

Thank you for joining us – the
webinar will start shortly

Population or pension plan specific:
*differences in mortality improvements across the US
and what it means for pension plans*

September 14th, 2021

11am PT / 2pm ET



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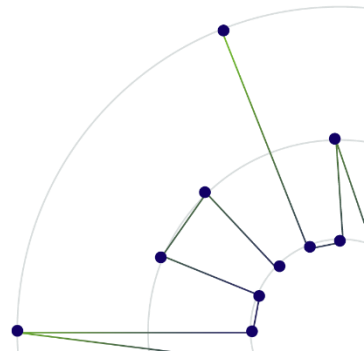
Population or pension plan specific: *differences in mortality improvements across the US and what it means for pension plans*



Webinar chair
Dan Reddy
US CEO, Club Vita

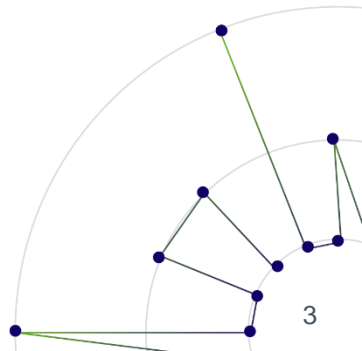


Panelists:
Bruce Cadenhead, Global Chief Actuary, Wealth, Mercer
Ellen Kleinstuber, Chief Actuary, Bolton
Eli Greenblum, Senior VP and Chief Actuary, Segal
Timothy Geddes, Director, Deloitte
Erik Pickett, Actuary and Chief Content Officer, Club Vita



Agenda

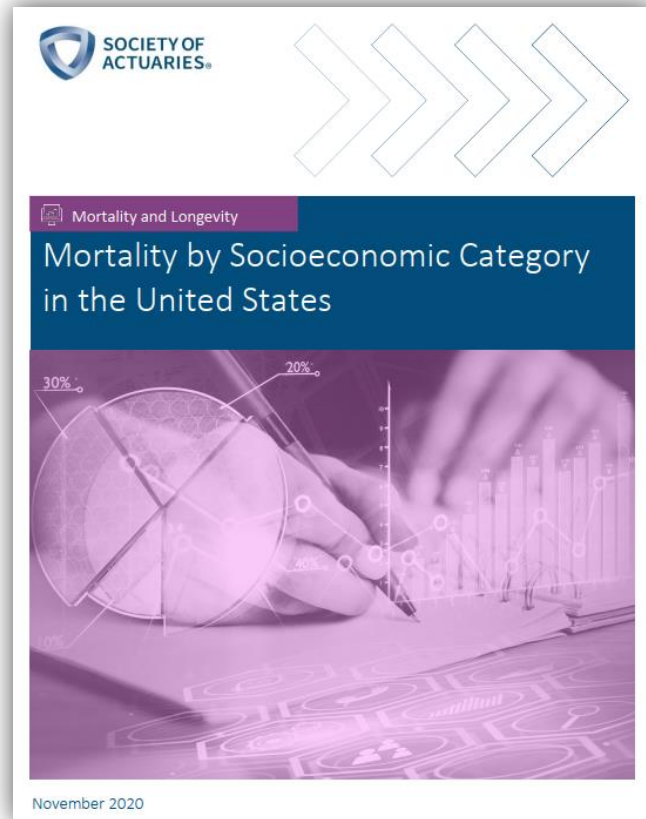
1. Background: SoA work on longevity improvements
2. Club Vita research: Longevity improvements for DB plan annuitants
3. Effects on improvement scales
4. Panel discussion



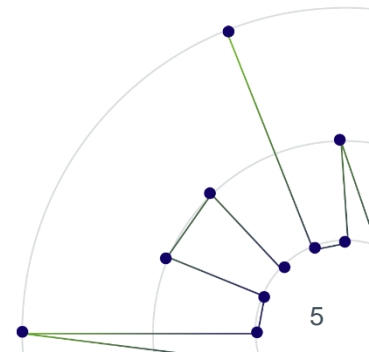
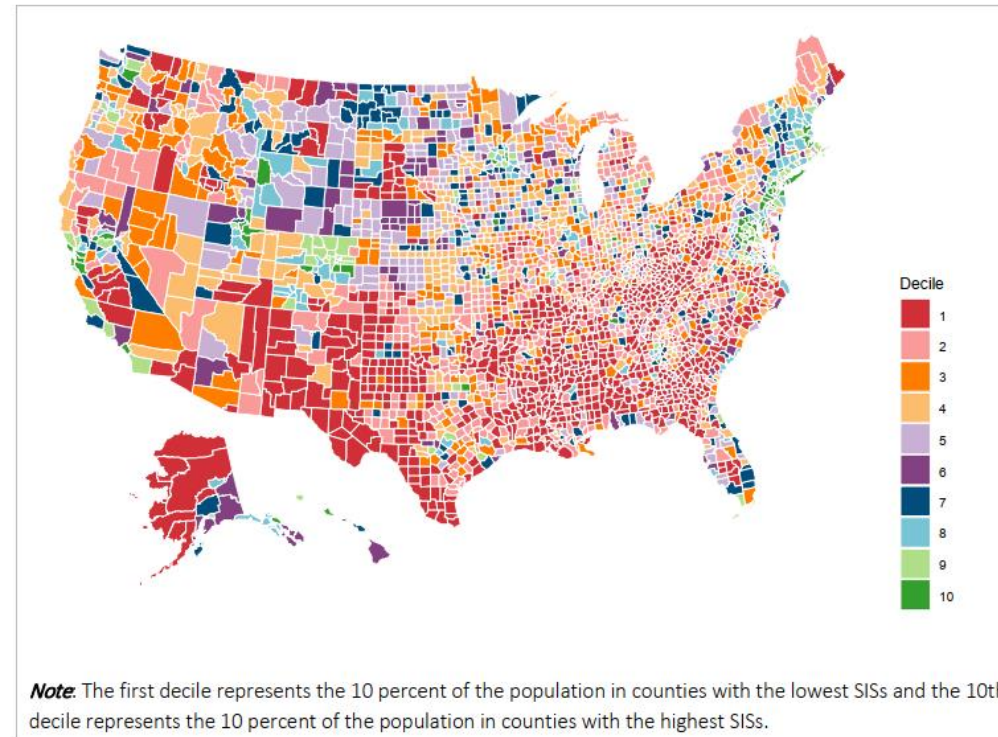
Background:
SoA work on longevity improvements

