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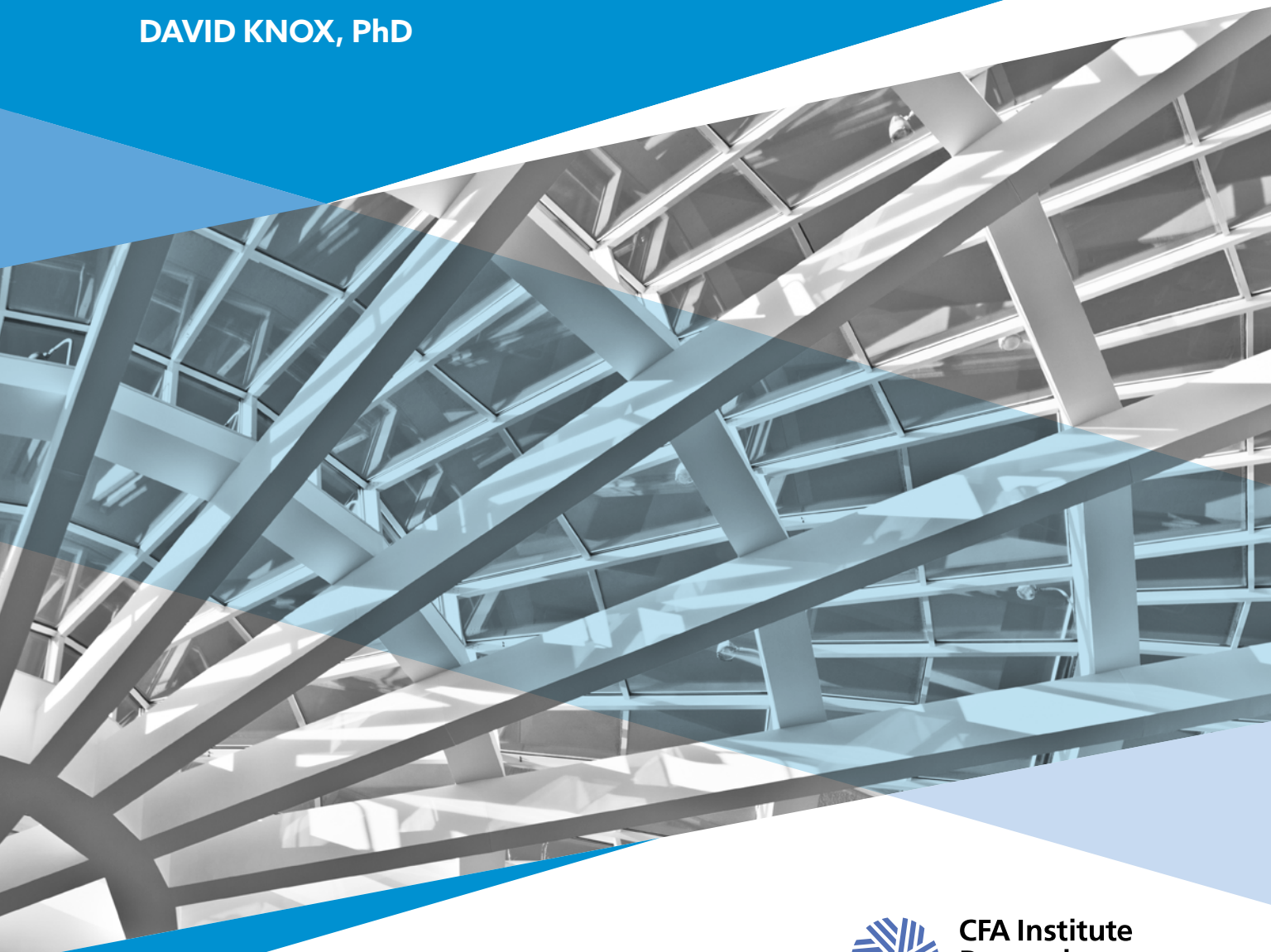
DE-RISKING GLOBAL PENSION SYSTEMS

DAVID KNOX, PhD



CFA Institute Research Foundation

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CFA Institute
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Print ISBN: 978-1-952927-53-9

Ebook ISBN: 978-1-952927-54-6

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DE-RISKING GLOBAL PENSION SYSTEMS

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Introduction

Every country or market has its own pension system, developed over many decades, that has been influenced by a range of political decisions as well as its economy, demography, culture, and history. Hence, each system has differing expectations within the society and different consequences for the capital markets, financial advisers, and the government's fiscal position.

