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Pensions and Bonds: The End of the Affair?

The role of bonds in pension systems is set to change. The large default allocation to bonds by pension funds has been a function of the large proportion of defined benefit (DB) funds and, until recently, quiescent inflation. We do not think either of these forces still holds. The combination of increased longevity, higher equilibrium inflation and lower growth rates implies that the strategic asset allocation of pension systems is likely to change.

To be clear, there is still a role for bonds, but via active fixed income or as part of longevity insurance, which is very different from large passive holdings of long-duration government bonds. We explore the options that pension systems have to adapt their strategic asset allocations in the face of a new investment regime.

Inigo Fraser Jenkins

David Hutchins

Additional Contributors: Alla Harmsworth, Robertas Stancikas, Harjaspreet Mand and Maureen Hughes

Pension systems have built up huge allocations of government bonds. This has in part reflected the structure of pension systems (a historically large proportion of DB funds) and what has until recently been quiescent inflation. We argue that both of these forces have changed, that the share of pension assets in defined contribution (DC) plans will continue rising, and that the equilibrium level of inflation seems set to be elevated. The implication: pension systems in aggregate are or should be poised to make a significant allocation shift out of bonds and into other assets over the next decade.

There's a stark conclusion in applying our forecasts for asset-class real returns to someone earning a median salary and paying 8% of it each year into a simple target-date structure that de-risked in the mid portion of their career before retiring at 65. That person, if they are early in their career, would face a "hardship outcome" below the minimum level deemed necessary for retirement. We have taken the title of this note from Greene. It seems appropriate to reflect the view expressed in his novel that a sense of unhappiness is much easier to convey than one of happiness. The intent of the structuring of retirement systems should, we argue, be minimizing the risk of unhappiness for many at the prospect of their life in retirement.

Putting aside for the moment the minutiae of optimal asset allocation, our overarching point is that the ability to offer (and indeed any expectation of receiving) guaranteed incomes is going away. This is, inter alia, the consequence of 100 years of improved life expectancy, as well as of the unwinding of a special set of macro conditions in the second half of the 20th century (mainly quiescent inflation and strong real growth). In addition, the fall in birthrates to below the replacement rate both lowers expected economic growth rates and makes it infeasible to attempt to transfer the cost of retirement to future generations (which would be morally questionable, anyway). The consequence of this shift is that nominal liability managers are in terminal decline. A combination of increased longevity, higher inflation and lower growth implies that a change in asset allocation is needed, including the option of buying longevity insurance.

Lower returns on equities, positive correlations with bonds, higher inflation and greater longevity force DC plans to make uncomfortable compromises. The options are: later retirement, higher contributions, lower retirement income or higher investment risk. There is another potential path for the system overall, albeit not for individual funds: to dump the risk onto later generations. Countries that don't even attempt to fund retirement, such as Italy, do this already. However, this approach raises profound questions of intergenerational fairness and is doubly hard given shrinking working-age populations and that younger cohorts are less well off than older cohorts were at the same age. We will touch on these issues in the follow-on note on the politics of retirement, given the greater propensity of older, retired people to vote.

We want to be clear at the outset: we are not suggesting that pension funds should not hold any bonds; it's more that their role in pension allocation is changing. There is a role for bonds within longevity insurance/pooling, but as we will show, this may become a limited role that requires a new type of bond. There is also an important role for liquidity (although overall liquidity needs are small). Strategically, earning a default "premium" is a potentially attractive element within a broad array of asset and factor risk premiums, and our view that investors must increase allocations to alpha in a low-return world leaves ample space for active fixed income. But in all of this, the overall pension exposure to passive longer-duration government bonds is going to be significantly attenuated.

If pension funds are set to have fewer government bonds, what asset classes are set to benefit? We think the main shift will be an increase in the strategic asset allocation (SAA) toward real assets (we include equities as a real asset). Private assets overall will likely see an increased allocation, too (in part reflecting both investor needs and the change in the source of marginal capital raising in the economy). There will likely also be increased allocations to strategies that seek to address longevity risk.

Many aspects of this issue have more to do with politics than with finance. Large pools of pension assets that seek to invest in real assets will be very tempting targets for politicians trying to influence or direct this capital to a long list of pet projects. These might include infrastructure, national champions, and environmental, social and environmental (ESG) goals. At the same time, any reduction in pension fund holdings of government bonds raises questions about both the absolute cost of borrowing and bond volatility, as the demand for shorter-term bonds leads to more frequent refinancing. The question is already asked: Who on earth is expected to buy the large amounts of debt set to be issued in the coming years?

There is another political aspect—where the risk sits for funding retirement. There has been a mass transfer of this risk onto individuals in recent decades. Arguably, this was acceptable when it was easy for individuals to buy simple and cheap products (passive 60:40 funds, say) that strongly outperformed inflation with a low level of risk. We argue that is no longer the case, which raises questions of whether the "social compact" implicit in the transfer of retirement risk onto individuals is still intact. As we discuss in this article, the choices for pension systems in aggregate are: force people to retire later, lower real payouts in retirement, dump the problem onto future generations (which would only work if mass migration were allowed to offset

declining populations in developed economies) or allow the pension system to take more risk. Put in these stark terms, the latter is far easier politically than the other options. Expect treasury departments to lean on pension regulators accordingly.

We sometimes hear people say that governments are not on the hook in countries like the US, the UK and the Netherlands because these nations have funded systems. This is a fiction. If the investments made to fund retirement end up being insufficient, then governments will end up being on the hook regardless of the small print of the current system. If they don't think they are responsible, it only takes one election cycle to change that. Expect regulation of the industry to change accordingly. Because of the nature of the issues at stake—retirement age, potential social transfers, the regulatory structure of pension systems, capital needs of government spending and intergenerational fairness—only governments have the mandate to chart an overall response. We will explore this interaction of politics and pensions in greater detail in a separate article.

There are other examples of this interaction of politics, SAA and the ultimate funding of pensions. Japan's Government Pension Investment Fund (GPIF) made a significant change in its SAA a decade ago, significantly increasing its holding of overseas equities. This shift represented an increase in portfolio risk in the sense of volatility, but this is arguably what governments should do, given that they are ultimately on the hook for all retirement costs and are able to bear long-term risk. This shift on the part of the GPIF now looks very fortuitous, as the resulting gain from that extra risk now amounts to 10% of Japan's gross domestic product (GDP).[1]

In a somewhat different fashion, the German government announced in early 2024 that it would launch a sovereign wealth fund as an additional pension scheme investing in capital markets. This case is different from that of the GPIF, as it is a new arrangement and funded by government debt. Leaving aside the politics of such a decision, this essentially reflects the need to maintain a given level of real payouts in the face of demographic change.

Displays 1 and 2 show the asset allocation for the aggregate pension systems of seven countries with major pools of assets to fund pensions. Since 2017, there have been significant changes in these pools of assets.

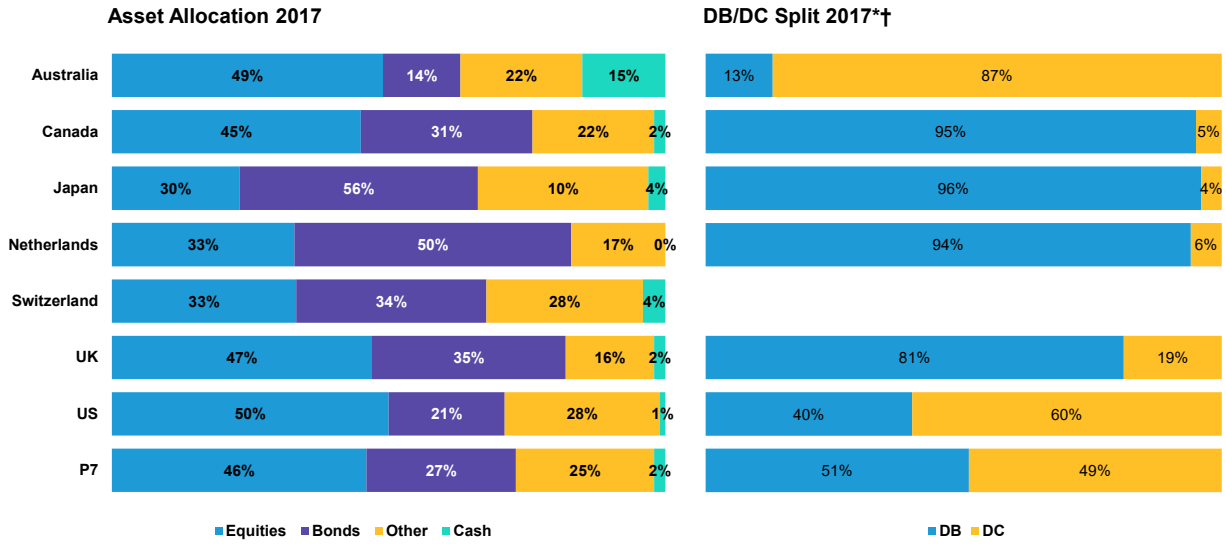
- In most markets, the mix between DB and DC has shifted decisively in favor of the latter.
- Despite this shift to a larger weight for DC, the US and UK allocations to equities have fallen while bond allocations have increased. This change is particularly stark in the UK, with the equity weight in the pension system falling by half. US pension plans have been net sellers of public equities over the last decade.[2]
- Australia and Canada have seen a different evolution, with the weight of bonds being more stable while risk assets (either equities or alternatives) have maintained a higher share.

The extreme de-risking of the UK pension system into bonds reflects a regulatory imperative to force matching. In general, the move to a greater bond weight across these systems overall also reflects a history of (until recently) quiescent inflation and low inflation volatility.

[1] Robin Harding, "What Japan's Most Profitable Policy Experiment Can Teach Us," *Financial Time*s, May 15, 2024, https://www.ft.com/content/2d66e190-3845-47ac-a764-2c5034a94cf4.

[2] The net buying of US equities by corporations themselves, passive exchange-traded funds and foreigners has been much greater in scale than the sales by US pension plans.

DISPLAY 1: ASSET ALLOCATION AND DB/DC SPLIT—2017



Past performance does not guarantee future results.

P7 = combined averages for the seven largest markets listed in the display.

Numbers may not add up to 100 due to rounding.

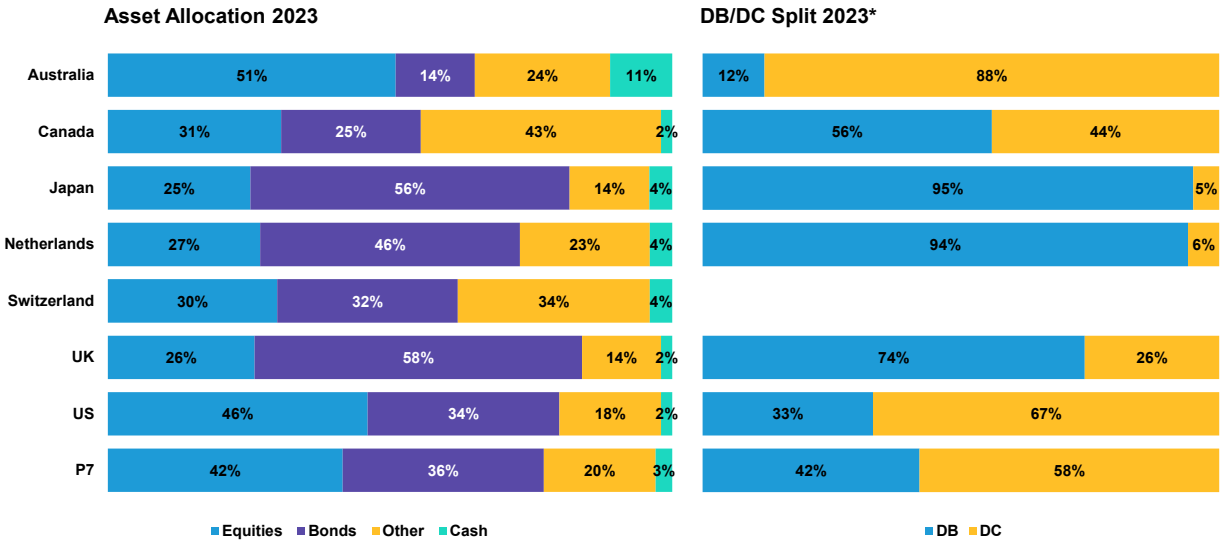
*DC assets in Switzerland are cash balance plans where the plan sponsor shares the investment risk and all assets are pooled. There are no pure DC assets where members make an investment choice and receive market returns on their funds. Therefore, Switzerland is excluded from this analysis.