SoA: Mortality by Socioeconomic Category

Work by Magali Barbieri



COUNTIES BY SOCIOECONOMIC DECILE (WEIGHTED BY POPULATION), 2014–2018



Life expectancy inequality is increasing

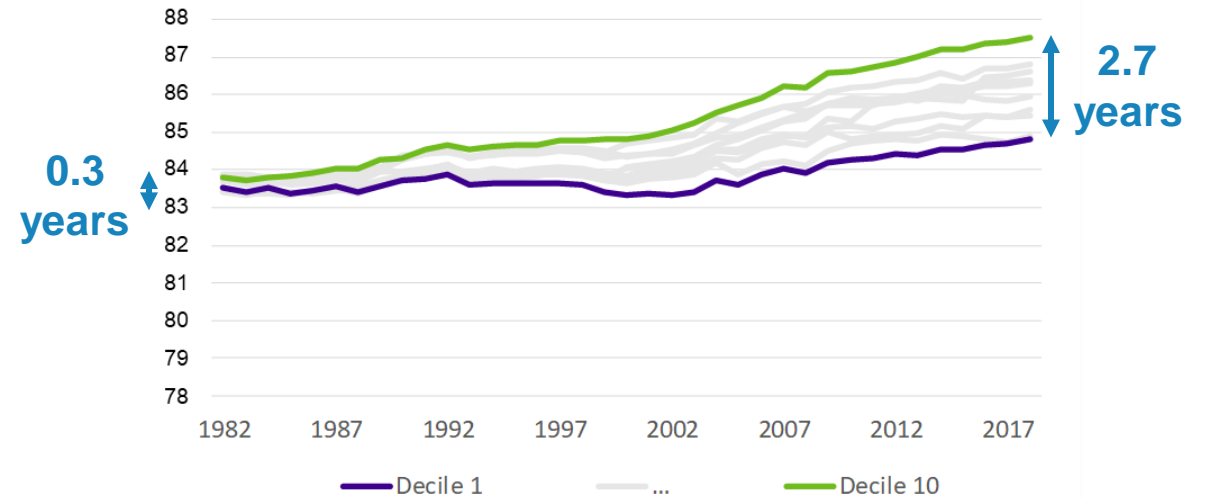
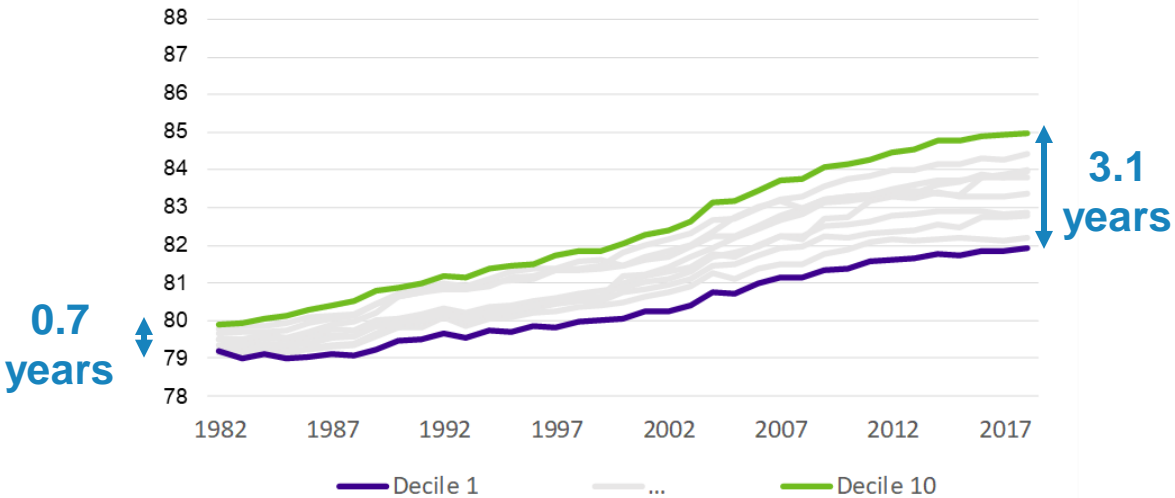
Trends in (period) life expectancy at age 65 for US counties

Men

Women

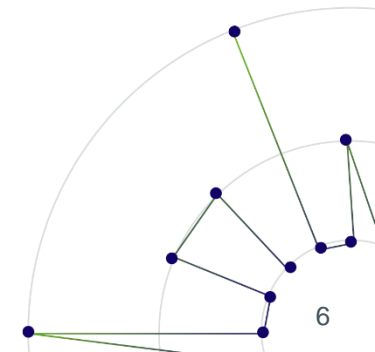
Life Expectancy from age 65

Life Expectancy from age 65



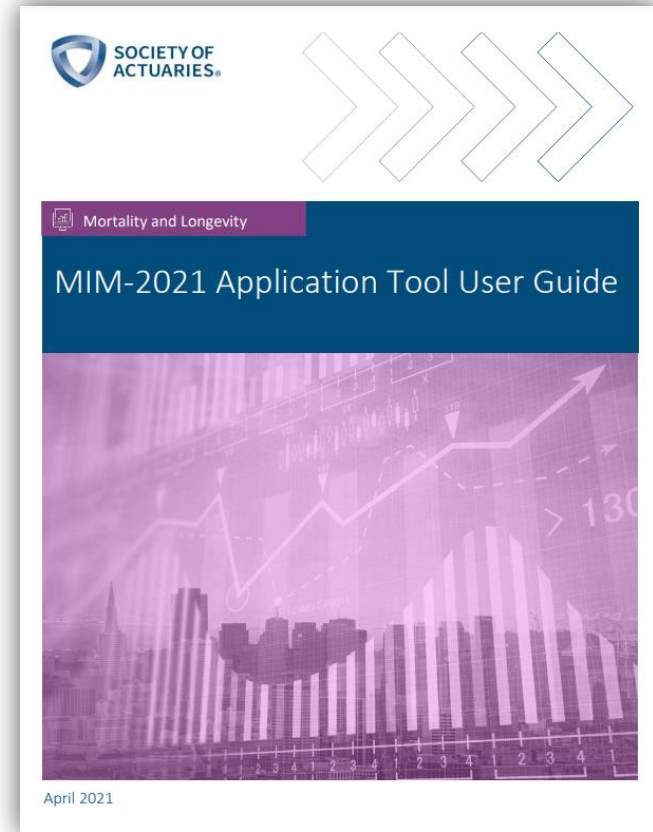
How relevant is US county level analysis for DB pension plans?

Notes: Club Vita graphics based on December 2020 version of SoA life tables by socio-economic decile as published on SoA website

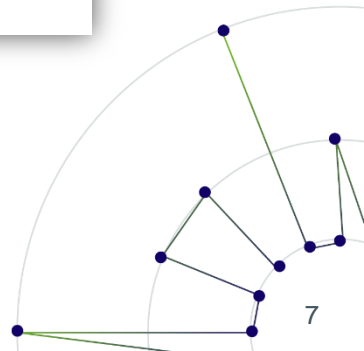


Mortality Improvement Model (MIM-2021)

- Released April 2021
- Increased flexibility for calibration
- Can be tailored for groups with different improvement experience
- Similar structure to MP-2020
- Includes different underlying data sets to calibrate historical improvement rates