Different Pension System Arrangements

Broadly speaking, pension systems provide income to older residents or citizens from two or more sources:

1. Government-provided pensions, which may be pay-as-you-go or partly funded in advance. These benefits may be
   - universal (i.e., paid to everyone) or means-tested (i.e., targeted)
   - linked to each individual's history of wages. The formula used may be skewed towards lower-income earners or capped. To fund these benefits, contributions are often paid to a government agency by employers, employees, and/or self-employed individuals.
2. Mandatory systems in the private sector (defined-benefit [DB] or defined-contribution [DC] plans). Contributions are paid by employers and/or employees to a pension fund administered and invested by the private sector. DB schemes normally have minimum funding arrangements.
3. Voluntary systems in the private sector (DB or DC plans). The decision to participate may be made by the employer and/or the individual.

The second and third sources are normally supported by taxation concessions to encourage participation and to support the growth of pension funds set aside for retirement purposes.

Before considering the de-risking of pension systems in detail, it is important to understand some of the drivers affecting current pension systems. With ageing populations in almost every country or market, pension systems and saving for retirement are becoming more important because an older population will likely lead to

- an increase in the costs of health services, assuming that the current level and standard of services are maintained;
- an increase in the need for aged care, either in the home or in nursing homes or specialist institutions;

- an increased focus on the need to provide regular income and capital access for the increasing number of retirees, which may also lead to more conservative investments;
- a reduction in labour force participation, which may slow economic growth;
- a change in consumer spending patterns and societal needs, with implications for the capital markets and investment opportunities; and
- increased pressure on government budgets, with higher public expenditure and/or lower levels of income taxation.

The many and varied implications and long-term consequences of these changes cannot all be addressed in a single piece of research. Hence, this report will concentrate on the risks facing private pension systems around the world and how to mitigate some of these risks to improve the likelihood of better retirement outcomes for the next generation of retirees.

The de-risking of public pension systems, while also maintaining public confidence in them, has important long-term socioeconomic consequences that are beyond the scope of this research. Nevertheless, the future funding of these schemes, particularly in the context of ageing populations, is a topic that many governments should consider now.

Changes Affecting Private Pension Systems

The Impact of Demography

The combination of falling fertility rates and increasing life expectancies has significantly increased the aged population in many countries, both currently and into the future. Naturally, as a nation's fertility rate falls, the population gradually grows older and will eventually start to decline, unless immigration changes these dynamics. **Exhibit 1** shows the significant decline of fertility rates in OECD countries from 1962 to 2022, noting that a fertility rate of 2.1 is needed for a stable population.[1]

Exhibit 1. Fertility Rates for OECD Countries, 1962–2022

Year	Fertility Rate
1962	3.30
1982	2.15
2002	1.65
2022	1.59

Source: Table 6.1 in OECD, *Pensions at a Glance 2023*.

[1]OECD, *Pensions at a Glance 2023: OECD and G20 Indicators* (13 December 2023): 180. www.oecd.org/content/dam/oecd/en/publications/reports/2023/12/pensions-at-a-glance-2023_4757bf20/678055dd-en.pdf.

Exhibit 2. Dependency Ratio for OECD Countries, 1962–2052

Year	Dependency Ratio
1962	15.7
1992	20.4
2022	31.3
2052 (projected)	53.8

Source: Table 6.2 in OECD, *Pensions at a Glance 2023*.

Exhibit 2 shows the recent and projected changes in the old-age to working-age (i.e., dependency) ratio for OECD countries from 1962 to 2052. This metric is calculated as the number of individuals aged 65 and over per 100 people aged between 20 and 64, which broadly represents the working-age population.

These demographic changes will dramatically affect how our societies and governments operate.