†In January 2017, the UK's Office for National Statistics stated that the figures previously disclosed for DC entitlements were significantly overestimated. As a result there is a significant decrease in UK DC pension assets when compared to the previous editions of this study. This change has a very limited impact on the DC assets of the P7; on the order of a one percent reduction.

As of January 31, 2017

Source: Willis Towers Watson and AllianceBernstein (AB)

DISPLAY 2: ASSET ALLOCATION AND DB/DC SPLIT—2023



Past performance does not guarantee future results.

P7 = combined averages for the seven largest markets listed in the display.

The data covers the largest 300 pension funds globally, including public pension plans, sovereign funds, corporate plans and private sector organizations authorized to manage pension plans from different employers.

Numbers may not add up to 100% due to rounding.

*The majority of pension fund assets in Switzerland are DC and take the form of cash balance plans, whereby the plan sponsor shares the investment risk and the assets are pooled. Pure DC assets have only recently been introduced in Switzerland and, although they have seen strong growth, they are not yet large enough to justify inclusion in this analysis.

*In January 2017, the UK's Office for National Statistics stated that the figures previously disclosed for DC entitlements were significantly overestimated. As a result there is a significant decrease in UK DC pension assets when compared to the previous editions of this study. This change has a very limited impact on the P7 DC assets; on the order of a one percent reduction.

*Canadian DC assets now include individual accounts. Historical figures have been restated.

As of January 31, 2023.

Source: Willis Towers Watson and AB

In Displays 1 and 2, the data is backward-looking; this note analyzes how it is likely to change in the future. We think the allocation is set to change for two reasons. The first is our case that we are in a new investment regime with a higher equilibrium level of inflation and lower real growth. For complete details of our assessment of this, please see our recent book, *A Preliminary Language for a Post-Global World*. The second reason is the case for an acceleration in the shifting mix of the pension system between DB and DC. While DB assets are still sizable, their share of total pension assets will continue to fall. Taking the view that the majority of DB assets are "dead money," from the perspective of the dynamics of asset flows, the more interesting intellectual debate and real impact from any reallocation of assets really comes down to DC funds.

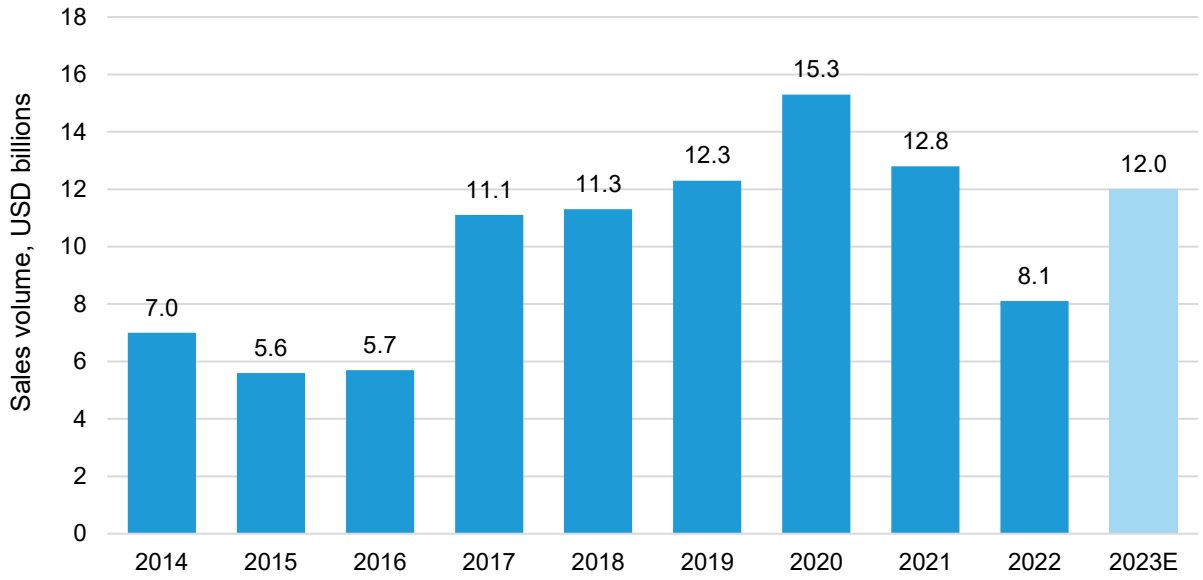
DB: Becoming Less Relevant

DB is largely headed down the path of buyouts, apart from quasi-government plans such as UK local-authority and US state plans. The pace will be much faster now than was thought before, given the way rising rates have improved funding status. While the industry might obsess about the rate of buyouts by insurance companies, this is all pretty boring from the point of view of investing dynamics. Many of these assets are already in government bonds or moving in that direction, so it is really just a question of who owns and manages them. When in a buyout structure, a share of these assets could be in public or private credit allocations as well. However, the main action taking place is in the changing SAA needs of DC funds and the bigger question of what the next iteration of retirement savings will be as we look beyond DB and DC.

The year 2023 saw a record amount of pension assets being bought out in the UK and was one of the largest-ever years for such deals in the US (*Displays 3 and 4*). This surge is a direct consequence of rising bond yields reducing the value of liabilities,

thereby improving the funding ratios of plans. At the end of 2023, the average funding status of US corporate DB plans was 104%.[3]

DISPLAY 3: VOLUME OF DB PENSION FUND BUYOUTS, US
US Q4 TOTAL MARKET VOLUME (USD BILLIONS)



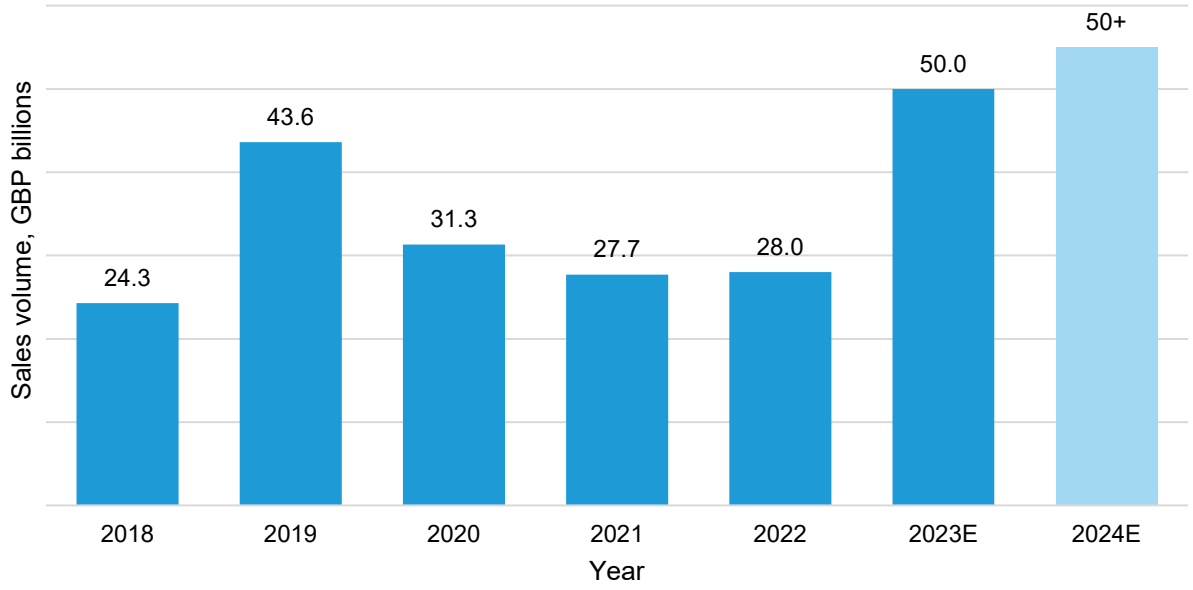
Past performance does not guarantee future results.

Q4 2023 figure based on estimates from Legal & General Retirement America (LGRA).

Source: LIMRA Secure Retirement Institute Group Annuity Transfer Survey

[3] "Pension Solutions Monitor," LGIM America, June 2024, https://www.lgima.com/insights/psm.

DISPLAY 4: VOLUME OF DB PENSION FUND BUYOUTS, UK
TOTAL VOLUMES ACROSS THE UK MARKET (GBP BILLIONS)



Past performance does not guarantee future results.

Source: Historic volumes – Hymans Robertson Risk Transfer Report 2024. Estimated figures for 2023 and 2024 based on Legal & General's analysis.

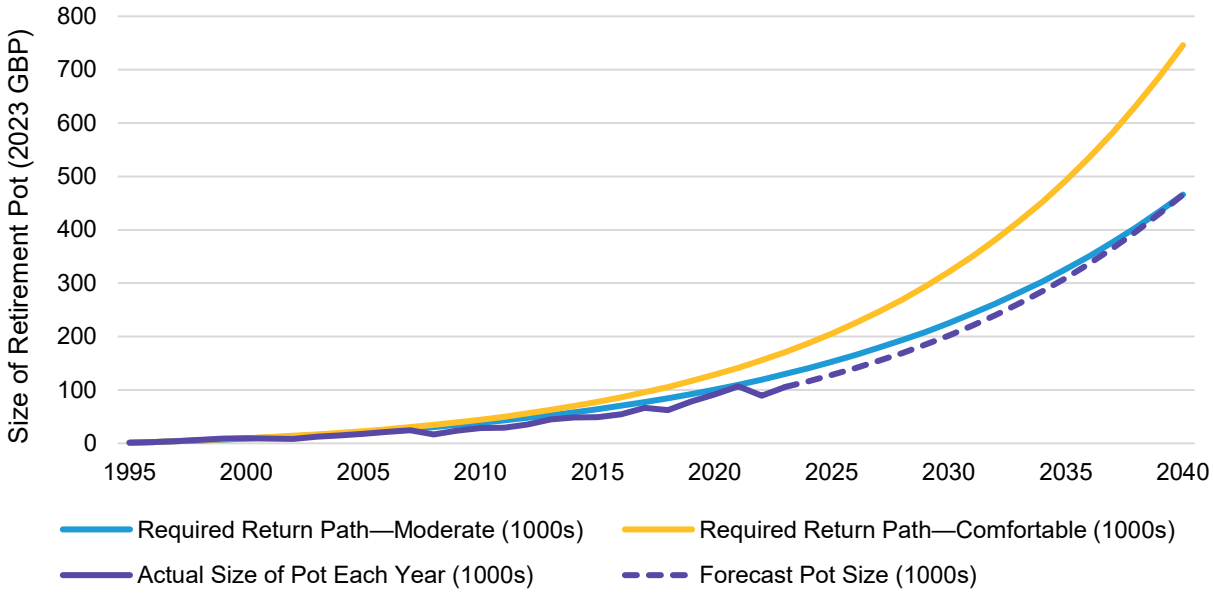
DC: The Problem

DC funds have maintained a large allocation to risk assets overall, but target-date structures tend to reallocate into bonds as people get closer to retirement.

Display 5 charts the size of a total pension pot required to achieve a comfortable or moderate retirement and how the path to that level should ideally evolve over the course of a working life. We also take 2040 target-date funds as a case in point, plotting the achieved return of an average of 2040 target-date funds from the point when they were first formulated until the present.

The point of this chart is to show that this cohort of target-date funds has done well, delivering an average real return of 4.25% annualized since inception. However, there is no cushion to help weather the prospect of lower real returns in the future. From today's level, such funds would have to generate a real return of 7% annualized in order to achieve a moderate level of retirement assets, a level that we regard as unattainable at mass scale.