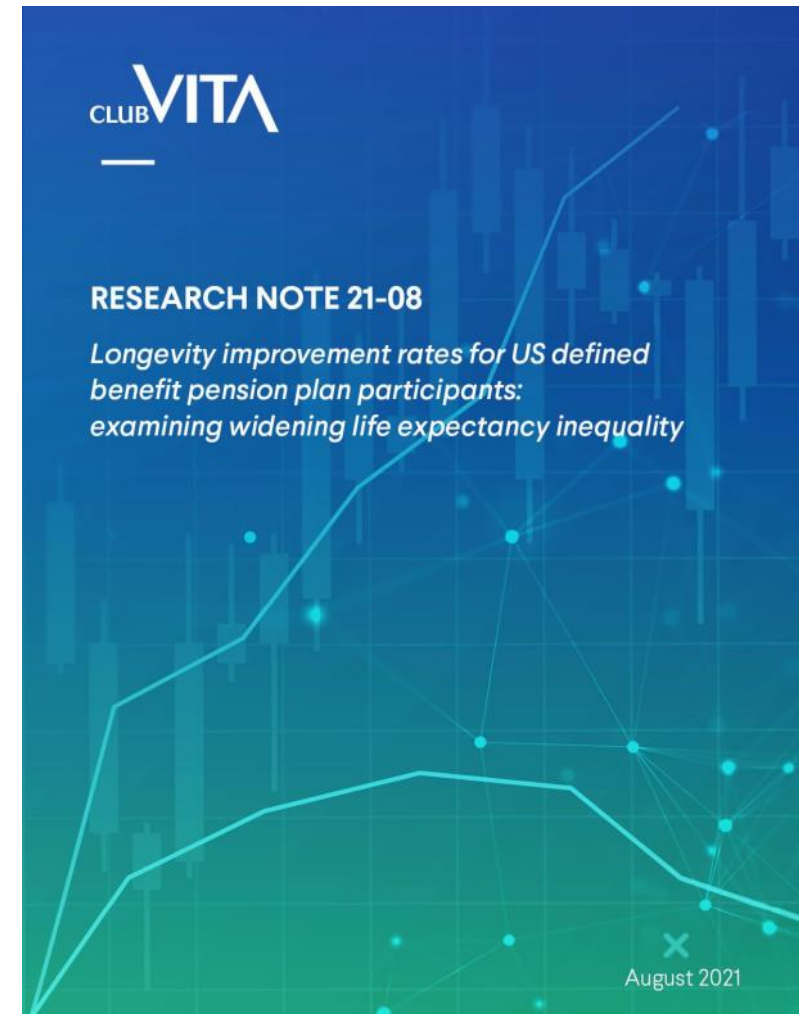
What is the appropriate calibration for specific pension plans and insurance books?



Club Vita research: Longevity improvements of DB annuitants

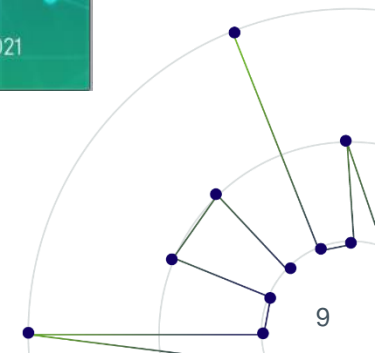
Club Vita research

- Hot off the press!
- Data from around 100 large single employer pension plans over the period 2013-2018
- Compares US population improvements to improvements in our data set
- Available for download now



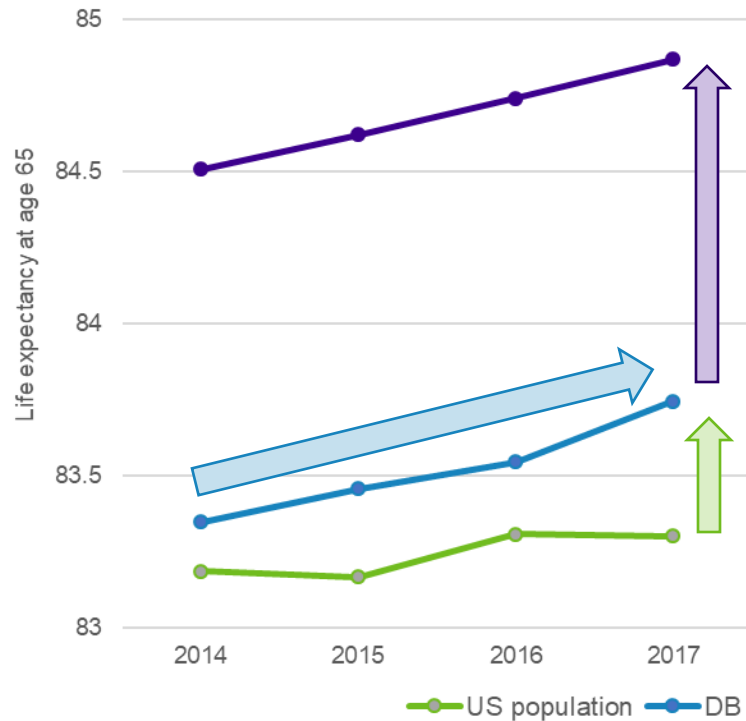
Paper available for download here:

<https://www.clubvita.us/collaborative-research/longevity-inequality-in-the-us>

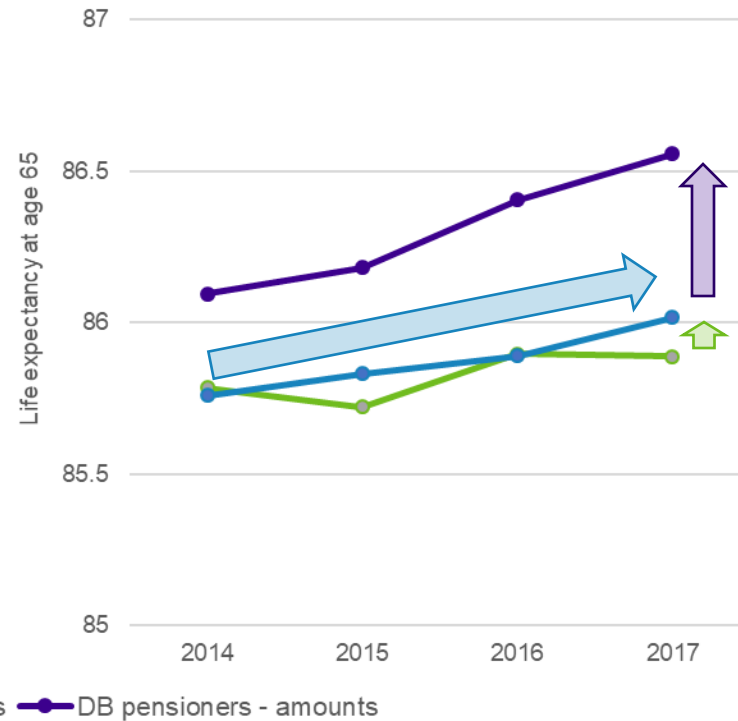


Comparing life expectancy at age 65

Men



Women



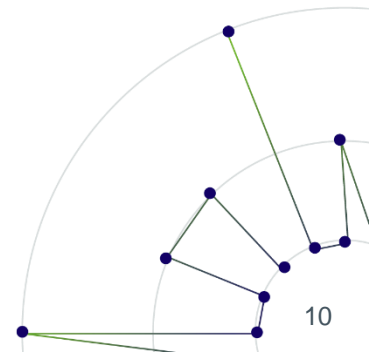
Select effect of pension plan membership

