase a deferred income annuity.

The remaining assets go into a drawdown portfolio that the participant can use as a source of income until annuity payments start.

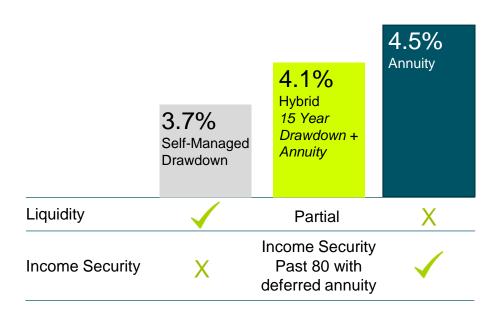
LATE LIFE (>80)
PHASE 3

Income distributed in the form of guaranteed lifelong annuity payments.

Source: State Street Global Advisors Defined Contribution; *Assumed age at retirement; The information contained above is for illustrative purposes only. Participants who redeem prior to the annuity purchase will not be eligible for annuity income benefits. QLAC purchase is subject to market availability.

Adding Late Life Longevity Protection Improves Participant Outcomes

Provides Balance of flexibility, access and security



Key Benefits of Product Design

- ✓ Guaranteed income from age 80
- ✓ Higher prudent drawdown rate
- ✓ Retain flexibility in early retirement
- Easier to plan spending

Source: SSGA Defined Contribution team, December 2015. For illustrative purposes only. Income security past 80 is subject to the claims-paying ability of the issuing insurance company.

Remaining Implementation Challenges and Solutions

Challenges	Solutions
Establishing connectivity between record keepers and insurers	 Gathering group of plan sponsors to put pressure on recordkeepers Engaging with middleware providers to provide connectivity
Availability of institutional deferred income annuities	Working with insurers to develop new products
Fiduciary concerns for plan sponsors	Working with policymakers to obtain clear guidance

Source: SSGA

University of California First Client for State Street Income Solution

1st Client:

University of California

2nd largest DC plan in US, \$30 bn in assets

Traditionally has offered a strong DB plan

Since 2016 changed eligibility — reduced DB (Pension Choice) or all DC (Savings Choice)

Plans to conduct first annuity purchase in 2020

Source: SSGA, as of June 30, 2018.

Appendix A: Important Disclosures

Important Disclosures

Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions.

Investing involves risk including the risk of loss of principal.

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United States: State Street Global Advisors, One Iron Street, Boston MA, 02210.

Web: www.ssga.com

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Appendix B: Biography

Biography



Nigel Aston

Nigel is a Senior Managing Director of State Street Global Advisors (SSGA) and the Global Head of DC Proposition and Strategy He helps define the strategic direction of the global DC franchise and leads a team focusing on research, product, public policy, marketing and client engagement. Nigel is a member of SSGA's Senior Leadership Team.

Nigel is a frequent commentator on long term saving and investment issues, as well as a regular speaker at conferences and in the media. He is a key company liaison with industry, government and regulatory bodies Nigel has extensive experience in leading distribution and marketing teams and driving proposition design. He has been involved with workplace investment products for his whole career and is passionate about helping to give savers a more confident retirement.

Prior to joining SSGA, Nigel has worked at large enterprises such as Standard Life where he was head of DC proposition and at AXA as investment strategy director. He was also a director at a technology start-up robo-adviser, focused on understanding investor behaviour and outcomes through data analytics.