The Modern DC Default – To and Through Retirement

David Hutchins FIA
Portfolio Manager, Multi-Asset Solutions EMEA
AllianceBernstein

AllianceBernstein®

Characteristics of the Modern Default Strategy

To improve member outcomes – More of the same?

ESG	Consideration and Action to Reflect the Financial Risks and Opportunities Posed by Environment, Social and Governance Factors
Illiquid Assets	Exposure to Previously-Excluded Illiquid and Private Market Return Sources to Enhance Long-Term Returns
Post-Retirement	A Default Journey To and Through Retirement

For illustrative purposes only.
Source: AB

Don’t Forget the Basics

Public markets still matter

ESG	Consideration and Action to Reflect the Financial Risks and Opportunities Posed by Environment, Social and Governance Factors
Illiquid Assets	Exposure to Previously-Excluded Illiquid and Private Market Return Sources to Enhance Long-Term Returns
Post-Retirement	A Default Journey To and Through Retirement
Public Markets	Will remain the Biggest Driver of Member Outcomes Efficient “Active” Management of Equity, Bond and Currency exposures critical to member outcomes

For illustrative purposes only.
Source: AB

Public Markets: Low Cost May Come at a High Price

Public markets still matter

Low Cost, High Price?

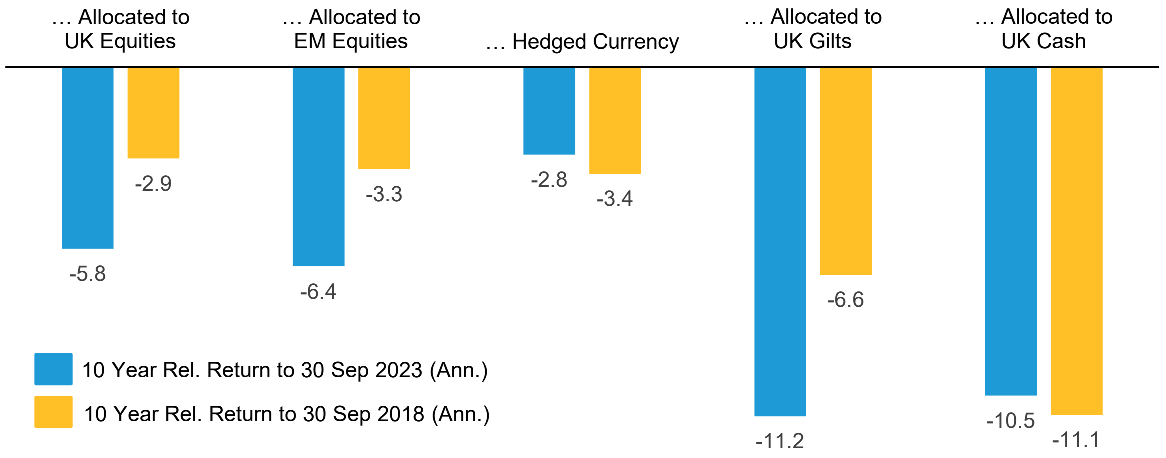
Many costs borne by members of lowest cost solutions are not in the price:

- Forgone returns from stock lending
- Tax efficient structures
- Hidden execution costs
- Lack of robust ESG/stewardship integration
- Areas where active management adds value

0.0?% per annum sticker price saving
?.??% per annum member return cost

Choice of Allocation Matters

What If, Instead of Developed Global Equities (Unhedged), You Had…



Poor Asset Allocation Decisions In Public Markets Will Swamp The Incremental Benefits of Private Market Allocations

Past performance does not guarantee future results
Developed Global Equities (Unhedged and Hedged) represented by MSCI World Index, UK Equities represented by FTSE All Share Index, EM Equities represented by MSCI EM Index, UK Gilts represented by FTSE Actuaries UK Conventional Gilts All Stocks Index, UK Cash represented by ICE BofA SONIA 3-Month Average Index from 1 January 2022 (3-Month GBP LIBOR prior to this).Returns shown in GBP. As of 30 September 2023. Source: FTSE, MSCI, Morningstar, AB

Characteristics of the Modern Default Strategy

To improve member outcomes

ESG	Consideration and Action to Reflect the Financial Risks and Opportunities Posed by Environment, Social and Governance Factors
Illiquid Assets	Exposure to Previously-Excluded Illiquid and Private Market Return Sources to Enhance Long-Term Returns
Post-Retirement	A Default Journey To and Through Retirement

For illustrative purposes only.
Source: AB

Unlocking Opportunities with ESG Integration

Considering a wider range of financial risks and opportunities

Investment Objectives for ESG Integration

- What is the investment case – is it return-oriented? Or better risk management? Or both?
- Does it vary with investment horizon?

What is Our Approach?

Reporting and Communication on ESG is a Critical Step

- Regulatory reporting requirements for pension plans (e.g. TCFD)
- Easier when default is overseen as a single strategy rather than collection of underlying allocations
- Look-through to underlying securities and collation at member and plan level is needed
- Methodology, content and targets need to be reassessed as new techniques and standards emerge