Impact of affluence

Faster improvements in DB pensioners than the general population

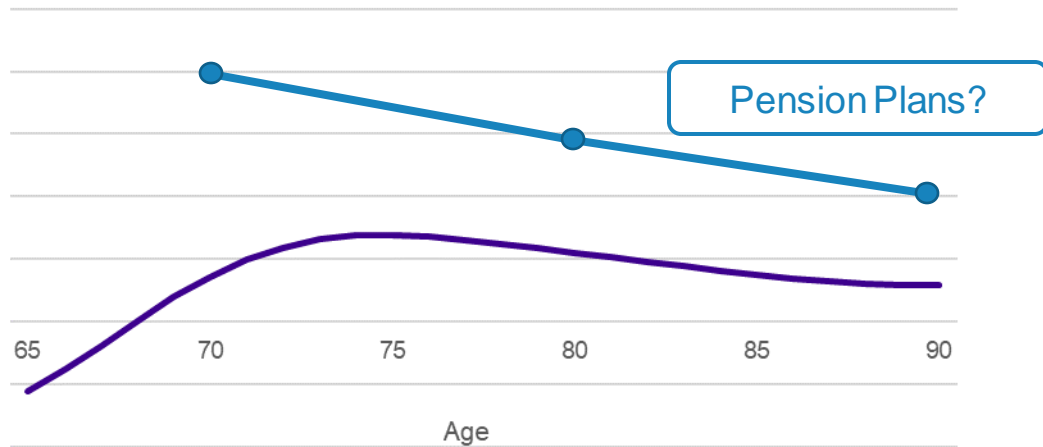
Annual improvements in ABSMR (2014-2017)

US Population	Pension Plans	US Population	Pension Plans
0.6%	1.4% ($\pm 0.6\%$)	0.5%	1.3% ($\pm 0.9\%$)

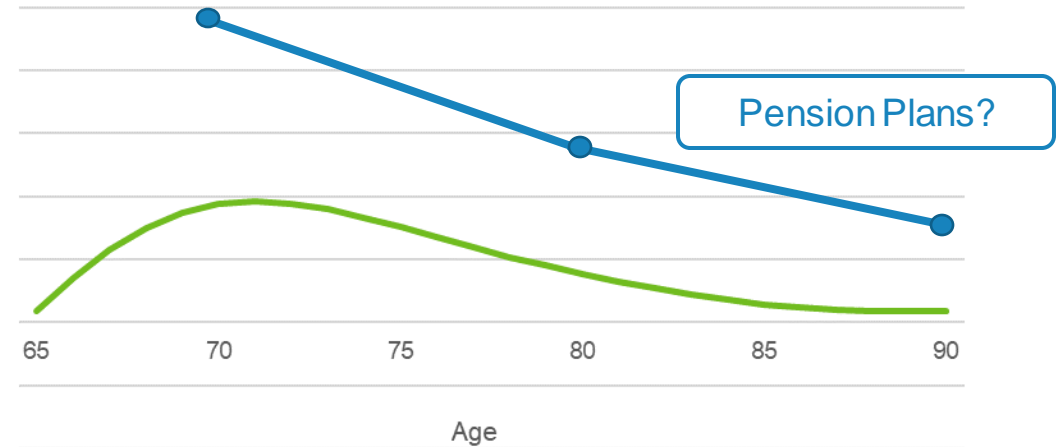


Age structure of recent improvements

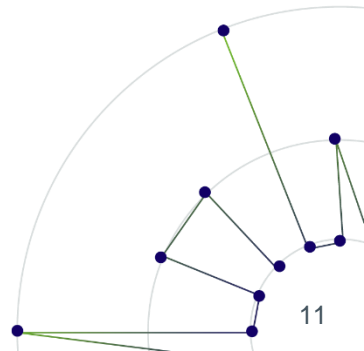
MP 2020 "initial rates" men



MP 2020 "initial rates" women



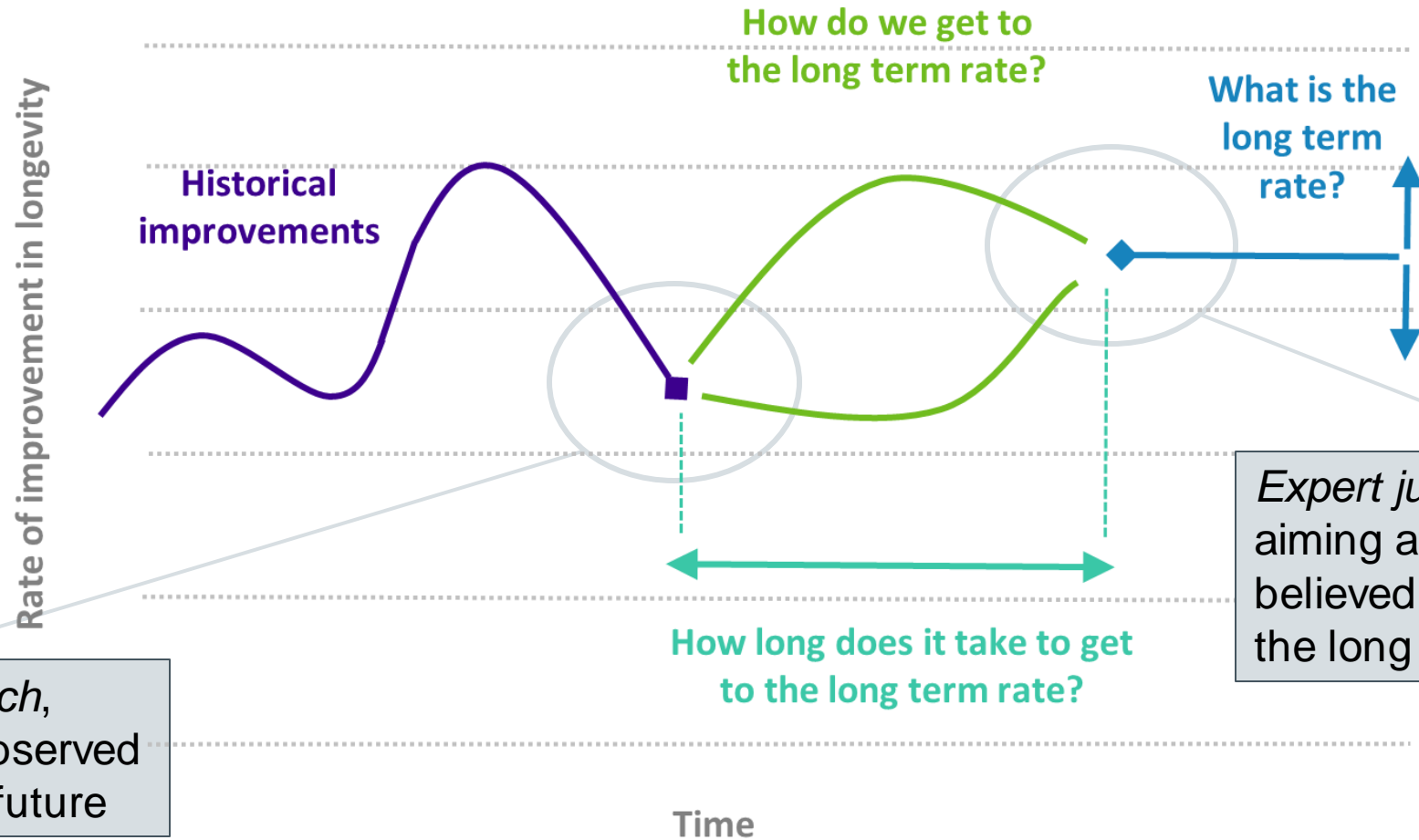
Suggests a (broadly) consistent level of "uplift" across the age spectrum