DISPLAY 5: 2040 TARGET-DATE REQUIRED AND ACTUAL RETURN



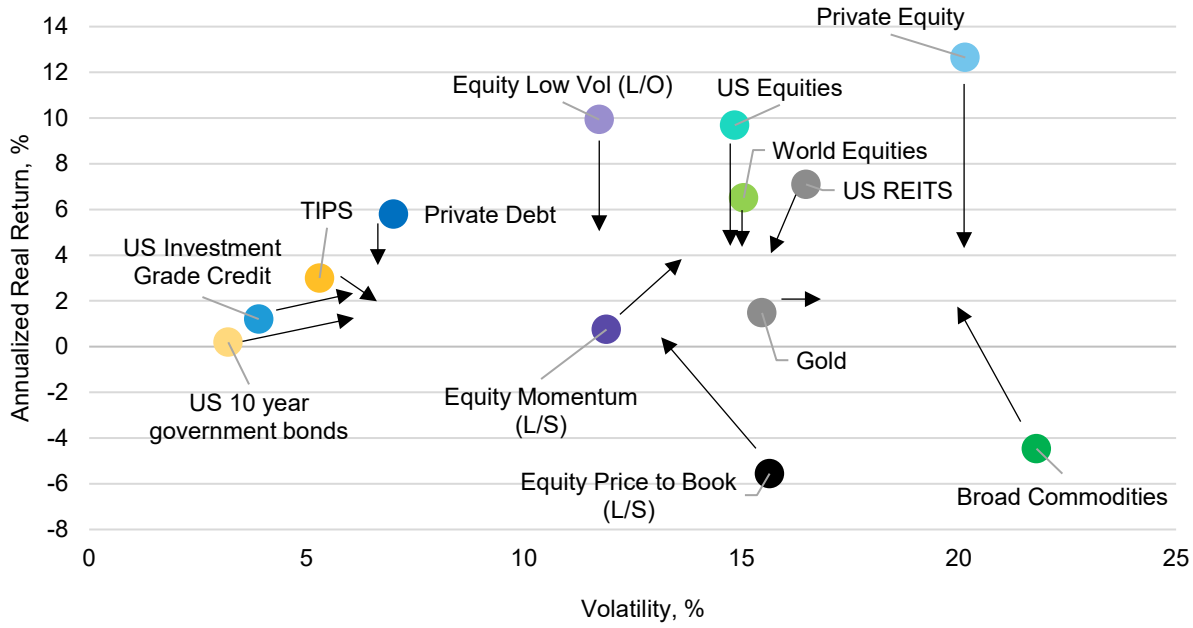
Past performance does not guarantee future results.

The analysis assumes an 8% salary contribution per year and salary growth of CPI +1% per year. "Moderate" and "Comfortable" retirement levels are defined by the Pensions and Lifetime Savings Association (PLSA). "Moderate" outcome is defined as earning 67% of median UK salary and "Comfortable" outcome is defined as earning 107% of median UK salary. The analysis assumes retirement at age 65 with no government safety net. Actual size of savings pot is calculated using US 2040 target-date cohort, and forecast savings pot size assumes a 5% real return.
As of May 30, 2024
Source: PSLA and AB

The presence of a UK state safety net makes the "moderate" outcome much easier to achieve, which would imply a need to only track inflation from here on, so that a zero real return would be sufficient. However, (1) a "comfortable" retirement would still require significant real returns and (2) the generosity of state safety nets in real terms has to be questioned, given that the government debt/GDP ratio is at the top end of its 80-year range. This constraint on governments raises the question of how much people would be willing to rely on that backstop. Falling birthrates and the declining relative wealth of younger cohorts raises yet more questions about the generosity of future state support.

But what return is likely? In our recent book, we discuss at length that we think the real-return versus risk "space" available to investors will likely shrink in coming decades compared with what has been available over the last four decades (*Display 6*). This is not a bearish expectation because we think that returns of major asset classes will be positive in real terms, but it is a more difficult outcome.

DISPLAY 6: A PAINFUL EPIPHANY: EXPECT LOWER REAL SHARPE RATIOS, AND IF LIABILITIES ARE IN REAL TERMS, THEN RISK NEEDS TO INCREASE



Historical analysis and current forecasts do not guarantee future results.

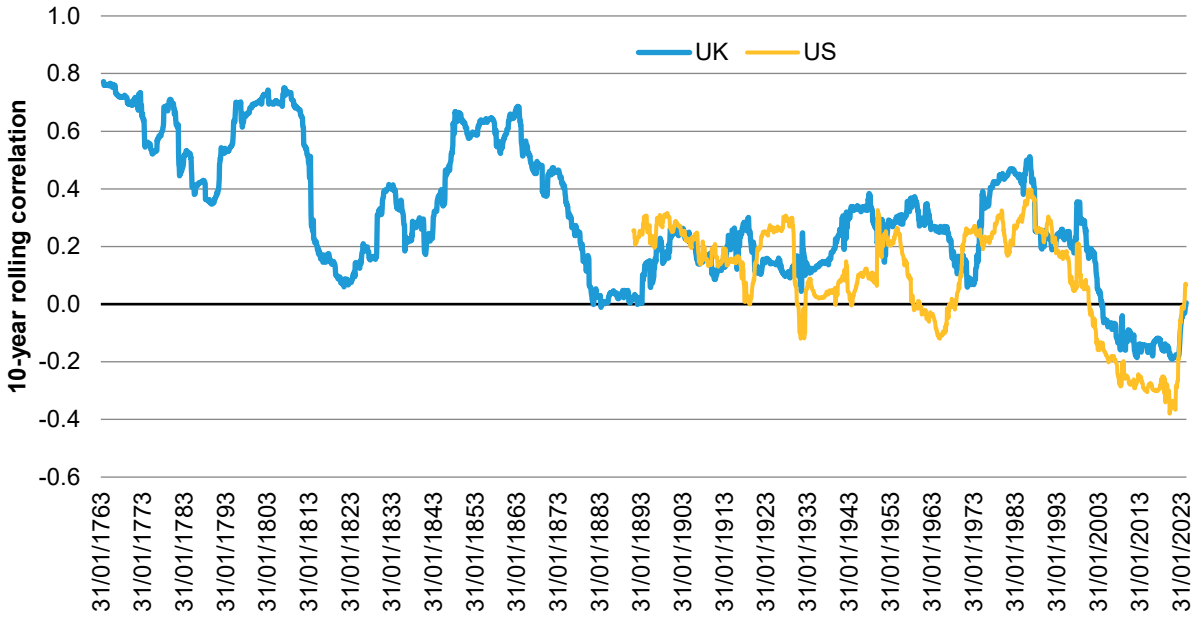
TIPS = Treasury Inflation-Protected Securities. The dots represent real returns and volatility from January 2010 to December 2022 for the major return streams investors can buy. Arrows represent the AB Institutional Solutions team's forecasts for the next five to 10 years. Private equity return data is based on the US Private Equity Index from Cambridge Associates, compiled from 1,562 funds, including fully liquidated partnerships, formed between 1986 and 2019. All returns are net of fees, expenses and carried interest. Data are provided at no cost to managers. Private equity volatility is estimated from the MSCI US Small Cap Value Index with 15% leverage. For private debt, historical and future volatility is expressed as the volatility of public US investment grade credit. The number is between the historical volatility of public US high-yield fixed income and the Preqin Direct Lending return index. Factor future volatility is assumed to be in line with the post-1950 historical average.

As of October 5, 2023.

Source: Cambridge Associates, FactSet, Federal Reserve Economic Data (FRED), Kenneth R. French Data Library, Preqin, Thomson Reuters Datastream and AB

Moreover, the task is even more difficult. Display 6 merely shows the univariate returns of each asset class. We also think that the negative correlation between stocks and bonds, which has driven so much diversification potential in recent decades, will not persist—it will instead move back to a more normal small positive number (*Display 7*). Aside from a positive correlation in stock and bond returns being the historical norm, the rationale for this relationship applying over the coming decade is that the main forces at work on structural inflation (deglobalization, demographics and the energy transition) are all either growth-agnostic or consistent with lower growth. This inverts the relationship between growth and inflation from the normal positive linkage in recent decades.

DISPLAY 7: LONG RUN STOCK-BOND CORRELATION



Past performance does not guarantee future results.

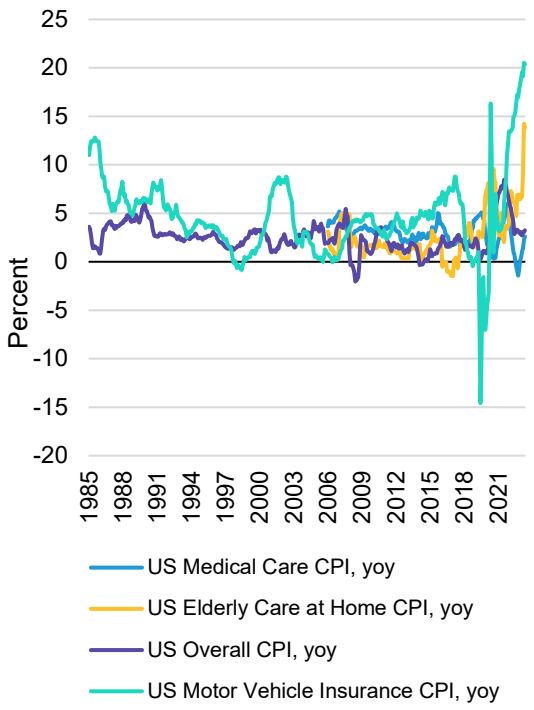
Rolling 10-year correlation between stock and bond returns.

As of March 31, 2024

Source: Global Financial Data, Robert Shiller's database, Thomson Reuters Datastream and AB

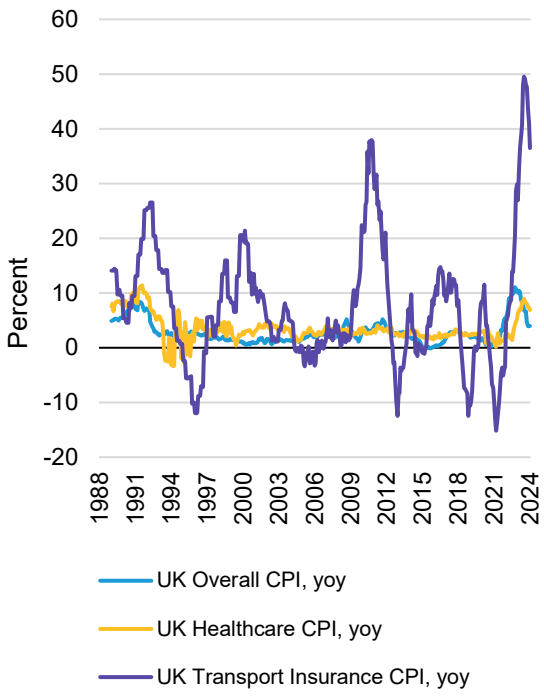
A key narrative in our work is that the equilibrium inflation rate will be higher than it was over the last few decades. The motivating force is the combined impact of deglobalization, demographics and energy transition (which we discuss in our recent book). It is one thing to talk about the aggregate Consumer Price Index (CPI) for a given country, but an individual saving to cover spending needs later in life may face multiple sources of inflation that could be higher. Healthcare costs and insurance costs are examples of persistent inflation that are well in excess of CPI (*Displays 8 and 9*). For example, the average rate of price increases in the US for elderly care has been 3.2% annualized over the last decade. The implication is that achieved returns on savings products may need to be several percentage points above CPI just to preserve purchasing power.