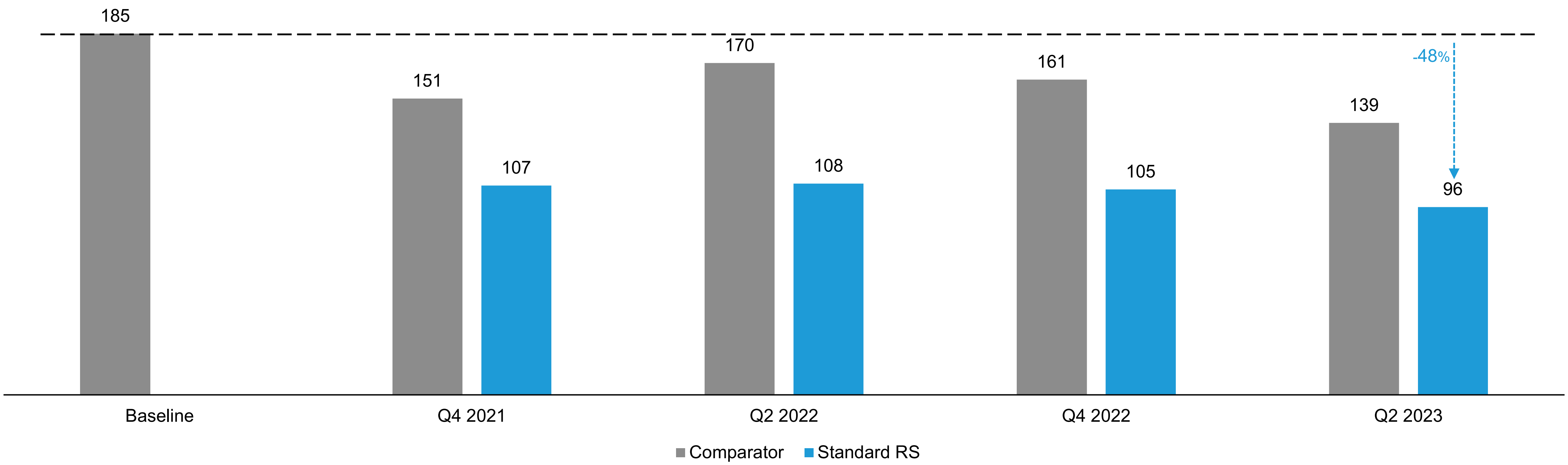
For illustrative purposes only.
AB engages companies where it believes the engagement is in the best financial interest of its clients.Source: AB

Responsible Investment Outcomes

Measuring Progress Toward Climate Objectives

Weighted Average Carbon Intensity

Tons CO_2e/USD Millions Sales



Historical analysis does not guarantee future results.

Baseline as at 1 January 2020. Comparator: MSCI All Country World Index. Aggregate data shown is for a combination of all the Scheme's TDF vintages, weighted by the total invested assets in each. Carbon metrics based on corporate issuers reported or estimated Scope 1 + 2 carbon emissions. Scope 1 emissions are those from sources owned or controlled by the company, typically direct combustion of fuel as in a furnace or vehicle. Scope 2 emissions are those caused by the generation of electricity purchased by the company. Measures exclude allocations without carbon data (e.g. UK gilts).

As of 30 June 2023. Source: AB.

Regular Reporting on Client ESG Data

Investing in technology to improve transparency and better understand ESG exposures

ESG Scores and Ratings

	TDF Aggregate	Comparator*
ESG Rating	A	A
Overall ESG Score	**6.9**	**6.8**
Environment Score	6.1	6.0
Social Score	5.1	5.1
Governance Score	6.6	6.6

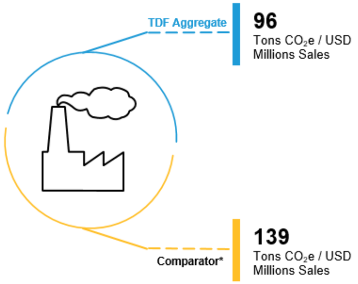
	TDF Aggregate	Comparator*
AAA	14.9%	15.5%
AA	30.2%	27.6%
A	28.4%	28.8%
BBB	18.2%	19.8%
BB	6.3%	5.2%
B	1.0%	1.7%
CCC	0.8%	1.4%

0 Low — MSCI ESG Scores Range from 0 to 10… — 10 High

CCC	B	BB	BBB	A	AA	AAA
0.0 - 1.4	1.4 - 2.9	2.9 - 4.3	4.3 - 5.7	5.7 - 7.1	7.1 - 8.6	8.6 - 10.0

Laggard …and are Converted into a Rating Leader

Carbon Footprint and Data



	TDF Aggregate Weight	Comparator* Weight	Contribution to TDF Intensity
Nextera Energy Inc	0.14%	0.24%	3.71%
Linde Plc	0.18%	0.29%	2.27%
Acwa Power Co	0.01%	0.01%	2.21%
Exxon Mobil Corporation	0.39%	0.69%	1.71%
Taiwan Cement Corp	0.02%	0.01%	1.65%
Air Products Inc	0.06%	0.10%	1.53%
Air Liquide Sa	0.09%	0.15%	1.42%
Equinix Inc	0.37%	0.12%	1.37%
Saudi Electricity Co	0.01%	0.01%	1.35%
Reliance Industries Ltd	0.24%	0.15%	1.24%
Total	**1.52%**	**1.76%**	**18.46%**

Top 10 Issuer ESG Characteristics

				ESG Scores (0-10)				Carbon Intensity	
	TDF Aggregate Weight	Comparator* Weight	ESG Rating	Overall Score	E Score	S Score	G Score	Corporate	Government
UK Government	6.01%	-	A	-	-	-	-	-	105.2
Apple Inc	2.68%	4.84%	BBB	5.2	4.2	5.1	6.4	0.2	-
Microsoft Corp	2.24%	3.79%	AAA	9.3	8.3	6.3	7.1	32.9	-
Alphabet Inc	1.23%	2.15%	BBB	4.9	7.5	4.8	4.2	7.3	-
Nvidia Corp	1.21%	1.65%	AAA	9.1	6.2	7.5	6.3	5.1	-
Amazon.Com Inc	1.00%	1.90%	A	6.2	7.2	4.2	6.1	34.4	-
Tesla Inc	0.84%	1.18%	A	6.9	9	2	4.8	10.9	-
Meta Platforms Inc	0.60%	1.00%	CCC	1.1	10	2.2	6.7	0.5	-
Jpmorgan Chase & Co	0.52%	0.67%	A	6	9.3	4.2	7	6.6	-
Lilly Eli & Co	0.51%	0.60%	AA	7.3	5.4	4.6	6.6	22.8	-
Total	**16.82%**	**17.77%**	-	-	-	-	-	-	-