Effects on improvement scales

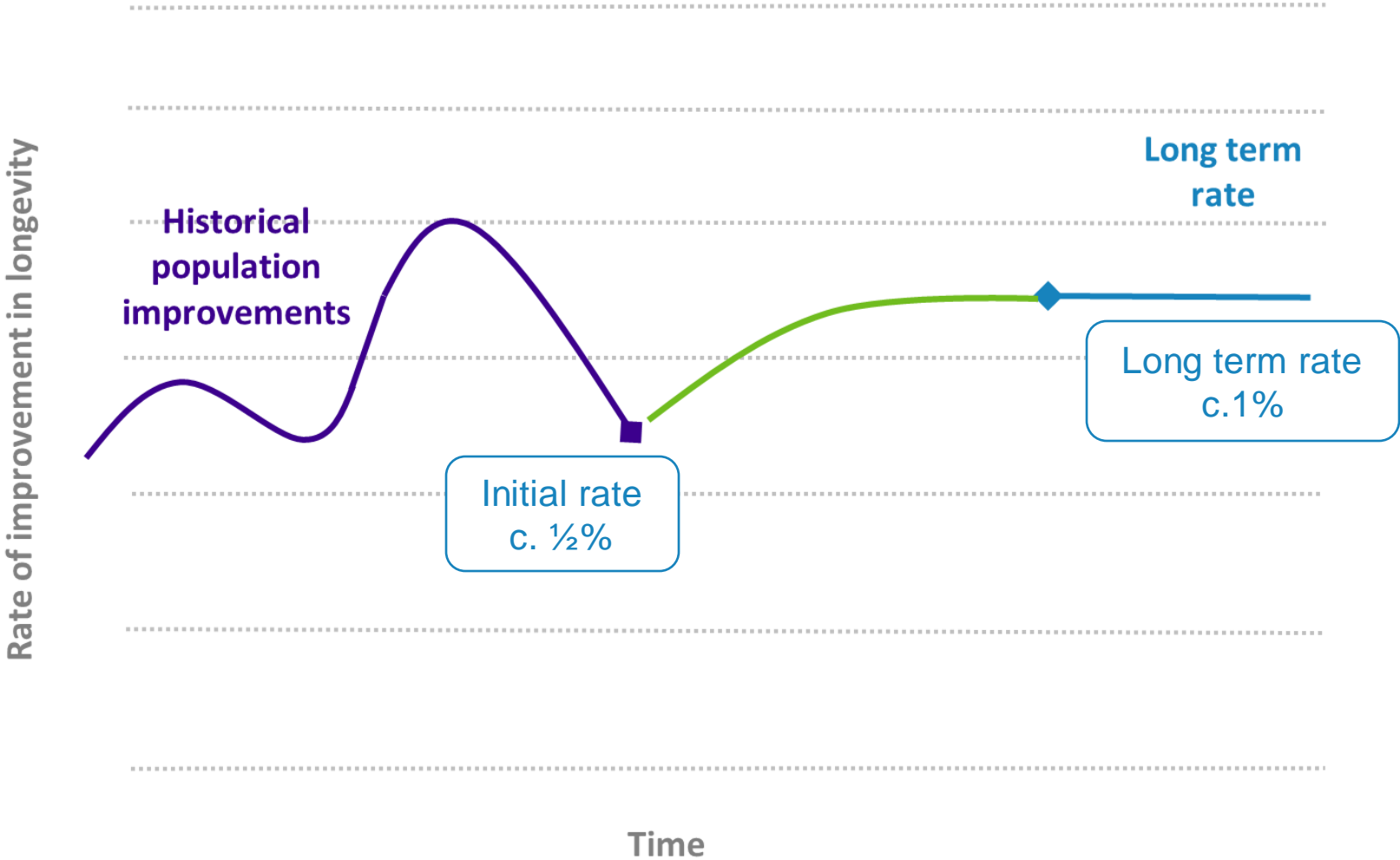
Implications for projections

Illustrative MP-scale improvement model

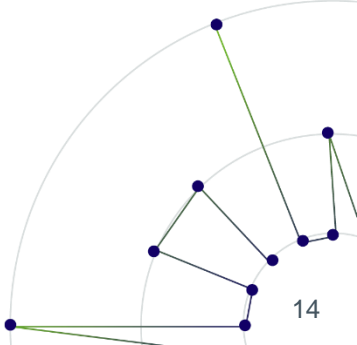


Implications for projections

Adjusting the MP scale for this insight

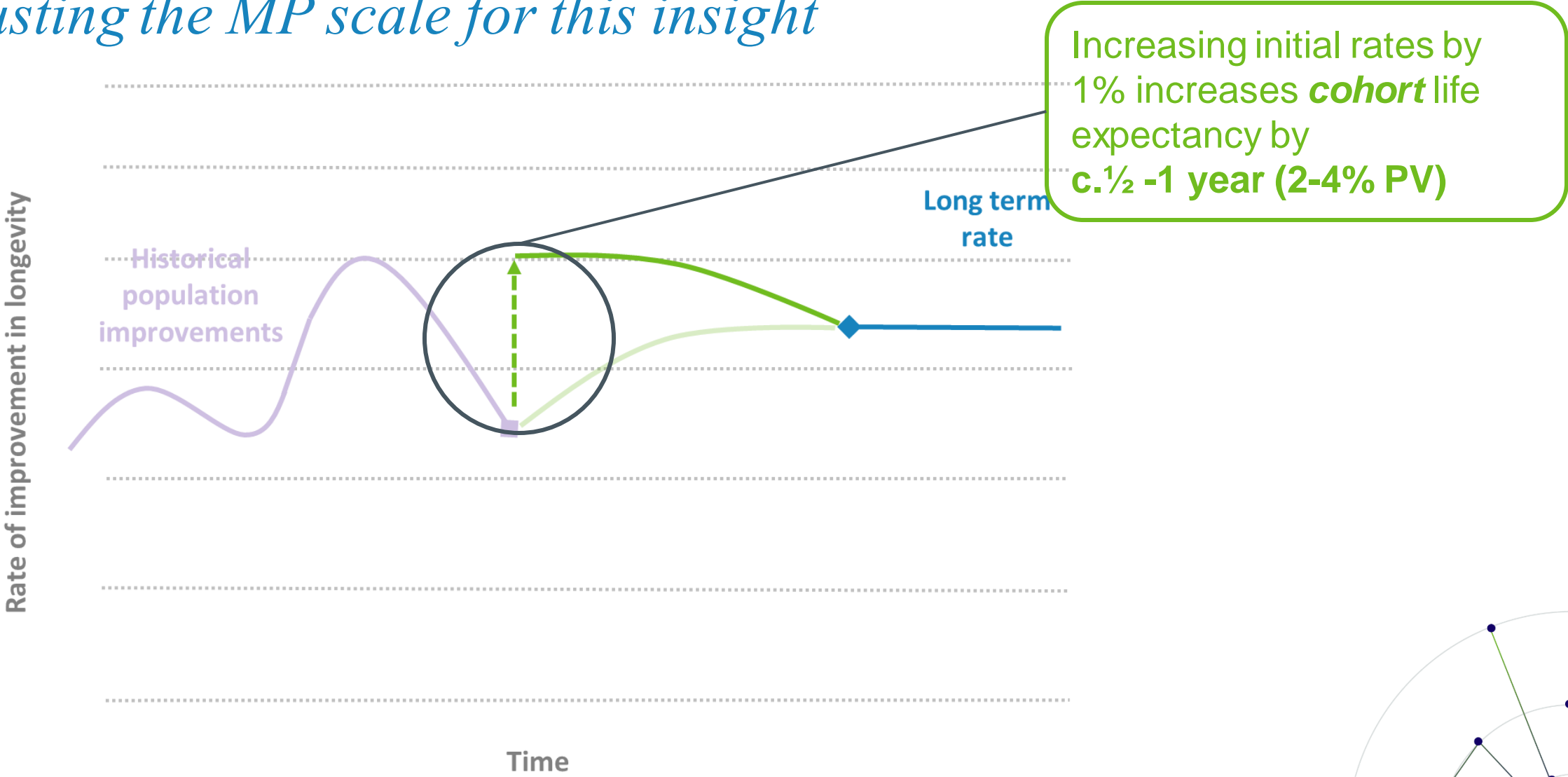


Notes: Indicative impacts based upon broad rules of thumb

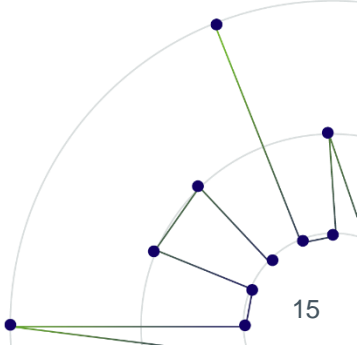