DISPLAY 8: DIFFERENT INFLATION RATES THAT INVESTORS FACE—US



Historical analysis does not guarantee future results.
As of April 30, 2024
Source: Thomson Reuters Datastream and AB

DISPLAY 9: DIFFERENT INFLATION RATES THAT INVESTORS FACE—UK



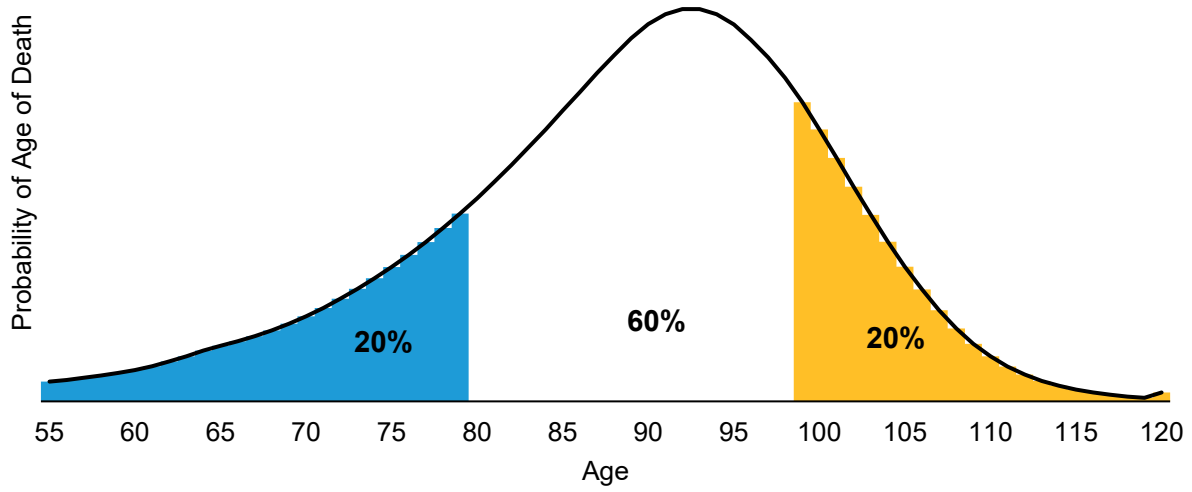
Historical analysis does not guarantee future results.
As of April 30, 2024
Source: Thomson Reuters Datastream and AB

This higher equilibrium inflation creates a tension between different definitions of risk. There is risk measured as volatility of returns, or some other metric of investment risk, or perhaps the risk of lost purchasing power. Our view is that declining purchasing power is ultimately more important. If that is so, then mitigating that risk may require a new investment approach.

Will Individuals in DC Plans Pooling Longevity Risk Stoke Future Bond Demand By Liability Managers?

One of the greatest individual risks any retiree faces is longevity. With a 20% probability, you may need your savings only until age 80; in other words fewer than 15 years after age 65. But with the same 20% probability, you may need those assets to last for more than 35 years. For all but the wealthiest individuals, this level of uncertainty is likely to be unmanageable without some sort of protection.

DISPLAY 10: PROBABILITY OF AGE OF DEATH



For illustrative purposes only.

Source: AB

Traditionally, DB pension plans provided this longevity risk pooling. With their focus on managing short-term funding risk, assessed by reference to a bond yield curve, they have been natural buyers of long-term bonds—some would say forced buyers given short-term-focused solvency regimes.

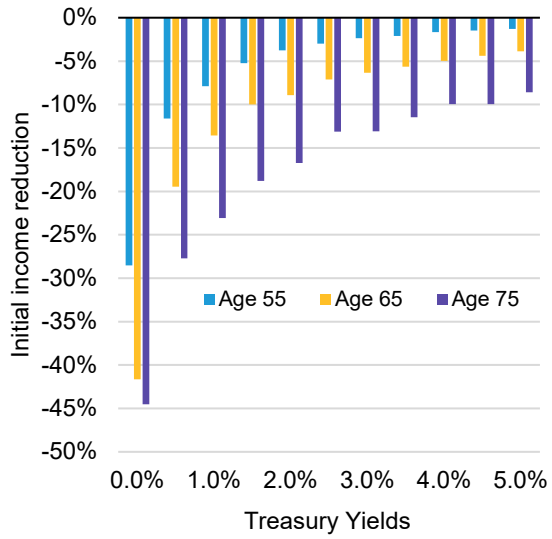
As bond yields fell and longevity increased, DB plans became ruinously costly and risky for employers, hence they were closed for all but a small minority of private-sector employees. In the drive to protect against longevity, will DC plans replace DB demand for bonds? And how might this happen? Will the use of insurance-based annuities or non-insurance-based collective pools provide a new source of demand for bonds?

Challenges of Converting to Longevity Pools Limits the Case for Strong Bond Demand

Converting retirement savers' DC savings into longevity pools faces significant challenges, which we believe limits the case that these pools will flourish, in the process creating strong demand for bonds. Mortality risk—the probability that a participant will die early and receive poor value for their money from a DC plan—is very high. Indeed, the distribution illustrated in *Display 10* demonstrates this problem and sets up our first challenge.

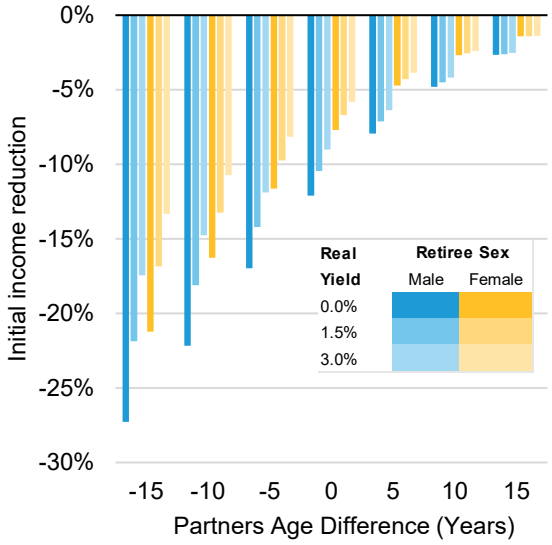
Challenge 1: Protection against mortality risk (dying early) comes at a cost that can vary a lot among individuals. How prepared are individuals to give up their hard-earned savings, rather than a pension promise they had in a DB plan if they were to die early, in order to subsidize other pool members? DC plans make this difficult: individuals have an ownership view of their capital; surrendering this on a "gamble" on how long they will live is likely to be emotionally hard. Protections can ease this pain, either by returning capital on death (less payments made) or with a contingent pension payable to a dependent. Both are not only costly to provide, but the cost should vary significantly depending on the individual's personal situation and the current yield environment, as demonstrated in *Displays 11 and 12*.

DISPLAY 11: INITIAL INCOME REDUCTION FOR CAPITAL PROTECTION
INCREASES WITH AGE DECLINE WITH YIELDS



Historical analysis does not guarantee future results.
Through June 30, 2024
Source: CMI and AB

DISPLAY 12: INCOME REDUCTION FOR DEPENDENT PENSION AT 65
AGE DIFFERENCE BETWEEN PARTNERS AND TREASURY YIELDS MATTERS



Historical analysis does not guarantee future results.
Through June 30, 2024
Source: CMI and AB

This situation is not a surprise, given that someone wanting to participate in a longevity pool only for the upside (not contributing on the downside) will need to pay for this experience. For a 65-year-old annuitant, whether a guarantee or contingent pension is offered, the cost is typically, on average, about a 10% reduction in the initial income provided. However, in the case of contingent pensions, they become ever more problematic to administer in today's world (as traditional marriage becomes less common and cases of divorce in retirement increase). It is also unclear whether single individuals and those with older partners are willing to significantly cross-subsidize others' lifestyle choices.

The good news is that increasing treasury yields have been reducing the cost of protection.

Indeed, the changes in the value of longevity pooling vary not only in terms of the impact on individuals' requirements for protection, but also in terms of their personal circumstances when they retire. This leads to our second challenge.

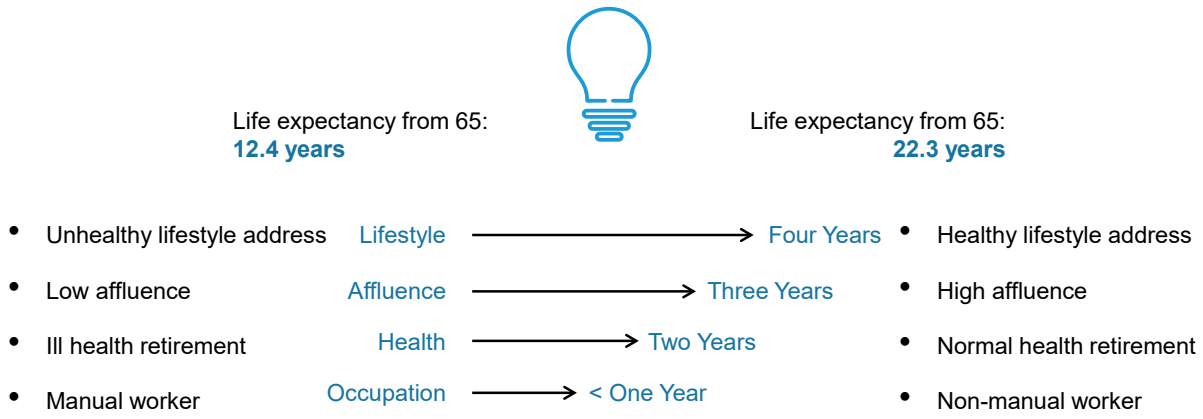
Challenge 2: The value of longevity protection can vary considerably among individuals based on predictable factors. The distribution of likely longevity outcomes for individual savers, as has already been demonstrated and widely appreciated by many, is highly unpredictable. As a result, a wealth-management process that focuses just on the average expected longevity of, say, age 90, is likely to fail the vast majority of individuals in terms of efficiently managing their retirement needs.

However, it is less well known that the average longevity expectations can vary considerably for homogenous groups based on simple and known underwriting factors—those that go beyond sex and age to include wealth, gender, socioeconomic group, ethnicity and preexisting health conditions (such as type-2 diabetes, which is present in just under 25% of US retirees). See *Display 13* for a simple summary of how average life expectancy can vary among individuals, based on analysis undertaken by Club Vita in the UK).

There's a sizable challenge to longevity pooling for DC savers. When the offering terms of longevity pooling don't account for these factors, predictable wealth transfers happen most often on grounds that could be considered extremely unfair socially. This problem is often exacerbated because individuals with the largest pensions in the pool are likely to have the highest longevity expectations, and the pool's principal beneficiaries are a fortunate few—often from a highly elite and socially

nondiverse group. To put it another way, the consequence of pooling without underwriting or protection leads to a potential mass transfer of wealth from the poorest members of society to the wealthiest—essentially a highly regressive tax regime.

DISPLAY 13: LONGEVITY RISK IS INDIVIDUALIZED—LONGEVITY INSURANCE SOLUTIONS FOR DC NEED INDIVIDUAL UNDERWRITING



For illustrative purposes only.

Source: AB

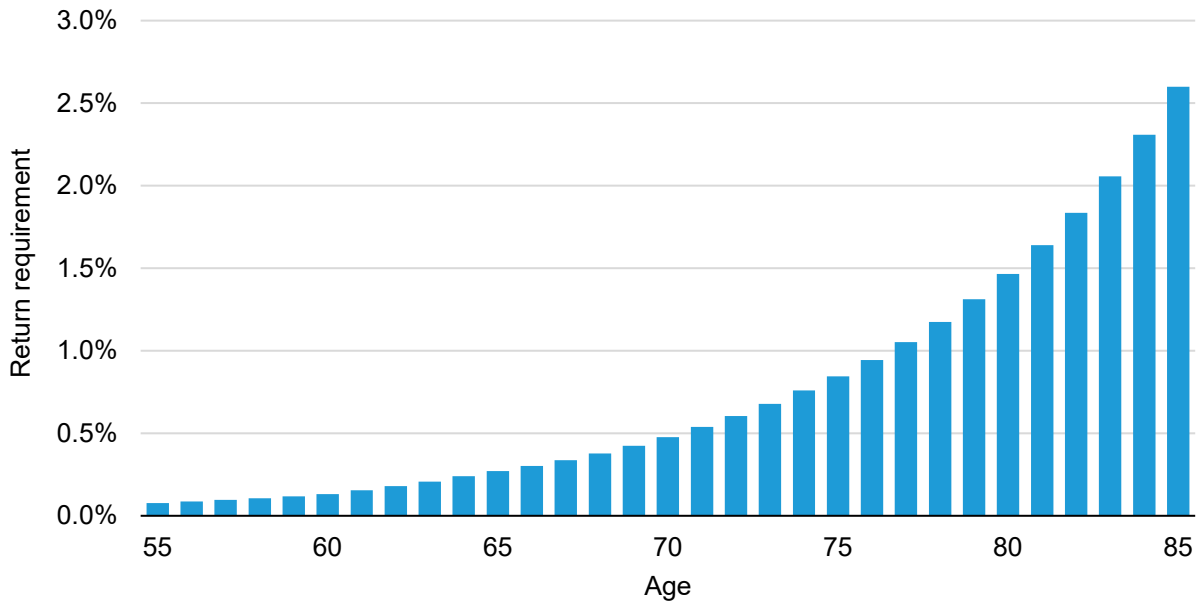
Taking these two challenges together, it is understandable that legislators and the majority of individuals find longevity pooling desirable for an efficient retirement regime, but it will not be cheap to include protections that avoid a key challenge—the depletion of benefits for a large portion of society to cross-subsidize pensions of the lucky few. These considerations of social fairness and equity alone may constrain, and clearly have constrained, the expansion of the use of longevity pooling by individuals in DC plans. This concern has, therefore, constrained the potential for them to become the big bond buyers that such pools are likely to use (in a manner similar to DB).