Other Metrics to Support TCFD Reporting

Absolute Emissions Metrics		Emissions Intensity Metrics		Other Climate Change Metrics	
Total Carbon Emissions (Corporate Holdings Only)	63.60	Weighted Average Carbon Intensity (Corporate Holdings Only)	96.33	Allocation to Corporates with Carbon Data (Estimated, Reported)	82.70%
Total GHG Emissions (Government Holdings Only)	TBD	GHG Emissions Per Capita (Government Holdings Only)	7.02	Allocation to Corporates with Carbon Data (Estimated)	11.61%
		GHG Intensity (Government Holdings Only)	140.56	Allocation to Corporates with Carbon Data (Reported)	71.09%
				Allocation to Governments with Carbon Data	6.47%
				Allocation to Investments with SBTi Approved Emissions Targets	29.59%
				Climate Scenario Analysis Metrics	TBD

For illustrative purposes only. Historical analyses do not guarantee future results.

TDF aggregate shown is a combination of TDF vintages of a pension scheme, weighted by the total invested assets in each. MSCI's ESG methodology assigns individual issuers, and hence an overall portfolio, scores from 0 (worst) to 10 (best) for their handling of a range of E, S and G risks. The overall scores are then converted into a rating classification from CCC (worst) to AAA (best). *The comparator (measured by MSCI ACWI) represents the full opportunity set of investing in a globally diverse universe of large and medium sized corporates.

As of 30 June 2023. Source: MSCI, AB.

Characteristics of the Modern Default Strategy

To improve member outcomes

ESG	Consideration and Action to Reflect the Financial Risks and Opportunities Posed by Environment, Social and Governance Factors
Illiquid Assets	Exposure to Previously-Excluded Illiquid and Private Market Return Sources to Enhance Long-Term Returns
Post-Retirement	A Default Journey To and Through Retirement

For illustrative purposes only.
Source: AB

Enhancing Investment Returns with Illiquid Assets via Private Markets

What are illiquids?

- **They are…** privately-traded assets across equity, fixed income and property asset classes
- **They are not…** a ‘magical’ new asset class with earnings entirely unrelated to the real economy

What is Our Approach?

- **Understand…** Economic drivers of returns of illiquid assets
- **Don’t get fooled…** By artificial smoothing of prices
- **Value for money…** Look first and foremost for access not skill to drive returns
- **Material impact…** This has to be worth the effort

Where does this get us?

- **Avoiding:** assets that (after fees) provide uncompelling outcomes compared to public markets
- **Focused:** on Private Debt Markets

How do we do it?

- **Structure not regulation:** Barriers to DC investment are mainly structural, not regulatory
- **Fair daily *pricing* is a necessity:** Member “equity” is an important fiduciary risk
- **Daily *liquidity* is not a necessity:** Most efficiently managed at strategy - not component - level

For illustrative purposes only.

Source: AB

But has the Implementation of Illiquid Assets Taken Hold?

Survey by Phoenix Corporate Investment Services – October 2023

What is the main issue delaying DC investment into private markets?

Ensuring member fairness

Operational challenges

Value for money

Lack of understanding

For illustrative purposes only.
Source: AB, LinkedIn, Phoenix Corporate Investment Services with 79 votes cast via survey on LinkedIn, as of 6th October 2023.

But has the Implementation of Illiquid Assets Taken Hold?

Survey by Phoenix Corporate Investment Services – October 2023: The results

What is the main issue delaying DC investment into private markets?

Ensuring member fairness	4%
Operational challenges	39%
Value for money	22%
Lack of understanding	35%

For illustrative purposes only.

Source: AB, LinkedIn, Phoenix Corporate Investment Services with 79 votes cast via survey on LinkedIn, as of 6th October 2023.

Daily Pricing – Not Daily Liquidity – is Key for Private Markets in DC

Daily Liquidity vs. Daily Pricing – What is Important for DC?