One development that could reduce but not remove the impact of an ageing population is if people stay in the workforce a little longer beyond the "normal retirement age". For example, the average labour force participation rate for those aged 55–64 for the 11 pension systems in the original global pension index[2] in 2009 was 59.7%. In 2024, the average participation rate for these 11 countries increased to 70.1%, with Japan and Sweden having participation rates above 80% for those aged 55–64.[3] Improved health at these ages and increased female participation in the labour force have both contributed to this result.

Increased labour force participation at older ages has consequences for the design of all pension systems. Hence these systems need to become more flexible to encourage older workers, as well as enable individuals to return to the workforce after their "initial" retirement.

Even with an increase in the labour force participation rate at older ages, the impact of ageing populations is significant. As the OECD has concluded, "Population ageing has been the main driving force behind changes in pension policies."[4]

One effect of the increase in the older population has been a rise in the level of public pensions paid directly by governments. **Exhibit 3** shows the changes in the expected level of public pension expenditure for 31 OECD countries from 2020 to 2050.

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[2]Originally known as the Melbourne Mercer Global Pension Index, the global pension index changed its formal name in 2020 to the Mercer CFA Institute Global Pension Index. The 11 pension systems in the original 2009 global pension index (listed in alphabetical order) were Australia, Canada, Chile, China, Germany, Japan, Netherlands, Singapore, Sweden, United Kingdom, and United States.

[3]Mercer and CFA Institute, "Mercer CFA Institute Global Pension Index 2024" (MCGPI 2024 report). https://rpc.cfainstitute.org/research/reports/2024/mercer-cfa-institute-global-pension-index-2024.

[4]OECD, *Pensions at a Glance 2023*: 179.

Exhibit 3: Public Pension Expenditure for 31 OECD Countries, 2020–2050

Period	Costs as a Percentage of GDP
2020–23	8.9%
2030	9.5%
2040	10.0%
2050	10.2%

Note: Data for 2020–23 are historical, and the remainder are OECD projections.

Source: Table 8.4 in OECD, *Pensions at a Glance 2023*.

These average figures for 31 OECD countries hide significant variations between economies. For example, the 2020–23 costs range from 1.3% for Korea to 15.7% for Greece, whereas the projected 2050 costs range from 2.1% for Australia to 16.2% for Italy.

An ameliorating factor is that six OECD countries (namely Korea, Japan, Luxembourg, Finland, Sweden, and Canada) have public pension reserve funds in excess of 20% of GDP,[5] placing them in a stronger fiscal position than countries without such funds.

Significant Changes to Pension System Design

The fiscal pressures associated with ageing populations have led many governments to look towards the private sector for an increasing role in providing retirement income.

These private sector pensions often began as employment-related DB pension schemes initiated by employers or through collective industrial agreements. The most common retirement benefit from these schemes is a retirement lifetime pension (often partly or fully indexed to inflation) based on the individual's salary (averaged over their career or final years) and the length of their service. In addition, a reversionary spouse pension is often available.

The emerging arrangements in many private pension systems now differ substantially from the traditional DB arrangements, with the new systems having very different characteristics and risks. During the last two or three decades, many employment-related pension schemes have shifted from DB to DC arrangements. This shift also means that a range of risks associated with the financing of retirement benefits have transferred from employers to individuals. As a result, employers now have a fixed cost with no future uncertainty while individuals now bear significant risks, including the following:

- Investment risk, both before and after retirement
- Sequencing risk of investment returns, particularly immediately after retirement

[5]Panel B of Figure 1.3 in OECD, *Pension Markets in Focus 2024* (2 December 2024). https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/11/pension-markets-in-focus-2024_54fb4783/b11473d3-en.pdf.

- Inflation risk, because the resulting pensions may not be indexed
- Longevity risk, unless an annuity is purchased with the DC pension pot or this risk is shared as part of a collective or pooled arrangement in the plan design

These risks for DC members do not imply that DB members previously bore no risk. In several cases, employer support failed and the promised benefit did not eventuate for the DB plan members.[6] These failures have led to stronger funding arrangements for DB schemes in many countries.

The transition to DC plan arrangements is occurring at different speeds and in different ways around the world, and the shift often takes decades to fully implement. As a result, the retirement benefits for many current retirees are a mixture of a DB pension and a DC pension pot, whereas future retirees will have only a DC benefit.