Delayed Entry to Longevity Pooling Will Reduce Demand for Bonds—and Their Duration

Assuming that the social challenges faced by longevity pooling can be overcome, our research in 2008 ("*Avoiding the Next Pensions Crisis*") established that the limited value of pooling for most DC savers made entry before the age of 75 suboptimal. The research showed that the cost of delaying entry into the pool, with annuities as the pooling vehicle, to age 75 was minimal. This point was best represented by what is called the cost of longevity drag—the increase in cost of an annuity purchased one year later, above the risk-free rate, that reflects nonparticipation in the longevity pool for one year.

This incremental cost is well below 1% until a typically healthy individual reaches age 75 (*Display 14*), hence a return that can easily be achieved even on the most conservatively invested portfolio. Add to this the loss of flexibility in how individuals can access their assets as well as the significant information that becomes available in the early years of retirement about financial needs and health, and the case for purchasing an annuity before this age is minimal.

DISPLAY 14: THE COST OF DELAYING POOLING: "LONGEVITY DRAG"
INCREASES EXPONENTIALLY WITH AGE



Past performance does not guarantee future results.

Through June 30, 2024

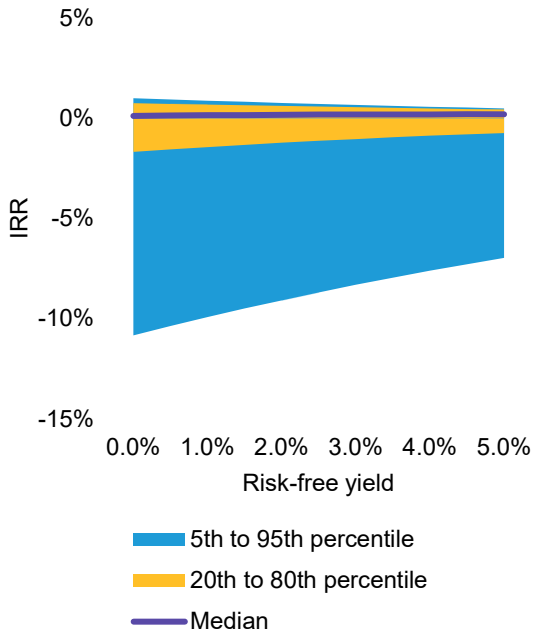
Source: CMI and AB

The consequence of this simple piece of advice for bond markets is significant. The average maturity of bonds needed to back annuities at age 75, rather than 65, falls from close to 15 years down to 11 years. This pulls the average maturity date of bonds needed down from 30 years to closer to 20 years, so debt issuers will need to refinance 50% more debt a year if pensions were the only source of funding. In addition, individuals typically deplete 30% of their wealth in the first 10 years of retirement, further arguing that demand is not only for shorter-dated bonds but up to 30% lower as well. The best advice on annuitization will result in reduced demand for bonds by pension plans and a focus on shorter duration issues.

However, there's good news: higher bond yields make longevity pooling more attractive, increasing demand for fixed income.

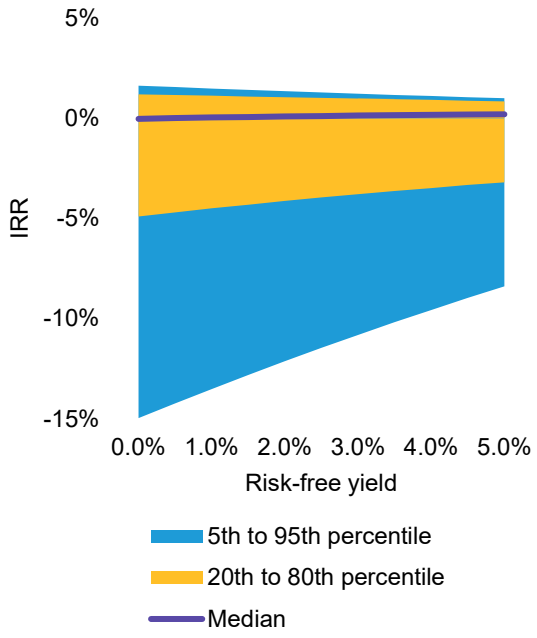
One way of thinking about the attractiveness of longevity pooling to an individual buyer is through the distribution of the internal rate of return they may achieve (in excess of the risk-free rate), allowing for the probability of death at various ages. It is not surprising that should yields rise on bonds (which are used to back the longevity pool), then the shape of this distribution to the individual becomes more attractive. Indeed, this distribution is a very good way of demonstrating why annuities can be extremely unpopular even with risk-averse buyers in a low-interest-rate environment. It also explains the need for the annuities to be protected against mortality risk to ensure value for money. As shown in *Displays 15 and 16*, we assume a 10-year guarantee is applied to each annuity to rein in the worst extremes of the distribution. The cost ranges from 1% to 7% for a 65-year-old, depending on the interest-rate environment, and it is about 5% at age 75, with less variance in the interest-rate environment.

DISPLAY 15: IRR ABOVE RISK-FREE RATE OF AN ANNUITY—65 YEAR OLD
PROBABLITY DISTRIBUTION AT DIFFERENT RISK-FREE YIELDS



Historical analysis does not guarantee future results.
Through June 30, 2024
Source: CMI and AB

DISPLAY 16: IRR ABOVE RISK-FREE RATE OF AN ANNUITY—75 YEAR OLD
PROBABILITY DISTRIBUTION AT DIFFERENT RISK-FREE YIELDS



Historical analysis does not guarantee future results.
Through June 30, 2024
Source: CMI and AB

Need for Inflation Protection Might Require a New Type of Bond for Pensioners

As we have already noted, retirees need a real income that is protected against the impact of inflation. However, inflation-protected annuities are typically expensive, providing initial income that is 35% or so lower than that of a level annuity. This puts them out of reach of typical retirees who are unwilling to endure lower initial income.

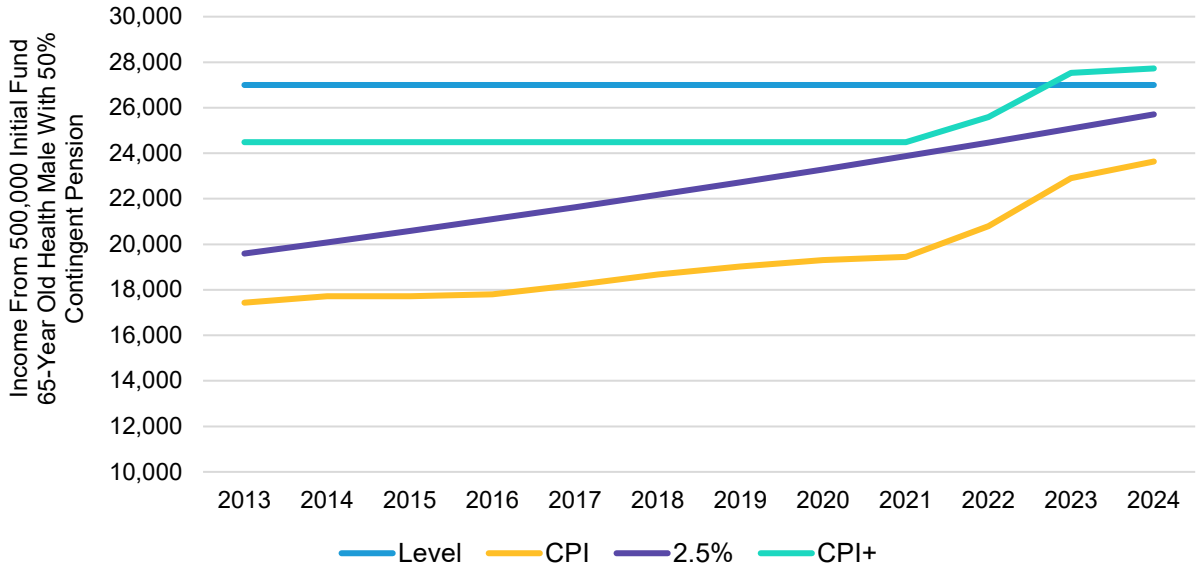
Added to this, by essentially pushing higher pension payments many years into the future, inflation-protected annuities exaggerate the mortality risk buyers face and the cost of protecting against it (because adding inflation protection essentially reduces the yield from nominal to real). This increases the cost of providing this protection from a 10% reduction in initial income to closer to 20%.

Some suggest that annuities could be purchased with some form of constant escalation, or inflation cap, to offset the expected levels of inflation. However, this potentially delivers the worst of both worlds: a lower initial income, higher mortality risk and no protection against unexpected inflation. Indeed, this approach makes little sense with current forecasts calling for inflation to be not only higher but also considerably more uncertain., it is a solution more for insurers and bond issuers than for individuals with a real-income need.

In reality, many investors need to have protection for inflation that is above a threshold, for example 3%, with the income remaining level in years when inflation is below the threshold and the payment increasing by an amount equivalent to inflation minus the threshold. This solution fits better with the U-shaped consumption pattern of many individuals, provides the inflation protection necessary over the long term, reduces mortality risk and keeps initial income higher—and hence the total cost of retirement provision lower. The challenge here is the availability of the financial instruments to insurers that enable them to provide this protection. It could be an interesting form of national debt management—that a new type of debt that provides this

protection would also encourage good inflation management by the government. Not only would it be issued at a yield lower than that of nominal bonds, but it would also cost no more to service if inflation targets are met.

DISPLAY 17: MAKING INFLATION PROTECTION AFFORDABLE
USING ANNUITIES: INITIAL INCOME VERSUS INFLATION PROTECTION



Past performance does not guarantee future results.
Through June 30, 2024
Source: CMI and AB

Display 17 illustrates how various forms of annuities would have played out for a retiree who was 65 years old in 2013.

- The level annuity provided the highest income, but its spending power would have descended considerably in the last few years. So, while it maximized initial income, it would have continued to decline with inflation in real terms, and would have already seen a considerable amount of its spending power diminished unpredictably over just the first 11 years of retirement.

- The CPI-linked annuity would have maintained real spending power, but at a very high cost in terms of lower initial income—a 35% reduction, which would have been unbearable for all but the wealthiest retirees. In addition, for those who died young, this cost would never be recovered, because it would not be fully recovered until well into older age.

- The 2.5% fixed-increase annuity would have arguably not only maintained real income but actually grown it in periods of low inflation—again, however, at a high cost in initial income with an approximately 25% discount. Also, it is worth noting that the predictability of inflation protection was not great, and the speed at which it was unwound in recent years might cause some alarm.