Daily Liquidity is Not a Necessity

DC has lots of liquidity – e.g. ongoing cashflows, long investment horizons

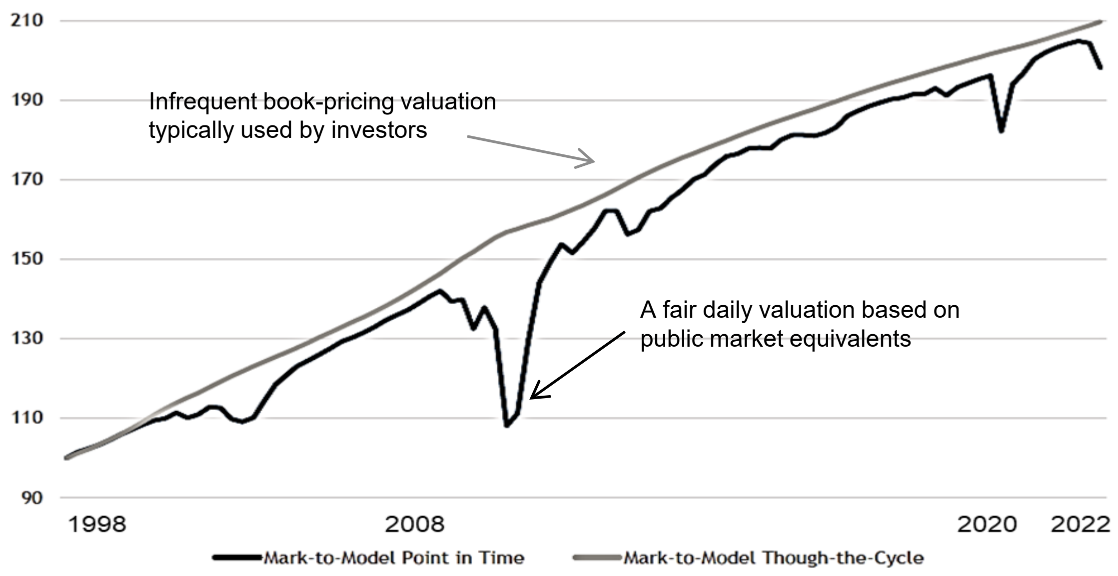
A modern default, delivered via target date funds, can efficiently manage this at the strategy level

Daily Pricing is Critical for Member Equity

Private assets are internally traded from older members to younger members

Pricing of these trades must be fair and transparent

Methodology Comparison: Why Fair Pricing Matters



Given the valuation premium offered by the through-the-cycle approach, **value** would be consistently passed **from buyers** (e.g. young members) **to sellers** (e.g. older members)

For illustrative purposes only.

Based on simulation of a diversified Euro-based floating rate loan portfolio. Through-the-cycle valuation occurs quarterly. The two valuation indices incorporate the same credit loss assumptions and interest-rate curve assumptions. Source: Muzinich, AB.

Market Opportunity and Risks

Summary of Findings

- Investment case is strong – essentially a regulatory arbitrage – an attractive market "Beta"
- Limited market history – with minimal defaults - raises some concerns
- Market supply inefficient – resulting in high fees and high Governance costs
- DC friendly practices – developing but far from a conclusion

For illustrative purposes only. There can be no assurance that any investment objectives will be achieved.

Source: AB

Characteristics of the Modern Default Strategy

To improve member outcomes

ESG	Consideration and Action to Reflect the Financial Risks and Opportunities Posed by Environment, Social and Governance Factors
Illiquid Assets	Exposure to Previously-Excluded Illiquid and Private Market Return Sources to Enhance Long-Term Returns
Post-Retirement	A Default Journey To and Through Retirement

For illustrative purposes only.
Source: AB

Delivering a Seamless Journey into Retirement

Taking the lessons learnt in accumulation and apply them into decumulation

High Risk of Poor Outcomes: Historical Approach Reliant on Engagement and Choice

- Inefficient investment allocation
- High ongoing charges and transaction costs
- Uncertainty of how much income to draw and when

What Members Need: An Automatic, 'Do-It-For-Me' Solution

- Freedom and flexibility to meet multiple and evolving retirement needs
- Defence against inflation, mortality and longevity risks
- Governance and oversight structure to ensure broad suitability
- Low 'cost' solution that represents value-for-money

How We Are Delivering It:

- **Retirement Bridge TDFs**
- **Guaranteed Lifetime Income TDFs**
- **'Whole of Life' TDFs**
- **CDC TDFs**

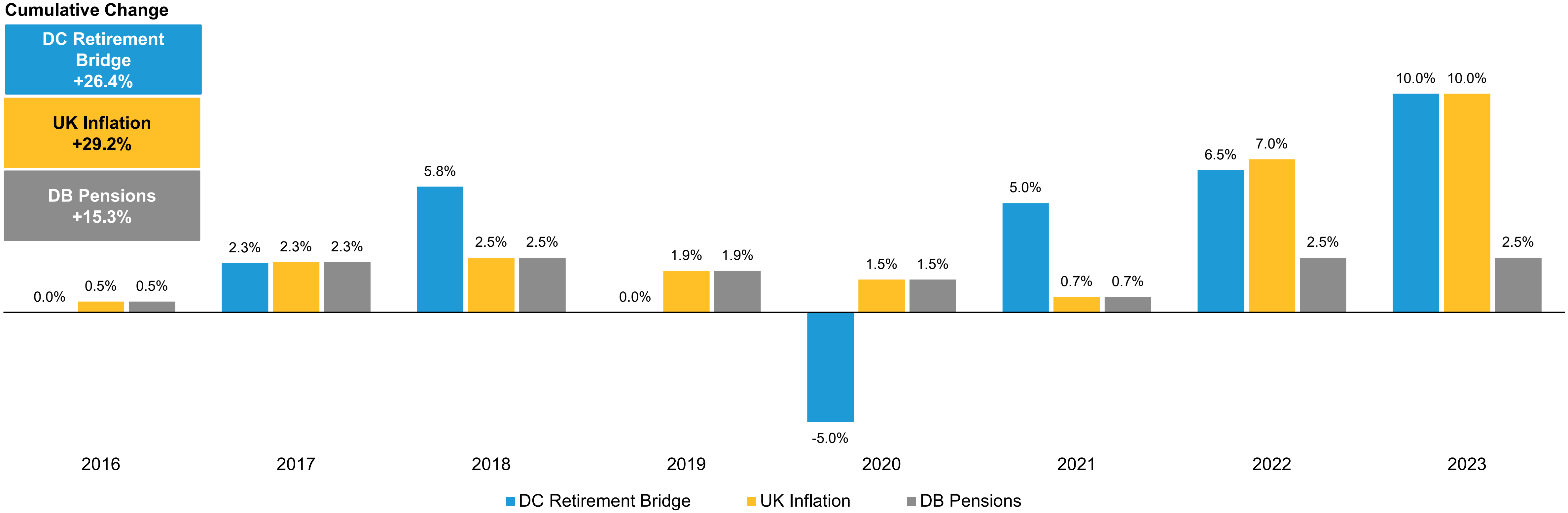
For illustrative purposes only. All guarantees are backed by the claims-paying ability of the issuing insurance company.