Implications for projections

Adjusting the MP scale for this insight

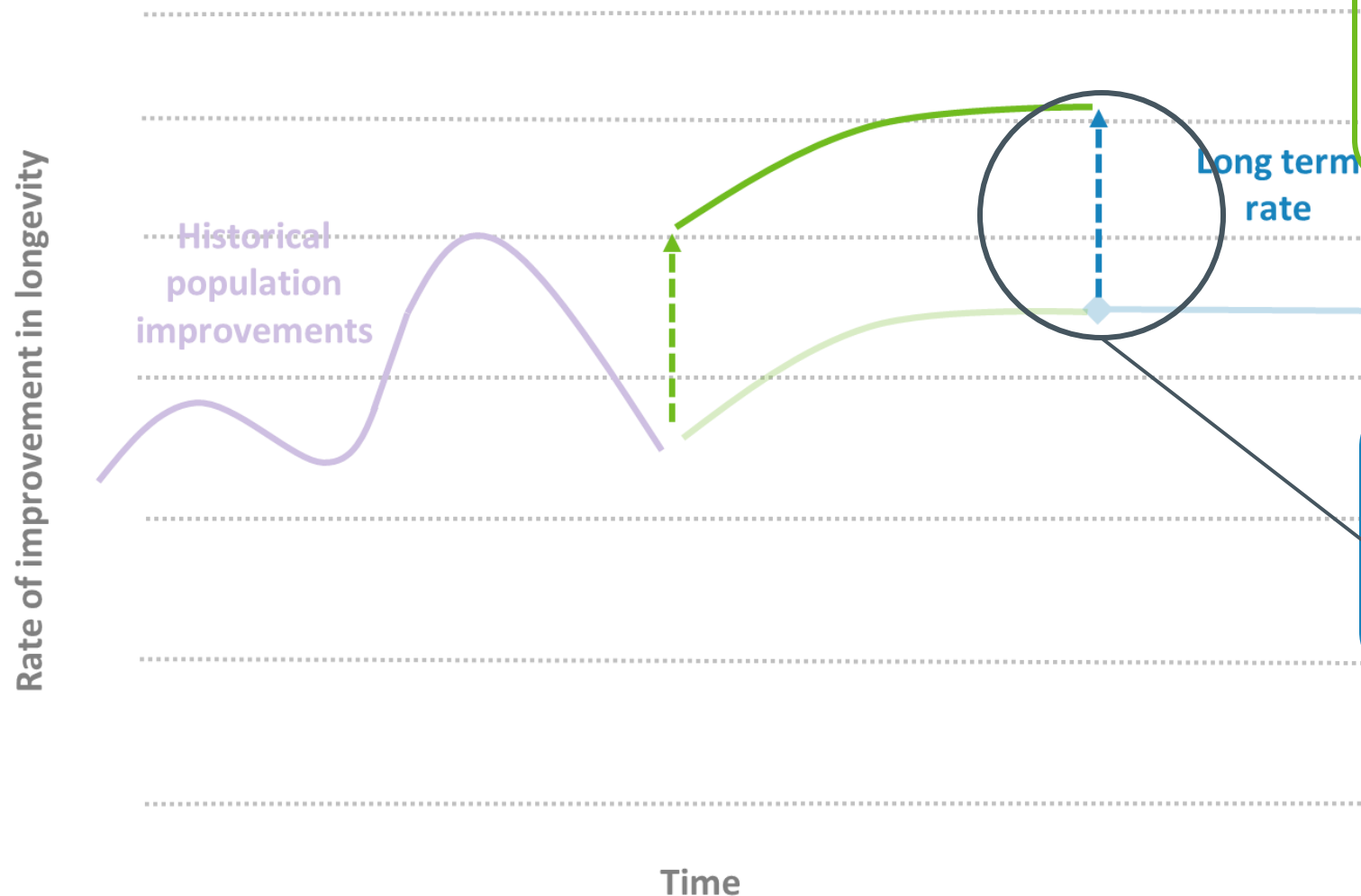


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Implications for projections

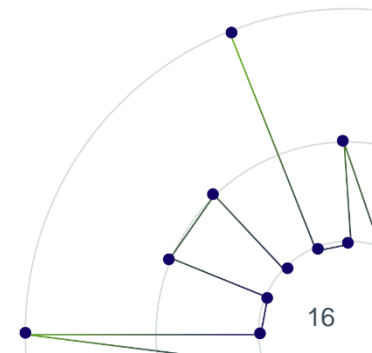
Adjusting the MP scale for this insight



Increasing initial rates by 1% increases **cohort** life expectancy by **c.½ -1 year (2-4% PV)**