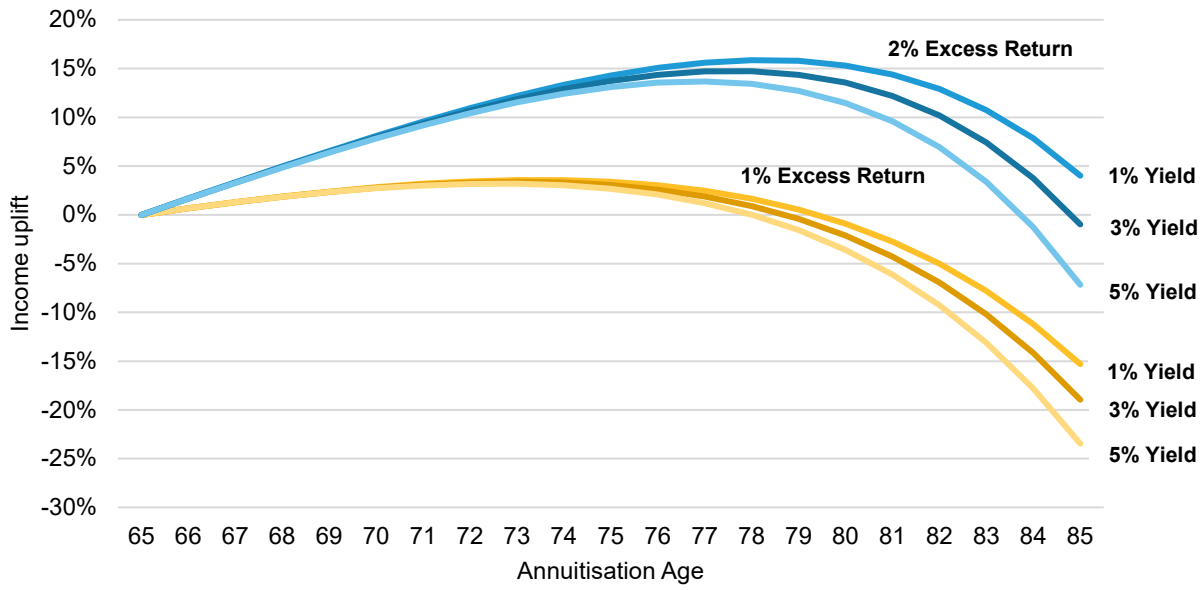
- The CPI+ annuity (where increases were only provided when inflation was over 2.5%) managed to protect the buyer against the worst effects of high inflation in recent years at a reasonable cost in initial income of about 10%.

Using Bonds for Long-Term Income Is Economically Costly to Individuals, and Should Be Avoided for All but the Shortest-Term Cashflows. But Higher Rates Should Increase Demand—Especially if Risk-Asset Returns are Lower

A final challenge to increased usage of longevity pooling is that such pools are typically, as a result of solvency requirements, not dissimilar to those faced by DB plans—backed either directly or indirectly by bonds. The economic cost of investing in bonds versus equities over the long term to individual savers is very high. This problem is exacerbated by the use of vehicles such as deferred annuities, which essentially assign the participant capital with the longest time horizon to bonds, and puts only investments with the shortest horizon into capital markets.

In *Display 18*, we combine the economic cost (of a portfolio delivering cash +1% and one delivering cash + 2%) with the cost of delayed entry into a longevity pool. The analysis shows that, in a lower-rate environment, entry should happen later. Also, the higher the return premium you can earn in excess of the risk-free rate, the later you should enter. This neatly demonstrates that we have lived in a golden age for delaying longevity pool entry, with low rates and high excess returns available in the market very much benefiting those who delayed. With yields now higher and with risk-adjusted excess-return expectations suppressed, the future should push more retirees into annuitization sooner. However, with that all being said, an optimal age of 75 seems to tie in with this analysis as a good working rule of thumb—no matter what the environment (backing up our original 2009 research conclusion).

DISPLAY 18: WHEN TO ANNUITIZE: INVESTMENT OPPORTUNITY VS. LONGEVITY COST
INCREASE IN RETIREMENT INCOME FOR DIFFERENT RETURN ASSUMPTIONS



Past performance does not guarantee future results.
Through June 30, 2024
Source: CMI and AB

Alternative Approaches to Longevity Pooling, Collective DC or Investment-Linked Annuities A re Predicated on Reducing Their Reliance on Bonds

The market is proposing two alternative approaches to longevity pooling that aim to reduce reliance on bonds: investment-linked annuities and collective DC plans. In the case of investment-linked annuities, the dominance of the need to hedge market risk leads to a lower use of bonds and the use of derivatives merely to hedge yield declines.

An alternative, which combines the benefits of all these approaches is the use of "Guaranteed Lifetime Withdrawal Benefit" insurance wrapped around a target date fund, covered in our paper "*Levelling the Retirement Income Playing Field*", but like variable annuities they are more sensitive to the cost of hedging equity market risk than long term interest rate risk.

In the case of the collective DC currently proposed in the UK, this plan can be thought of as DB plan wound back 30 years. In this case, the need to demonstrate short-term solvency based on bond yields is removed; solvency is instead based on long-term best estimates. Ignoring the huge regulatory issues such an approach could present, bonds have a minimal role to play, especially if yields become less attractive. However, it can be argued that the likely scandals such plans would create would eventually lead to them—once again—being subject to a similar solvency regime as DB plans and demands for bonds. Indeed, this is largely what has happened in the Netherlands, the one market to have adopted this model so far.

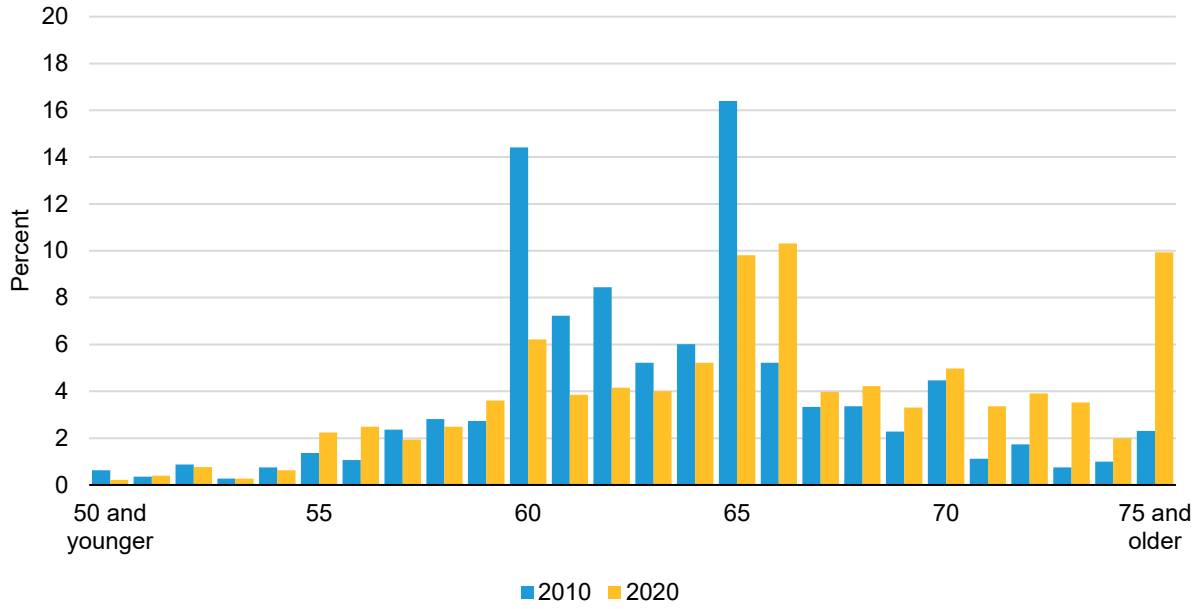
Retiring Later and Saving More?

Lower returns on equities, positive correlations between stocks and bonds, and higher inflation are forcing DC plans to make uncomfortable compromises. The options are: later retirement, higher contributions, worse retirement income or higher investment risk. There is another option for the system overall, albeit not for individual funds: to dump the risk onto later generations, as countries do that don't even attempt to fund retirement (such as Italy). However, this approach raises profound questions of intergenerational fairness, and is doubly hard given shrinking working-age populations and the observation that younger cohorts are less well off than older cohorts were at the same age. We will touch on these issues in the follow-on note on the politics of retirement, given the greater voting propensity of older, retired people.

Retiring later seems a given in countries where individuals save for their own retirement. In countries where assets are not in place to fund retirement and where the system runs a pay-as-one-goes basis, this is the case as well. It's just that politicians haven't worked out a way to explain it yet. We note that in non-funded systems, there is already an elevated risk of people questioning the intergenerational fairness of such systems.

The aggregate average retirement age has only risen slightly (from 62.5 to 63.8 for men across the Organization for Economic Cooperation and Development between 2010 and 2020). But within that average is a shift in the distribution, with an emerging "right-hand tail" of people choosing to (or having no choice but to) retire significantly later. For the UK, the modal age of exiting the workforce has moved from 65 to the range of 75 or older (*Display 19*). In the US, a new AARP survey found that over a quarter (26%) of people who are not yet retired say they expect to never retire. (The same survey also found that 20% of adults aged 50+ have no retirement savings.)

DISPLAY 19: THE SHIFT IN DISTRIBUTION TO A LATER RETIREMENT AGE (UK DATA)
RETIREMENT AGE IN 2010 AND 2020



Past performance does not guarantee future results.

April to June 2010 and April to June 2020

Source: Labour Force Survey and AB

Retiring later also seems a natural response to growing life expectancy. Indeed, applying the previous expectation of retiring at 65—which was an invention of the 20th century—to current life expectancy implies an almost equal time in working years as in retirement. With higher long-term inflation overlaid on that fact, it is plainly unaffordable. Politicians are wary of spelling this out, but that conclusion seems inevitable.

This situation prompts a number of questions, of course. How much later should people be expected/demanded to work? Although life expectancy has increased, for how long are people expected to stay healthy? A need or desire to work does not necessarily translate into an ability to work. In the US and other major developed economies, society is often close to full employment, at least as far as official statistics are concerned. However, the nature of labor is changing, and in a world where an increased share of labor could be disintermediated by AI, will an emerging cohort of people willing to work beyond traditional retirement be accommodated?

The traditional argument that technological advance does not necessarily act as a net destroyer of jobs assumes that the technology in question creates new jobs at a faster rate than it renders jobs obsolete. But the latest wave of automation—which, for example, is seeing a net creation of new jobs in delivering goods to consumers—may add jobs that are not suitable for all job seekers. We discuss this question of the nature of labor in the modern economy in our June 2024 review essay, *Machines, Democracy, Capitalism and Feudalism: Five Books for a Different Age, and What It Means for Investing*.

In addition to the nature of labor, there are also questions of how people age. Is the expectation that people will stay healthy longer into old age, and hence able to work, or will they become gradually more frail? The latter not only implies a diminished ability to work but also raises the prospect of significant spending late in life on care. This need to spend on care is, we would argue, doubly inflationary, not only because of the direct required expenditure but also for what it implies about a need for labor to move from other productive sectors of society to the care sector. Our analysis implies this could significantly offset any increased pool of labor that's derived from requiring people to work longer.[4]

[4] Martin Wolf, "Increased Longevity Will Bring Profound Social Change," *Financial Times*, May 13, 2024; and Charles Goodhart

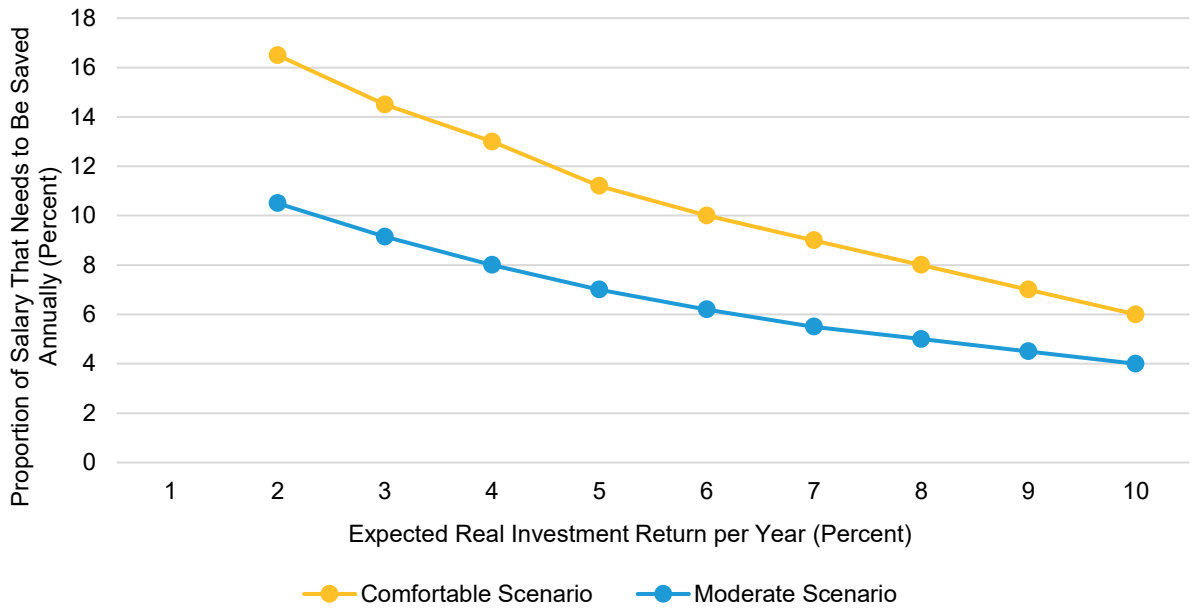
Retiring later, while part of the solution, also directly affects the design of a portfolio. It would not make sense to significantly de-risk a portfolio at a point when someone is still working (see more below).