In addition to this fundamental design change, we are witnessing a changing concept of retirement, with many individuals transitioning gradually to retirement or rejoining the workforce in a different role after their initial retirement. This flexibility is easier to accommodate within a DC arrangement than under a traditional DB scheme with its relatively fixed formulas.

Increasing individualism also means that some individuals are now saving for retirement through personal schemes that have no connection with an employer. Nevertheless, the result at retirement in employment-related DC schemes or personal arrangements is very similar—namely, an accumulated retirement benefit with no guarantee or support from the government or an employer. Retirees are on their own.

Furthermore, the value of the accrued benefit at retirement is subject to a range of factors that can significantly impact the ultimate amount of retirement funds available. These factors include the asset allocation of the DC arrangement, the investment return achieved, the level of contributions, the amount of fees paid, and the actual retirement age.

This shift to DC is now real in many systems. As the OECD notes, "Personal plans and occupational defined contribution plans have been gaining importance at the expense of occupational defined benefit plans."[7] Indeed, it reports that "more than 50% of assets were held in [occupational] DC plans or personal plans in 19 out of the 21 reporting OECD economies."[8]

By their very nature, DC and personal pension plans offer much more flexibility than traditional DB arrangements. In summary, individuals can make many decisions that will affect their retirement benefit. These decisions may include the following:

- The selection of their pension provider
- The level and frequency of their pension contributions, beyond any mandatory level
- The chosen investment strategy for their pension account
- Switching investments between different asset classes

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[6]The development of pension protection agencies in some jurisdictions reduces this risk, but even in these cases, this protection is normally funded through levies on the overall pension system.

[7]OECD, *Pensions at a Glance 2023*: 228.

[8]OECD, *Pensions at a Glance 2023*: 228.

- Their retirement age
- The form of their retirement benefits (e.g., a pension, a lump sum, or a mix)
- The age at which the benefit drawdown begins
- The rate of drawdown during retirement

Although DC arrangements can be very flexible, they are also potentially confusing for individuals (both before and after retirement) and can lead to suboptimal outcomes. Because DC plan participants directly bear many of the risks associated with the provision of retirement benefits, this report will explore how these risks may be reduced to provide better long-term outcomes for these retirees.

The Increasing Importance of Pension Assets

As mentioned earlier, many governments have been encouraging the growth of private sector pension arrangements using a range of policies, which may include mandatory contributions, auto-enrolment, new regulations, and taxation incentives. Consequently, in many economies, the level of pension assets as a percentage of GDP is growing.

Exhibit 4 shows the importance of the assets of pension providers in the 38 OECD countries from 2003 to 2023, expressed as a percentage of each country's GDP. Although the changes have been modest, the number of OECD countries with pension assets of less than 25% of GDP has declined while the number of countries where pension assets exceeding 100% of GDP has increased. It is also worth mentioning that the assets held by the pension providers in the United States represent more than half of all pension assets in the world.

Exhibit 4. Number of OECD Countries with Pension Assets of a Certain Size[9]

Assets as a Percentage of GDP	2003	2013	2023
0–25%	25	23	19
25%–50%	3	4	7
50%–75%	4	3	3
75%–100%	3	1	1
100%–150%	3	6	5
More than 150%	0	1	3

Source: OECD, *Pension Markets in Focus 2024*, Annex B, Table B.3.

[9]This exhibit excludes the assets held by public pension reserve funds.

The OECD also publishes these data for 55 other jurisdictions. Ten of these jurisdictions had pension assets of more than 25% of the country's GDP in 2023.[10] Interestingly, the average level of pension assets for these 10 countries increased from 34.2% of GDP in 2013 to 46.4% of GDP in 2023.

These data confirm that the importance of the assets held by private pension systems has continued to increase during the last two decades. This trend is likely to continue as many governments continue to encourage the expansion of private pensions, given the ageing populations and the range of financial pressures on government budgets.