Guaranteed Lifetime Income TDFs are a global retirement capability and product offered to US defined contribution pension plans. The capability combines a custom target date fund design that, in the approach to retirement (and beyond), purchases insurance-based guarantees to generate a secured level of income for retirees. Source: AB

Our Experience Has Demonstrated an Ability to Keep Pace With Inflation

Evidence: AB Retirement Bridge income paying TDFs

Annual Pension Income Increases



Past performance does not guarantee future results. There can be no assurance that any investment objectives will be achieved.

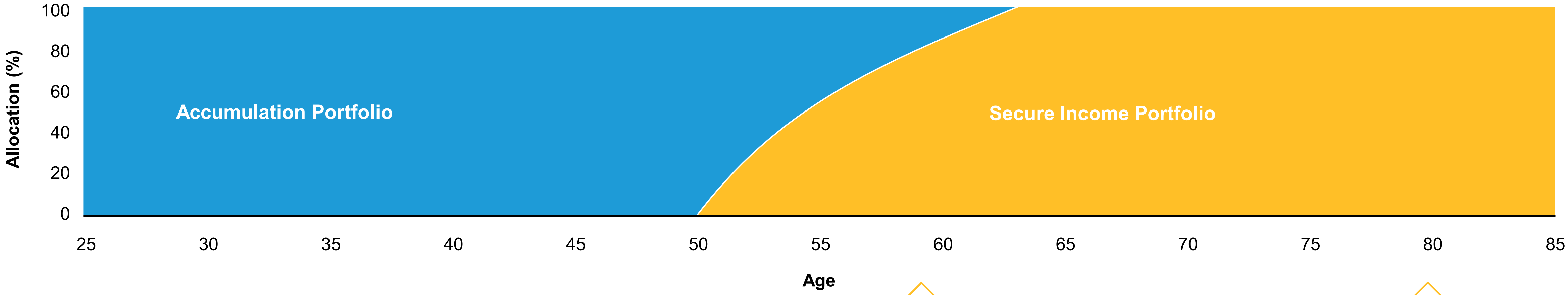
Annual Retirement Bridge pay-out change shown is an equally-weighted average of all vintages. Inflation measure shown is change UK CPI inflation. DB Benefit increases shown are the current statutory requirement for payments to be increased by the lower of UK RPI and 2.5%.

Retirement Bridge pay-outs are reviewed and fixed annually as at 30 June, with the new pay-out effective from 1 July. As at 30 June 2023. Source: ONS, AB

Learning From Experience in the US since 2012

Default secure income allocation

Sample Target Date Fund with Secure Income Portfolio (SIP)



Secure Income Portfolio

- Invested in **growth** assets
- ***Guaranteed Lifetime Withdrawal Benefit*** (**GLWB**)
    - Income paid from fund, with annual ratchet
    - **Insures lifetime income** if fund goes to zero
- **Multi-insurer** best execution with **transparent** explicit charge

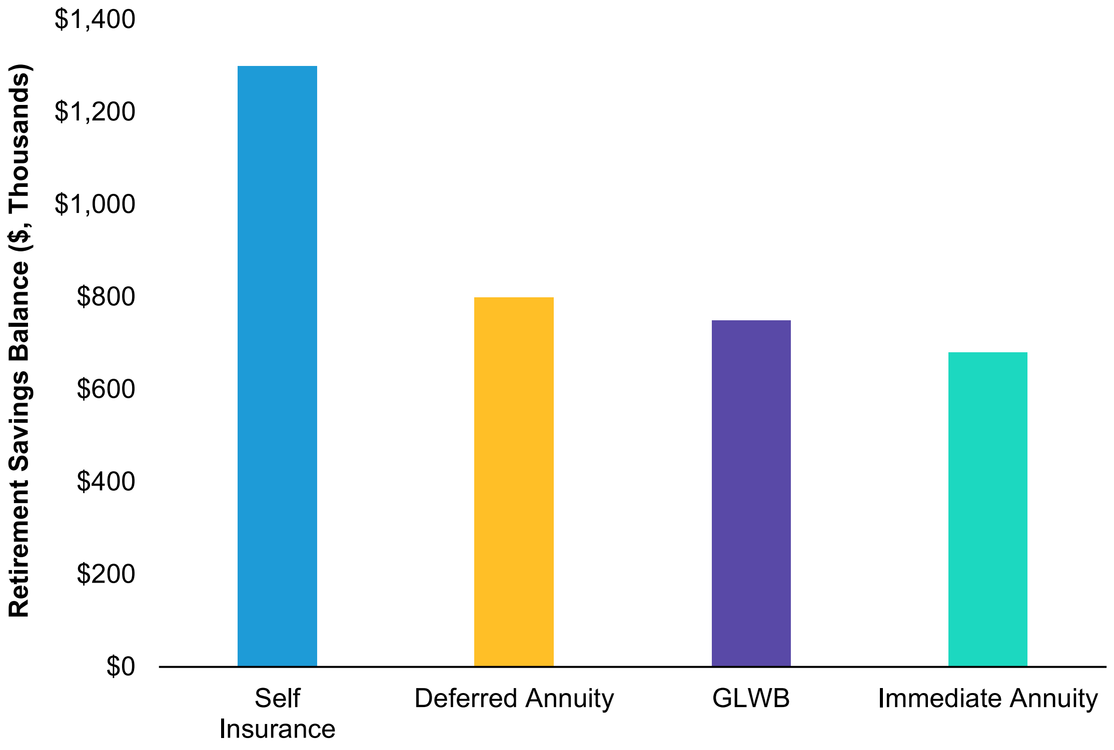
For illustrative purposes only. All guarantees are backed by the claims-paying ability of the issuing insurance company.