Another possible solution is to contribute more each year in the saving phase. How much more? Well, that depends on achievable real returns, the desired standard of living in retirement and retirement age. Such trade-offs are core parts of retirement planning, but our focus here is how our view on achievable returns in the current regime impact these calculations.

Display 20 shows the trade-off between the expected real return of investment assets and the proportion of salary that must be saved each year to fund "moderate" and "comfortable" retirement outcomes. Here we assume, for the sake of simplicity, a constant rate of return over the whole saving period, but this serves to illustrate the scale of the impact of lower returns. Take a 60:40 allocation as an example. Its average real return in the US from 1980 to 2020 was 8.2% annualized. Our forecast is that the real return over the next 10 years will be only 3.8% annualized. If we apply this forecast return reduction to Display 20, it implies that compensating for lower expected returns in saving for a moderate retirement would require annual contributions to rise by 3%, and by 5% for a comfortable retirement. This assumes that one still retires at the same age. This is a huge increase in contributions. Moreover, we are very keen to consider the macro effects. Such an increase in saving requires a decline in consumer spending, with a knock-on effect on GDP growth.

The buildup in aggregate savings post-COVID has masked an increase in precarity for younger cohorts that are less wealthy than older cohorts were at an early stage in their lives. This state of affairs makes it even less likely that increased contribution rates are a viable mass pathway to countering lower real returns and greater longevity.

DISPLAY 20: IMPACT OF EXPECTED REAL RETURNS ON REQUIRED RATE OF SAVING



Historical analysis does not guarantee future results.

"Moderate" and "Comfortable" retirement levels are defined by the PLSA. "Moderate" outcome is defined as earning 67% of median UK salary and "Comfortable" outcome is defined as earning 107% of median UK salary. The analysis assumes retirement at 65 years with no government safety net.

As of January 30, 2024

Source: PLSA, Thomson Reuters Datastream and AB

and Manoj Pradhan, *The Great Demographic Reversal: Ageing Societies, Waning Inequality, and an Inflation Revival* (London: Palgrave Macmillan, 2020).

Aside from the core goal of needing to achieve a savings pot size that is sufficient to cover the cost of retirement, the implicit risk that needs to be addressed is that of running out of money. Two forces drive this: inflation and the "risk" of living longer. We will deal with each of these in turn.

"Hedging" higher inflation can mean different things to different investors. We argue that, for an individual seeking to preserve purchasing power far into retirement, the key attribute of an inflation hedge is that it delivers a high probability of positive real return over a period of sustained inflation (or of volatile but high inflation). Having a positive correlation with inflation over, say, a given quarter or year is actually not a necessary attribute. It is only when savers are very close to or in retirement that a short-term correlation with inflation matters. Given our view that retirement ages will be extended anyway, this implies that for the bulk of assets, the definition of hedging retirement that will dominate is the need for assets that generate real returns.

Display 21 shows examples of assets that may be considered different "hedges" of inflation; the level of inflation that one is trying to compensate for matters. The table is divided into "moderate" inflation on the left and "high" inflation on the right, with 4% marking the dividing line. This is approximately the level at which equities stop having the characteristics of real assets. Our view is that moderate equilibrium inflation, not unanchored high inflation, is what needs to be countered. Within each category, the first column includes assets likely to generate positive real returns over extended periods of inflation, while the second column shows assets that have higher short-term correlations with inflation.

The conclusion is that, all things being equal, DC pensions should be allocating more to real assets as listed in the first column: equities and real physical assets.

DISPLAY 21: REAL GROWTH AND INFLATION-HEDGING TOOL SETS EVOLVE

Moderate Inflation		High Inflation	
Long-Term Real Return	**High Inflation Beta**	**Long-Term Real Return**	**High Inflation Beta**
Real Estate	Broad Commodity Index	Real Estate	Oil
Equities	Oil	Farmland, Timberland	Gold
Farmland, Timberland	Gold	Equity Income, Free-Cash-Flow Yield	Broad Commodity Index
Equity Value	Commodity Equities	Infrastructure	Commodity Equities
Infrastructure	Equity Momentum		Momentum (Cross-Asset)
	Renewables/Power Delivery		TIPS
	TIPS		

For illustrative purposes only.

Source: AB

An implication of this conclusion is that it is acceptable, and may even be an outright necessity, to take illiquidity risk as an important aspect of preserving purchasing power. As a broader point, given the growing share of DC assets as a portion of global saving and the growing share of private capital in funding economic growth, it would be perverse if there were not a significant overlap between the two—a point that is often overlooked. The corollary is that there is too much obsession with liquidity. This does presume that the savings assets in question are not potentially being switched over short time frames between different providers. But if rapid switching of long-term savings assets does happen, it implies a design problem in the overall system—see the experience of Australia on this point.

For return forecasts with very long horizons (beyond 15 years), asset valuation today is arguably less of a concern. But it should be an input that guides the path of any changes in allocation. *Display 22* shows current valuations compared with historical valuations for a range of relevant return streams. The main conclusion is that asset classes are fully valued relative to their own histories; valuation opportunities are likely more within asset classes, be that factors or sectors.

DISPLAY 22: CROSS-ASSET VALUATION SUMMARY

Start Date	Asset	Valuation (Z-Score)
Jan 1970	Gold	2.96
Jan 1990	Automation Equity Basket	2.09
Jan 1988	US vs. EAFE	1.54
Jan 1970	Municipal Bonds	1.03
Jan 1970	US Equities	1.00
Jan 1997	US High-Yield Credit	0.83
Jan 1997	US Investment-Grade Credit	0.81
Jan 1970	US 60/40	0.77
Jan 1987	Emerging Market Equities	0.53
Jan 1970	US 10-Year Government Bonds	0.42
Jan 1995	US Metals & Mining Relative	0.15
Jan 1990	Infrastructure Equity Basket	−0.08
Sep 1971	US TIPS 10 Year	−0.15
Jan 1970	Japan Equities	−0.21
Jan 1973	US REITS	−0.26
Jan 1995	US Banks Relative	−0.78
Jan 1995	US Energy Relative	−1.34
Dec 1977	US Small vs Large Cap	−2.26
Dec 2010	US Min Vol vs Market	−2.38

Historical analysis and current forecasts do not guarantee future results.

Data start from January 1970 or the earliest available date (indicated in Start Date column) and run through April 2024. Equity valuations are cyclically adjusted earnings yield (1/CAPE ratio). Bond valuation is based on yield. Relative valuation is measured as the relative 12-month forward earnings yield (1/PE) relative to the broader US market. US PE factor valuation is measured as the 12-month trailing earnings yield. Z-score of the 60/40 portfolio is calculated as 0.6* z-score of US equities and 0.4* z-score of US 10-year government bonds. Higher z-score value indicates a higher premium to historic valuation.

Source: FRED, Global Financial Data, MSCI, Thomson Reuters Datastream and AB

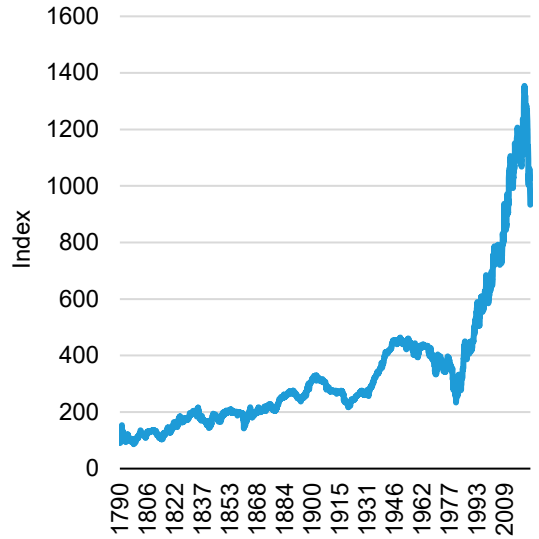
The design of target-date funds and their growth over the last three decades has rested on the idea of de-risking as one approaches retirement. But what *is* risk? This question, perhaps, has seemed uncomplicated for a long time, but a new regime changes it. We think there is an important distinction between risk defined as volatility and risk defined as a loss of purchasing power. In today's context, any de-risking must happen later in life and not have some hard stop at (an already) later retirement age. Also, cast in this light, de-risking should be about reducing the risk of an individual running out of money.

To us, it is no longer obvious that a passive long position in bonds is a low-risk position. The expected real return on duration is low, the volatility of bonds is expected to rise back to a more normal level, and we think that stock and bond returns will remain positively correlated, so bonds will be less-effective diversifiers. The conclusion is that, in the context of a DC portfolio, a bond is not a low-risk investment. In markets where pension assets have significant size compared with the local government bond market (such as in the UK), the view that bonds are not low risk could become a self-fulfilling dynamic.

But wait! Aren't bonds a lot more attractive than they were three years ago, given the increase in yields? Tactically, there may be a case for shorter-duration positions, given the level of yields and a flat yield curve. But we would argue that the long-run strategic appeal of longer duration is low. *Displays 23 and 24* show the excess return of 10-year bonds over cash in the US, both as a time series and with the average return in sub-periods. It is evident that the 4% annualized return of 1980–2020 was an unusual outcome, driven by extraordinary starting conditions and profound macro changes over those decades. To the extent

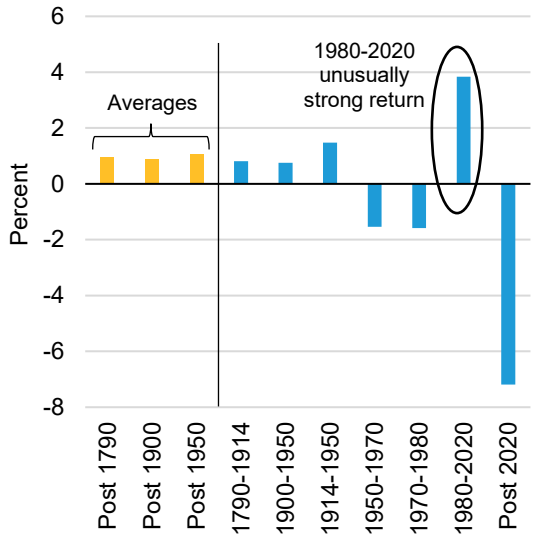
that it can be said there is a "normal" return from duration, it is likely closer to 1% annualized. This, however, is based on the US experience in the 20th century; there is no such thing as a risk-free asset over longer horizons, and if sovereign risk needs to be priced in some way, then the return can be lower still (as we've shown in a separate paper).[5]

DISPLAY 23: LONG-RUN RETURN FROM DURATION IS LOWER THAN RECENT DECADES SUGGEST
US 10-YEAR BONDS MINUS CASH



Past performance does not guarantee future results.
As of October 30, 2023
Source: Global Financial Data and AB

DISPLAY 24: EXCESS RETURN OF DURATION OVER CASH



Past performance does not guarantee future results.
As of October 30, 2023
Source: Global Financial Data and AB

What This Means for DC Strategic Asset Allocation

Bringing all this together, what does it mean for the strategic allocation of DC funds in this new world?

If we leave aside the politically unpalatable options of contributing more, accepting a lower standard of living in retirement and dumping the retirement problem on the state or future generations, what is left? It is taking more investment risk and working longer. The latter may be politically unattractive, too, but to some extent it is happening already, and it is logical given longer life expectancy. Moreover, there is a linkage between taking more investment risk and working longer, since one of the ways to take more risk at scale is to stay invested for longer. The other options can be summarized as: illiquidity risk, active-management risk, greater equity risk, geopolitical risk, factor risk, leverage or some combination of all of these.