This Report

This report aims to discuss approaches to de-risk private pension systems in order to make them more reliable, provide improved outcomes for retirees, and lead to growing community confidence. We will therefore consider how to reduce the likelihood of the following:

- **Poor investment returns over the longer term,** which can lead to:
  - Lower-than-expected benefits for DC members
  - Higher contributions for employer-sponsors of DB plans
  - Increased government costs in means-tested public pension schemes
  - Reduced public confidence in the system
- **Volatile investment returns or interest rates,** which can lead to:
  - Unfortunate member behaviour in DC schemes where member choice exists
  - Reduced public confidence in the system
  - Volatile DB liabilities in the financial accounts of employer-sponsors
- **Uncertain retirement outcomes for members of DC plans,** which can lead to:
  - Unwise decisions by some DC members
  - Increased anxiety for retirees
  - Increased political pressure, particularly in times of economic stress
  - Reduced consumer spending by retirees
- **Adverse outcomes from income streams for retirees in DC plans,** including consideration of:
  - Longevity risk
  - Market risk
  - Inflation risk
  - Expenditure risk
  - Allowance for cognitive decline

[10]These 10 jurisdictions are Botswana, Brazil, Croatia, Hong Kong SAR, Jamaica, Kosovo, Malta, Namibia, Singapore, and Uruguay.

This report will not consider the risks arising from a range of possible government decisions that can affect both public and private pensions, which go beyond the responsibilities of pension plan fiduciaries, the pension industry, and participants.

Reducing the Probability of Poor Investment Returns

The consequences of poor investment returns in pension funds are many and varied and will, in part, depend on whether the fund is a DB or DC pension scheme.

For employer-sponsored DB schemes, the initial impact of poor returns will be on the funding status of the scheme. In other words, because the value of the assets is less than expected, this scenario could lead to an increase in the contribution rate paid by the sponsoring employer, following an actuarial investigation. The level of these increased contributions may also be influenced by any regulations imposed by the pension regulator or legislation.

An additional impact for DB plans will be shown in the employer's financial accounts. Poor investment returns will directly affect the value of the assets but have limited or no effect on the value of the pension liabilities, unless long-term interest rates have also changed.

Under most circumstances with a DB pension plan, the sponsoring employer bears the consequences of poor investment returns in the short or longer term. If the funding status of the DB scheme is significantly negative, however, the employer could choose to reduce the level of benefits, increase the contributions paid by scheme participants, or even close the scheme. The actual outcome is likely to depend on local regulations and/or the DB scheme's governing documents.

The actual impact of poor investment returns for a DB scheme will thus depend on specific circumstances. This impact can vary from an increase in the employer's long-term contribution rate to a significant effect on the level of the retirement pension received by the scheme members.

In contrast to DB plans, the impact of poor investment returns in DC plans has a direct impact on the participants' pension account balances. That is, because there is no support from an employer or the government, the individual's future retirement benefits are directly affected. The only exception to this result may be when a regulation sets a minimum level of investment earnings and requires the pension provider to compensate plan participants for any shortcoming.[11]

The obvious conclusion is that poor investment returns represent a major risk to the provision of adequate retirement pensions over the long term, whether these benefits are provided by DB or DC arrangements. Hence, it is appropriate to consider approaches to reduce the probability of poor investment returns while recognising that investment risks will always exist, whatever the circumstances. Such risks can be reduced but not eliminated.

[11]It should be noted that such a regulation may have adverse effects on the investment strategy adopted by the pension provider, which is likely to limit the long-term investment return achieved.

Sound Governance Features

The first step to reduce the risk of poor investment returns is to ensure that the pension plan has a sound governance structure. This ensures that the pension fund's investments are overseen by a board or council consisting of individuals with appropriate skills and experiences and who are independent from government, the employer, or any related party. This independence should ensure that they act in the best interests of the plan participants and not another party.

The Mercer CFA Institute Global Pension Index (MCGPI) 2024 report shows that 44 of the 48 pension systems require private pension plans to be a separate legal entity from the employer.[12] Such a requirement provides both independence and protection. Another common legal requirement, found in 43 of the 48 systems in the MCGPI 2024 report, is that where assets exist, the governing body (i.e., the trustees or fiduciaries) must prepare an investment policy. Although such a policy cannot remove the possibility of poor investment returns, its existence should guide discussion and decisions over the longer term and clearly express the pension fund's tolerances to a range of risks.