Source: AB

Longevity Insurance – Comparing Four Approaches

Simplistically an annuity provides the "cheapest" solution for income today

Initial Balances Needed to Deliver Average $30K Annual Income Over Life



The Four Broad Approaches:

1. **Self Insurance – Investment in TDF**
   - Target date fund with sustainable pay-out rate adjusted with inflation level
2. **Deferred Annuity – 25% Annuity + 75% TDF**
   - Bought at age 65 starting at age 80
3. **Guaranteed Lifetime Withdrawal Benefit (GLWB)**
   - 1% annual insurance charge against TDF to guarantee it won't run out of money
4. **Immediate Annuity**
   - Fixed lifetime annuity

For illustrative purposes only. All guarantees are backed by the claims-paying ability of the issuing insurance company.
Based on simulation of 10k trials from age 65 to 100 with AB proprietary long-term predictions. Initial Balanced required are calculated by dividing $30,000 in annual income by the median income rate (US) average over time. Self Insured TDF based on living-standard-adjusted sustainable drawdown rate of 2.3%. Source: AB

TDF Solutions Have The Potential to Address The CDC Challenge

Combining deep global experience to deliver the pension plan of the future

UK CDC Challenges

- **Unfair and Opaque**
  - Socially unfair cross-subsidies
  - Opaqueness
- **Complex and Costly**
  - Governance
  - Administration
  - Risk management