Given the other options, taking more investment risk is a politically expedient and economically attractive route. The key risk this route attempts to offset is a loss of purchasing power, which can be defined as a real return over inflation. An alternative approach is to think of this in terms of the risk of a hardship outcome—an investment outcome that fails to deliver a minimum required level of income in retirement.

Investors have different options open to them for how they choose to partition and express risk in a portfolio. In considering the benefits of a given approach, one has to consider not only the interaction effects among different kinds of risk but also the actual amount of potential risk for a given approach. Exposing an investing approach to greater risk is not helpful if there is insufficient capacity to adequately change investment outcomes.

[5] Inigo Fraser Jenkins and Alla Harmsworth, *Global Quantitative Strategy: The End of Pax Americana and What It Means for the Market*, Bernstein Research, January 23, 2019.

Display 25 explores this topic. We plot the expected income in retirement from a given approach to lifetime saving on the vertical axis, with the horizontal axis showing its bottom-fifth percentile expected return.

The examples shown are the following:

1. A traditional, simple target-date strategy with 30-year historical returns. It holds 100% equities until age 45, then gradually evolves to 100% government bonds by age 55, with retirement at 65

2. The same as number one, but using our predictions of lower real returns and a positive stock-bond correlation

3. The simplest way to take more risk for longer: allocate 100% to equities for the entire glide path, retiring at 65

4. Take more risk for longer but still retire at 65; 150% exposure to equities through the whole glidepath until 65

5. Stay invested in risk assets beyond 65 and work longer; hold 100% equities until 65, then shift on a sliding scale to 100% government bonds until retirement at 75

We recognize that these are simplistic approaches to glidepaths—one can be more efficient about blending different kinds of risk and also mitigating the sequencing risk of an abrupt conversion of savings into annuities. However, showing it this way makes it easier to lay out the scale of the problem and possible remedies.

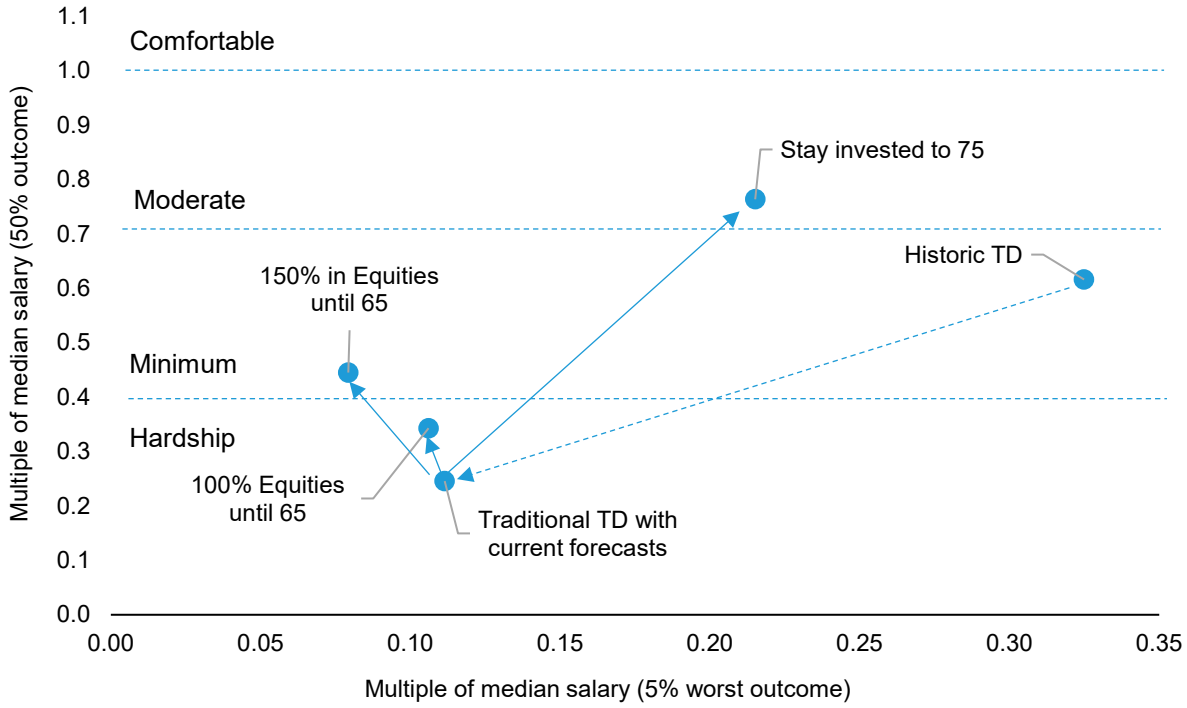
The gap between scenarios one and two shows how lower real returns and less diversification both decrease the expected standard of living in retirement and raise the risk of a hardship outcome. Scenario one is the historical expectation, and scenario two is the base-case prognosis for the future. The remaining scenarios offer three possible paths.

A simple way to dramatically increase risk is to allocate 100% of savings to equities all the way up to retirement. This not only increases overall risk levels but impacts the scale of risk taken, given that the size of the savings pot is significantly larger in the final decade of saving than at other times—and it is fully allocated to equities. This does have the desired effect of increasing the average expected income in retirement. It also, of course, somewhat increases the risk of the final years of saving being a low-return environment, leading to a hardship outcome. The other problem is that it does not increase risk enough!

Scenario four solves the latter problem by levering equity exposure, which improves the average expected income but also dramatically increases the risk of a hardship outcome. Thus, leverage appears to be an unattractive route to adding risk.

Scenario five assumes an extra decade of working, remaining fully invested in equities until the traditional retirement age of 65, then gradually reallocating from equities to bonds in the final decade from age 65 to 75. It is interesting that this delivers a higher average expected outcome, but with a dramatically lower risk of a hardship outcome. We note that the expected return from the accumulation phase is higher, as there is a significant allocation into equities at a later stage of saving while the pot is larger. However, the return is then further increased by a more attractive annuity rate being available at an older age.

DISPLAY 25: EXPECTED RETIREMENT OUTCOME VS. RISK OF BAD OUTCOME
MEDIAN EXPECTED SIZE OF RETIREMENT POT AS MULTIPLE OF SALARY VS. 5% WORST OUTCOME OF EXPECTED RETURNS



Past performance does not guarantee future results.

Display shows the expected median income in retirement (annuity rate) plotted against the likely worst fifth percentile of retirement outcomes. We overlay lines showing how these outcomes relate to different levels of comfort in retirement using the PLSA definitions of retirement needs as a percentage of national median income. The baseline TD strategy simply invests 100% in equities until the age of 45, then has a linear reallocation over 10 years to be 100% bonds by age 55. The examples shown are as follows: (1) the historical TD strategy shows the median outcome of returns from such a strategy over complete lifetime savings cycles since 1970 while the distribution of returns uses a longer lookback period to all outcomes since 1941. (2) The same target date structure applying our forecast of lower return and positive stock-bond correlation. (3) A simple approach to taking more risk of 100% equities through entire career. (4) 150% equites through entire career. (5) 100% equities until 65 and then linear reallocation to 100% bond age 75, retire at 75.
Source: Datastream, Global Financial Data, PLSA and AB

Interpreting the conclusions from this analysis, the stark reality is that someone who earns a median income over their working life, paying 8% of their salary each year into a traditional simple target-date structure that reallocates from stocks to bonds over the midpoint of their career, would face a hardship outcome in retirement. Here, we assume that the person retires at 65, and we define a hardship outcome as an annual retirement income that is less than one-third of the national median income as defined by the PLSA in the UK.[6]

This scenario excludes state pensions and social security, state backing that can make a significant difference at the bottom end of the retirement wealth distribution. However, this difference depends on the country where the retiree lives; it also assumes that states remain sufficiently solvent to honor the real value of such payments far into the future.

Taking higher risk with a 100% equity position or even a levered equity position would increase this median result enough for the savings to pass the threshold required for a "minimum" level of retirement. The approach of staying invested in equities even past the age of 65 and retiring at 75 would get one to the "moderate" retirement outcome. There is no path that yields a "comfortable" retirement. Such are the harsh mathematics of a low real-return world.

[6] "Picture Your Future: Retirement Living Standards," Pensions and Lifetime Savings Association, accessed on July 25, 2024, https://www.retirementlivingstandards.org.uk.

Conclusion

The central question in all this is: How should one save retirement as a viable concept? Increased longevity, higher inflation and the prospect of lower investment returns present a challenge to how retirement is funded. This challenge suggests that a shift in asset allocation is needed in favor of return streams that have attributes closer to those of real assets. At the same time, the mix between DB and DC plans is shifting. DB, with its dominant weight in fixed income, is declining as a share of the overall asset base. Taken in aggregate, this means that bond holdings within pension systems are likely to decline significantly. The more likely role of bonds will be as a component of active strategies, including tactical allocations, and also as an element of longevity pooling. This situation is very different from the central position a passive allocation to government bonds used to play within pension systems.

This paper lays out the problem as we see it, as well as possible options for the asset allocation and structure of DC pensions. The key risk is the loss of purchasing power—in other words, savers running out of money. Saving more cannot make up the shortfall, given the size of the saving increases needed, the relative lack of wealth of younger cohorts and the implied negative knock-on effects higher savings would have on consumption, economic growth and hence returns. A combination of taking more risk and working longer seems the only route that can solve this problem—this combination implies maintaining a significant exposure to risk assets for much longer than traditionally has been the case. The other aspect of this formulation is the explicit need to counter longevity risk.

DC plan participants' entry into longevity pools should increase with age and real yields. The consequence is that the demand for bonds by an increasingly DC-dominated pension system will fall significantly, as participants choose to lock a lower amount of their savings into lower-duration bonds later in life compared with DB pension schemes. A mitigating factor to the demand decline for bonds will be that, as yields increase (i.e., the cost of long-term debt becomes higher), there will be a natural increase in demand. However, this demand is unlikely to ever reach the current level of DB plans. Finally, in order to help individuals balance the needs for inflation protection with the high cost of adding it to an annuity, there may be a case for a new type of debt that provides nominal coupons in low-inflation environments and steps up in high-inflation environments. Such bonds may not only reduce the cost of debt issuance but provide an added incentive for good inflation management by legislators and regulators.

Finally, the cross-subsidies in the system have to be recognized for an equitable system to evolve: annuities sold without appropriate underwriting risk undermine trust when the unfairness is recognized. Current product design in the US seems to be creating a significant fiduciary risk for plan sponsors who elect to pursue in-plan or out-of-plan annuities without suitable protections for their participants against inequitable wealth redistribution, mortality risk and inflation. These protections will all come at such a high cost that they will make the solution unappealing to all but the most generous DC plans. Given this feature of annuities, we think it is highly unlikely that providers concerned about this inequity and the fiduciary risk would embed annuities in the all-important default strategy (the strategy used by the vast majority of participants in DC plans globally). Without this take-up, positive buying behavior and complex advice from advisors is likely to be limited.

We have encountered a deluge of questions over the last year on the sustainability of public debt, given the observation that the public-debt/GDP ratio has risen back to its level at the end of WWII. The US has the advantage of issuing debt in the world's reserve currency, but the degree of fiscal largesse is at best unusual and at worst reckless. European governments have tried to be more fiscally constrained, but required increases in social and defense spending will strain this effort. National pension systems have been ready buyers of government bonds on the basis that such assets are "risk-free," but how does the ability to fund government borrowing change if the pension system adopts other models for strategic asset allocation?

This issue is ultimately political. Questions such as how to keep retirement as a viable option, the age at which people can expect to retire, the transfers between cohorts with different life expectancies and between generations, how governments are funded, and the setting of investment regulation must all ultimately land in the lap of government, since no other entity has the mandate to enforce a coordinated vision across these subjects. All this needs to be seen in the light of a macro regime where the long-term forces are set by demographics, deglobalization, climate change and AI, all of which go beyond the auspices of any single government to control. There is a political need for retirement to remain a credible option, and that is likely to shape the regulation and structure of the investment industry's offerings. We will address this more political angle in a separate paper.

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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.

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