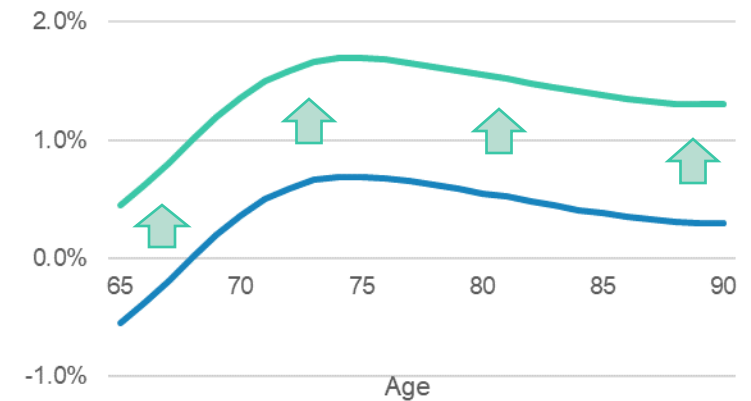
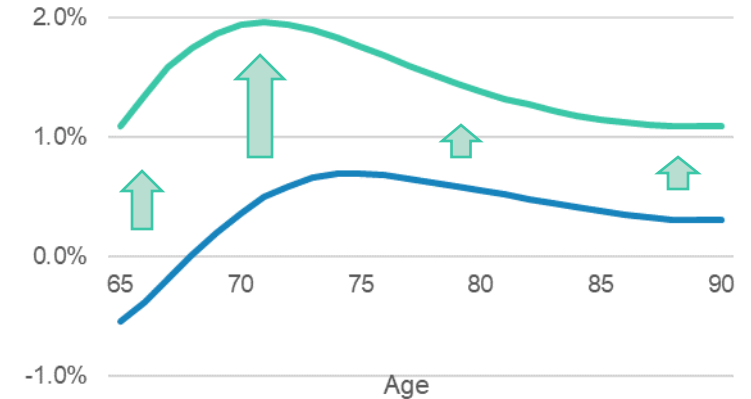
If also adjust **long term** outlook could increase **cohort** life expectancy by **c.1-2 years (4-8% PV)**

Notes: Indicative impacts based upon broad rules of thumb



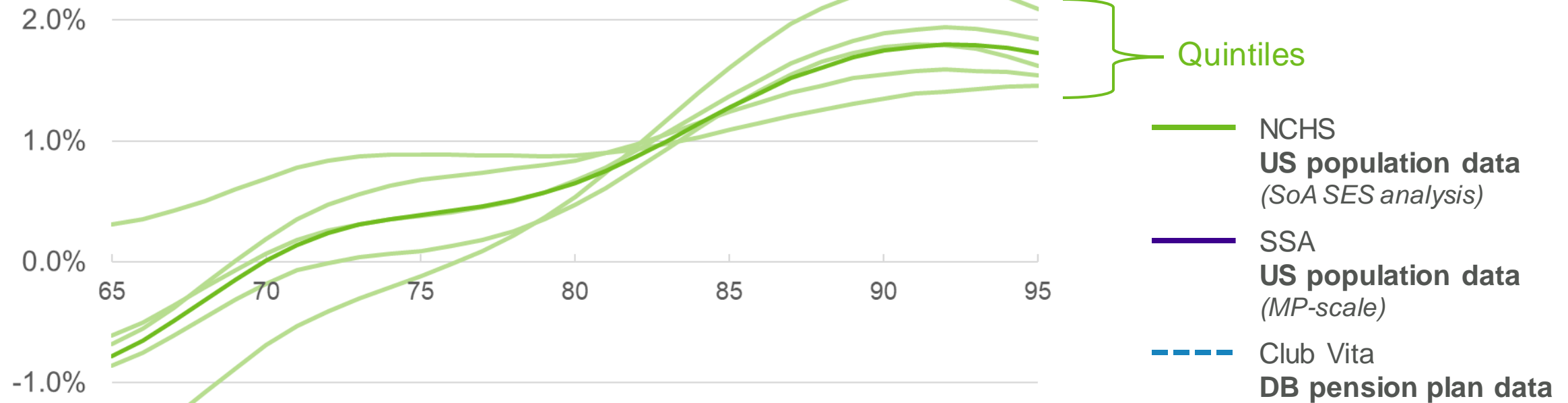
Tailoring starting rates of improvement scales

1. Calibrate to different underlying data sets
 - SoA MIM-2021 model allows you to calibrate starting rates to different data sets
 - Care needed when subdividing data sets
2. Adjust rates with flat addition across all ages
 - Straightforward approach, easy to communicate
 - Useful if you want to maintain the age effect of improvements from a reference population

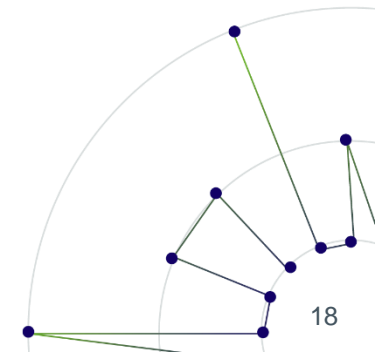


Tailoring starting rates: MIM-2021

Mortality improvement rates by age
 (men, 2016)