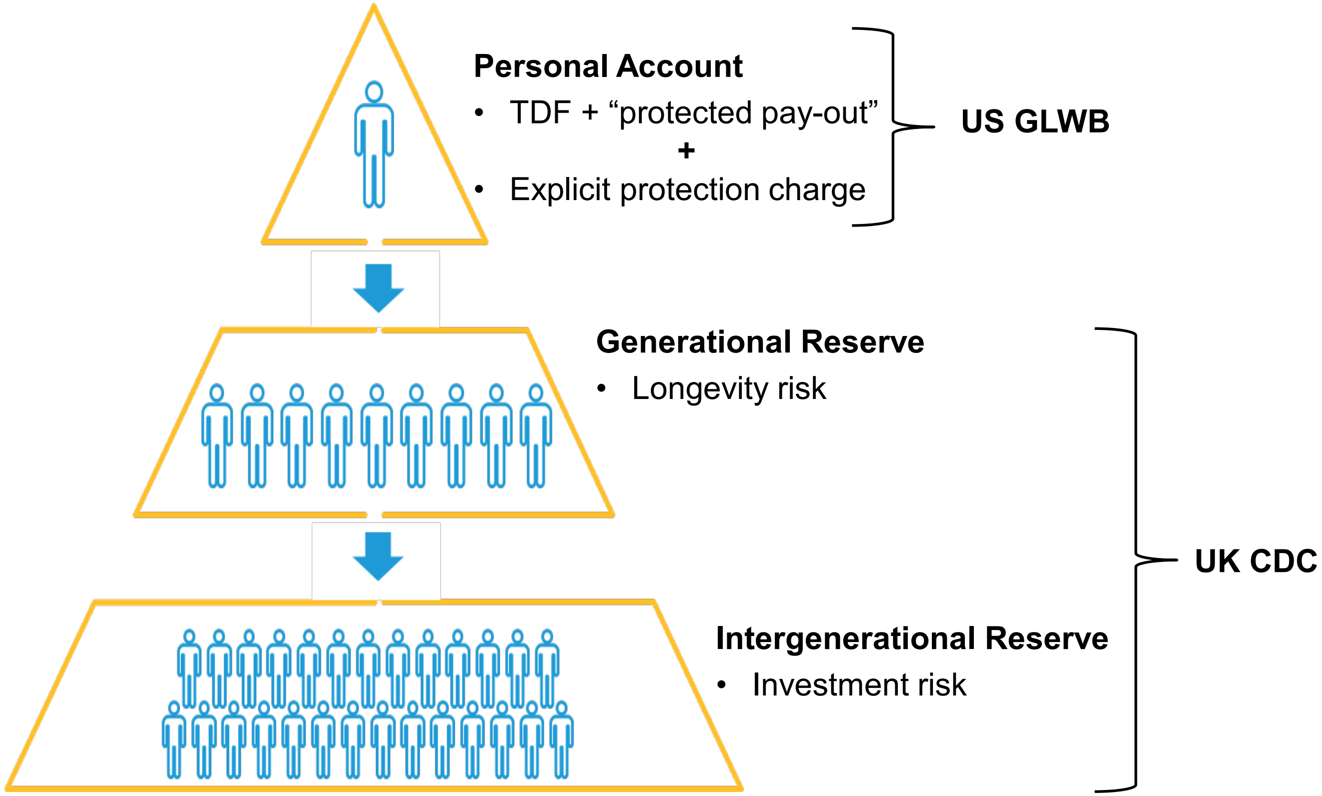
Worse Than DC

+

US GLWB Challenges

- **Frictional insurance costs**
- **Complex administration**

Combining US GLWB with UK CDC

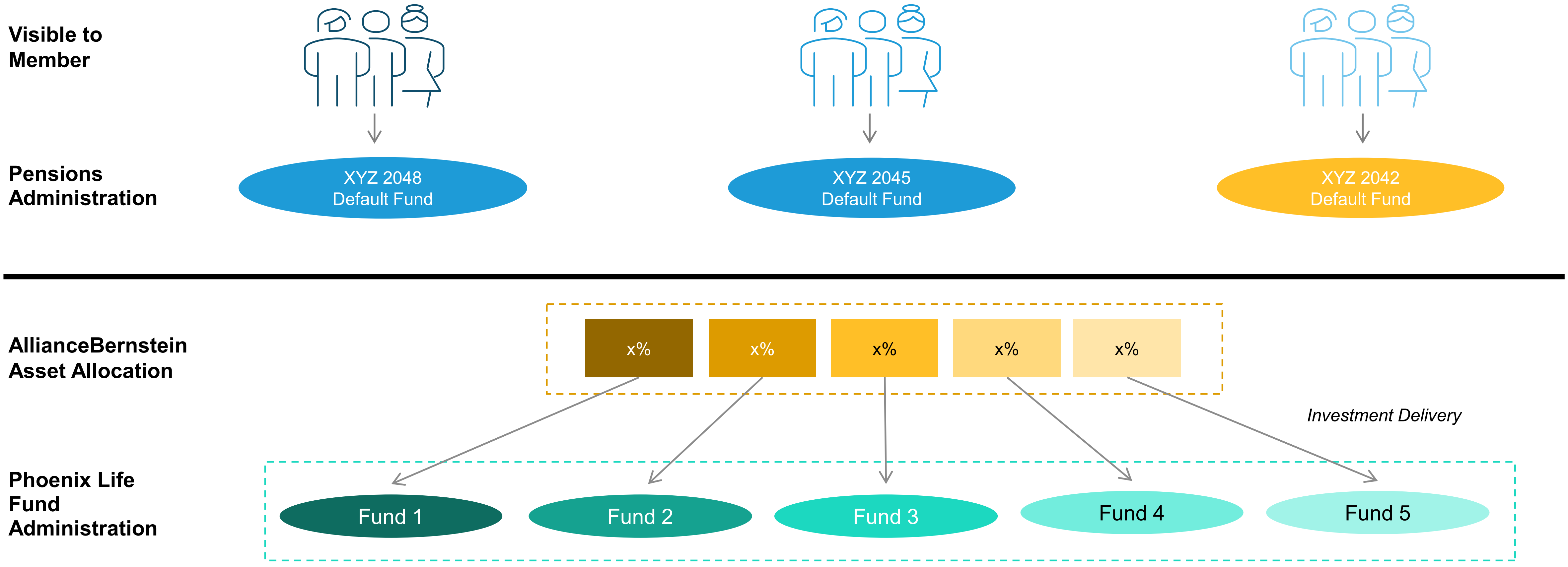


For illustrative purposes only.
Source: AB

Appendix

Target Date Funds – The Most Widely Used Modern Default?

One fund – simple for members, simple for employers, simple for administrators



For illustrative purposes only.
Source: AB

How We're Building Exposure to Private Markets

Private Equity

- Initial allocation for a bespoke client strategy
- Listed vehicle allocation began in 2018

Expand Private Equity

- We expanded the listed private equity allocation to all clients in 2020
- Leveraging the experience and success of the initial client allocation

Sustainable Opportunities

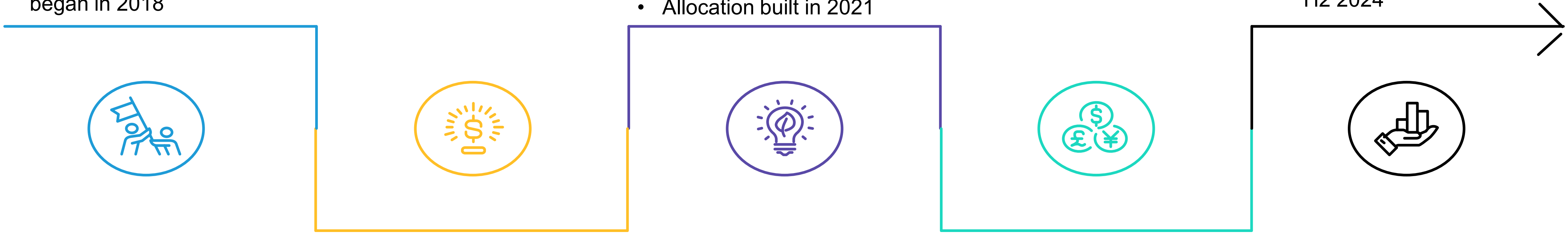
- Non-traditional sustainable investments – e.g. infrastructure, real estate
- Allocation built in 2021

Private Credit

- Integrating allocation to private credit for a bespoke client strategy
- Unlisted allocation expected in Q1 2024

Expand Private Credit

- Seek to expand the allocation to other interested clients from H2 2024



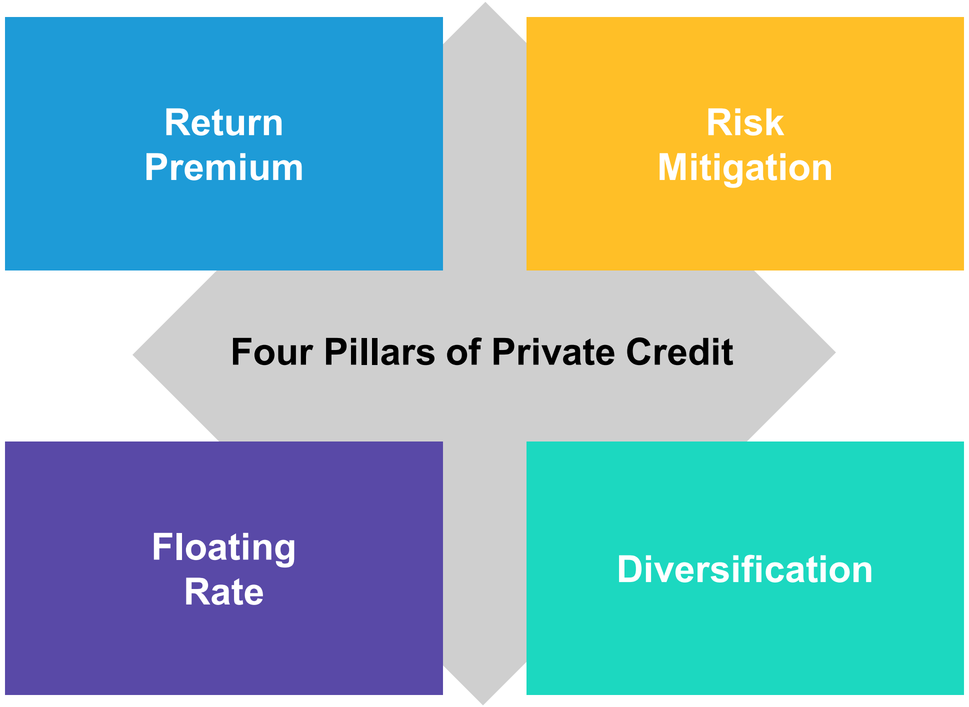
For illustrative purposes only.
Source: AB

Rationale: Private Credit Provides A Compelling Opportunity

Although this is not without caveat

Capital arbitrage of bank lending and illiquidity provide a **return premium** over traditional fixed income

Contractual cash income and structural features (e.g., capital structure priority, collateral) help to provide **risk mitigation**



Private credit loans are generally **floating rate**, which may serve as a hedge against rising interest rates/inflation

Idiosyncratic risk exposures and structural asset class features lessen correlation with traditional equity and fixed income markets and support **diversification**

There can be no assurances any strategy will be met with comparable conditions or any investment objectives will be achieved.

Diversification does not eliminate risk. Please see A Word About Risk and Important Information and Disclosures in the Appendix for additional information.

Source: AB

Risks of Investing

For Investment Professional use only. Not for inspection by, distribution to, the general public.

The value of an investment can go down as well as up and investors may not get back the full amount they invested. Capital is at risk. Past performance does not guarantee future results.

Some of the principal risks of investing in Target Date Funds include:

Market Risk: The market values of the Fund's holdings rise and fall from day to day, so investments may lose value.

Interest Rate Risk: Bonds may lose value if interest rates rise or fall—long-duration bonds tend to rise and fall more than short-duration bonds.

Credit Risk: A bond's credit rating reflects the issuer's ability to make timely payments of interest or capital—the lower the rating, the higher the risk of default. If the issuer's financial strength deteriorates, the issuer's rating may be lowered and the bond's value may decline.

Allocation Risk: Allocating to different types of assets may have a large impact on returns if one of these asset classes significantly underperforms the others.

Foreign Risk: Investing in non-UK assets may be more volatile because of political, regulatory, market and economic uncertainties associated with them. These risks are magnified in assets of emerging or developing markets.

Currency Risk: If a non-UK asset's trading currency weakens versus sterling, its value may be negatively affected when translated back into sterling terms.

Reinsurance Risk: The underlying fund(s) is accessed via another insurance provider, also known as a reinsurance arrangement; creating a direct counterparty exposure. In the event of default by an insurance provider, the value of the assets will likely fall, which will be reflected in the value of our Fund price.

ESG Risk: Applying ESG and sustainability criteria to the investment process may exclude securities of certain issuers for nonfinancial reasons and, therefore, the Fund may forgo some market opportunities available to funds that do not use ESG or sustainability criteria.

Target Date Funds (TDFs) are designed for a typical pension fund saver intending to retire in or around the years stated in the name of the Fund. As the Funds are intended to be default pension saving vehicles which seek to meet the requirements of a broad range of persons, they do not take into account an individual's personal circumstances and may not be suitable for a particular individual or group of individuals with complex financial or personal circumstances.

Disclosures and Important Information

Note to Readers in the United Kingdom: This information is issued by AllianceBernstein Limited, 60 London Wall, London EC2M 5SJ. Registered in England, No. 2551144. AllianceBernstein Limited is authorised and regulated in the UK by the Financial Conduct Authority.

Disclosure on Security Examples

References to specific securities are presented to illustrate the application of our investment philosophy only and are not to be considered recommendations by AllianceBernstein. The specific securities identified and described in this presentation do not represent all the securities purchased, sold or recommended for the portfolio, and it should not be assumed that investments in the securities identified were or will be profitable. Upon request, we will furnish a listing of all investments made during the prior one-year period.

Important Information

The views and opinions expressed in this presentation are based on AllianceBernstein's (AB) internal forecasts and should not be relied upon as an indication of future market performance or any guarantee of return from an investment in any AB services.

An investor cannot invest directly in an index, and index results are not indicative of the performance for any specific investment, including an AB fund. Indices do not include sales charges or operating expenses associated with an investment in a mutual fund, which would reduce total returns.

MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used as a basis for other indices or any securities or financial products. This report is not approved, reviewed or produced by MSCI.