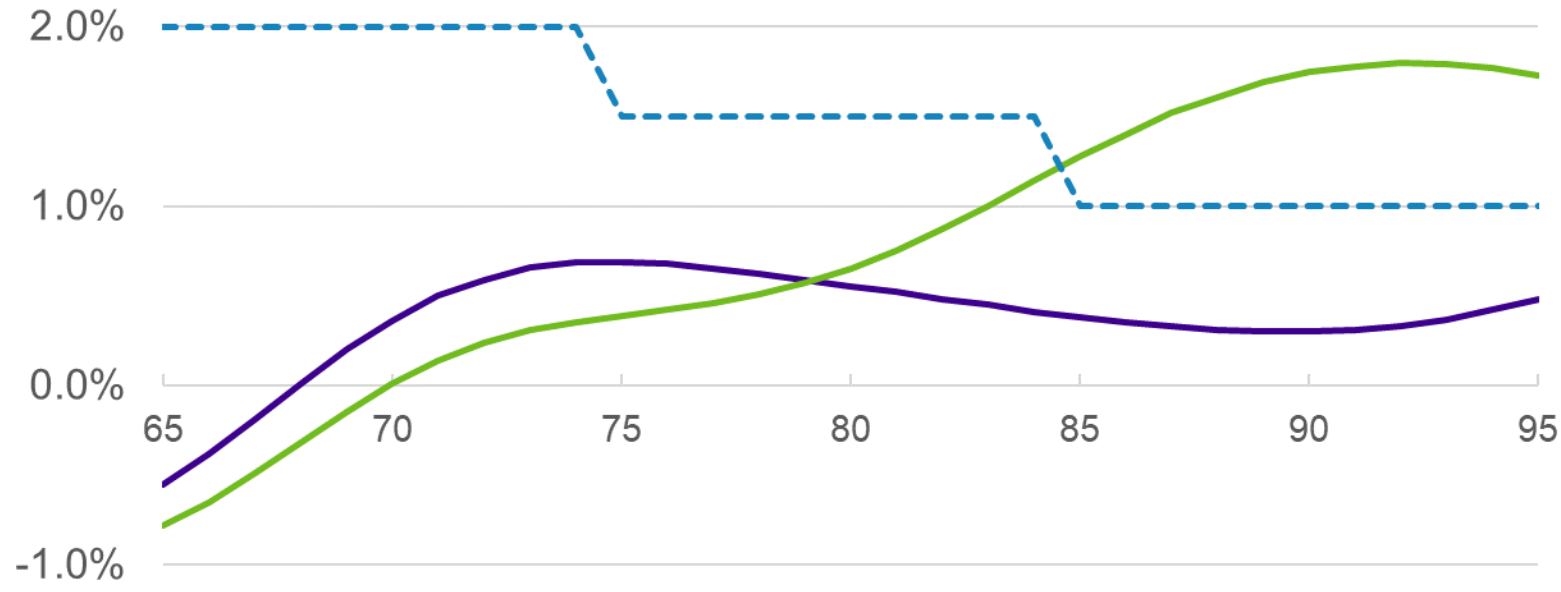


Which line is appropriate?



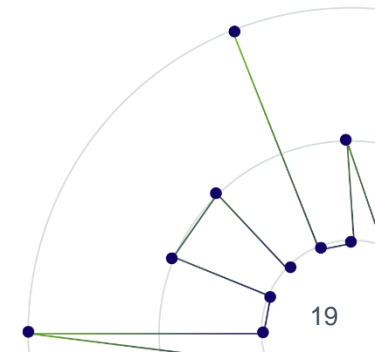
Tailoring starting rates: MIM-2021

Mortality improvement rates by age
 (men, 2016)



- NCHS
US population data
(SoA SES analysis)
- SSA
US population data
(MP-scale)
- - - Club Vita
DB pension plan data

Which line is appropriate?



Panel discussion... questions?



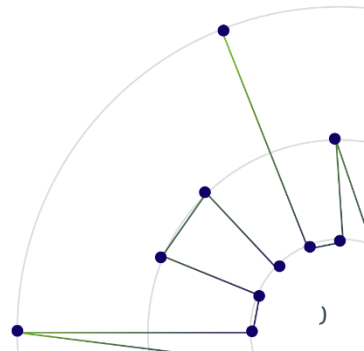
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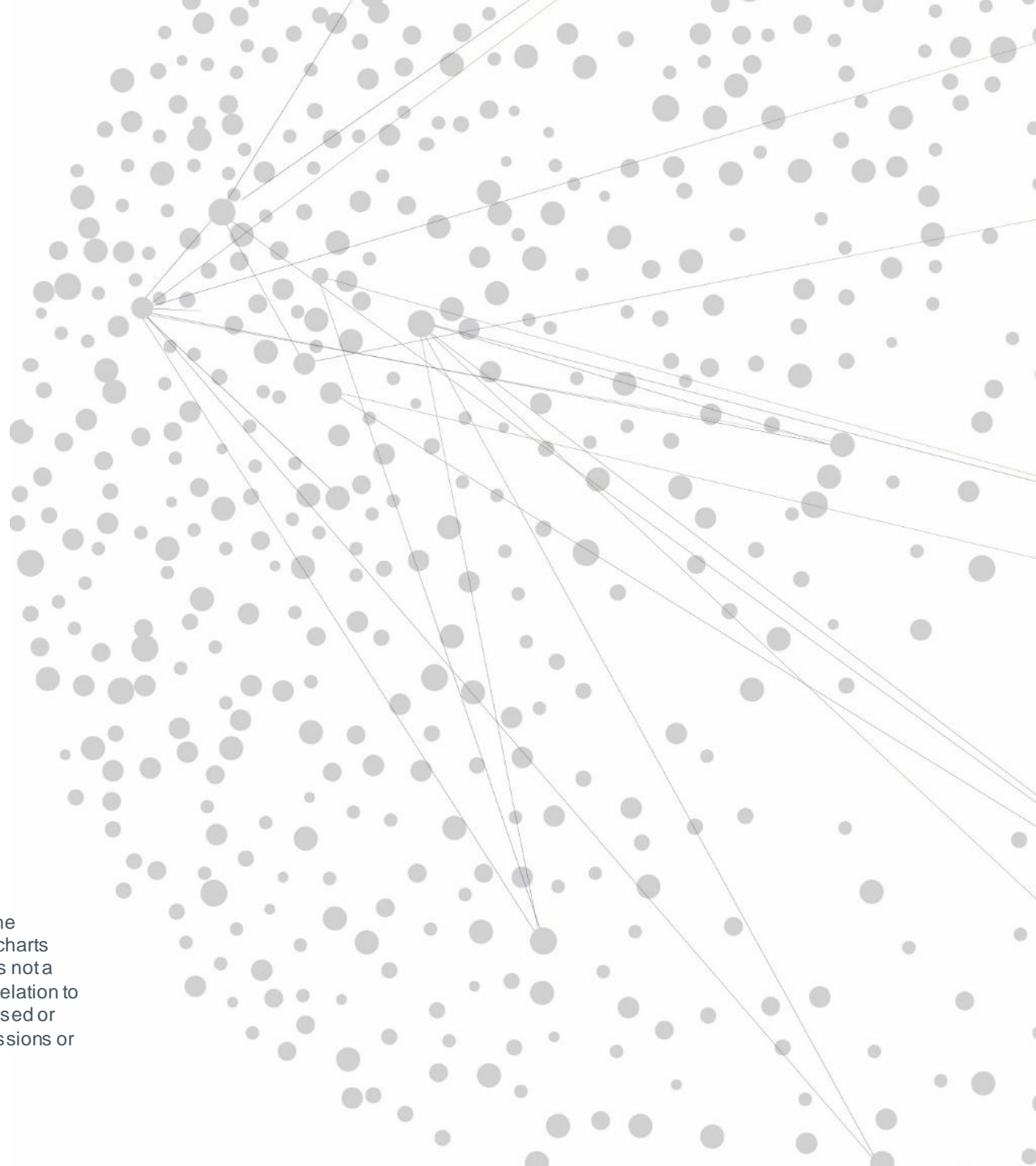
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Thank you

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Appendix:
Further listening

Club Vita webinar on improvement models

The screenshot shows a webinar interface. On the left is a green patterned sidebar with the text "Longevity 102: improvements/trends". The main content area has a blue header with the "CLUB VITA" logo. Below the logo is a white box with the text "Thank you for joining us – the webinar will start shortly". The main title "Longevity 102: improvements / trends" is displayed in a serif font. Below the title, the date and time "March 31st, 2021 11am ET / 4pm GMT" are shown. To the right of the date are social media links for LinkedIn ("linkedin.com/company/club-vita") and Twitter ("@ClubVita"). At the bottom, there is a video player with a play button, a progress bar showing "00:55", and a "vimeo" logo. A small video thumbnail in the top right corner shows a man with glasses and a headset.

Club Vita educational session describing different types of longevity projection models, including pros and cons of each and where they are most commonly used

<https://www.clubvita.us/events/longevity-102-improvements-trends>