Another feature that can reduce the risk of a poor investment decision is the requirement for the governing body of all pension funds to prepare a conflict-of-interest policy. Given the preference for a broad set of appropriate skills and experience within the governing body, conflicts of interest may arise between individual members of the governing body and the need for particular investment decisions. Therefore, the potential for such conflicts of interest should be recognised with an appropriate policy, together with a process for dealing with them. Thirty-two of the pension systems in the MCGPI 2024 report require such a policy for private pension plans.

A particular example of conflict of interest occurs when the pension fund invests in the employer-sponsor either through the purchase of shares in the employer or a related company or through loans or other forms of debt securities. Two well-known case studies highlight this concern: the Mirror Group in the United Kingdom, with Robert Maxwell in charge, and the Enron collapse in the United States.

In the Mirror example, Maxwell stole about GBP460 million from his employees' pension funds, which affected 30,000 pensioners.[13] Following Maxwell's death in 1991 and the subsequent investigations, most of the lost money was refunded to the pension plan or paid by the UK government. Nevertheless, this process took years, and some employees died before receiving a pension.

Enron filed for bankruptcy on 2 December 2001. In the 401(k) pension plan for Enron employees, employer stock was an investment option within the plan. Enron also used their stock to match employee contributions. These developments meant that at one stage, about two-thirds of Enron 401(k) plan assets were in the company's stock. Such an outcome clearly did not

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[12]Mercer and CFA Institute, "Mercer CFA Institute Global Pension Index 2024" (MCGPI 2024 report). https://rpc.cfainstitute.org/research/reports/2024/mercer-cfa-institute-global-pension-index-2024.

[13]Global History of Capitalism Project, "Robert Maxwell's Expectations Gap: Regulation and Reputation in the British Communications Industry, 1981–91" (University of Oxford, Case Study #29, February 2023). https://globalcapitalism.history.ox.ac.uk/files/case29-robertmaxwellsexpectationsgappdf.

represent diversification. When Enron collapsed, employees consequently lost most of their retirement savings.[14]

The obvious remedy to prevent similar future losses is to limit the percentage of a pension fund's investment in the employer-sponsor and related companies. Thirty-seven of the pension systems in the MCGPI 2024 report require such a policy for private pension plans, with most regulations limiting investment to 5% or 10% of the fund's assets.

A final requirement that is helpful with respect to membership of the governing body of private pension plans is that at least one member of the body must be independent from both the employer and the employees. This requirement exists in 21 of the 48 pension systems in the MCGPI 2024 report. The presence of at least one independent member is likely to generate a broader discussion regarding investment decisions and a reduced focus on particular interests.

A sound governance structure for a pension plan does not guarantee above-average investment returns or the absence of poor returns. It should reduce the probability of poor returns, however, because greater separation exists between different parties, encouraging a stronger concentration on the pension plan's primary purpose.

An important characteristic of good governance is disclosure. The Global Pension Transparency Benchmark[15] assesses the five largest pension fund organisations operating in 15 countries, ranking them according to their public disclosures on governance and organisation.

These are the five pension organisations that scored full marks in the 2024 report:

- Government Pension Fund Global in Norway, the largest pension fund in Europe
- Canada Pension Plan Investment Board, which supports the Canada Pension Plan
- CDPQ, which manages the funds of the Quebec Pension Plan in Canada
- BCI, which provides investment management services to British Columbia's public sector in Canada
- ATP Group, Denmark's largest pension and processing company

As the report notes, the Canadian public pension funds are the clear global leaders in governance disclosure.

Strategies to De-Risk Investment Portfolios

The following strategies to reduce the probability of poor investment returns apply to both DB and DC pension arrangements. Approaches specific to DB and DC pension funds will be considered later in this section.

[14]US Senate Committee on Homeland Security and Governmental Affairs, "Retirement Insecurity: 401(k) Crisis at Enron" (5 February 2002). https://www.hsgac.senate.gov/media/reps/retirement-insecurity-401k-crisis-at-enron/.

[15]See the Global Pension Transparency Benchmark website, https://global-pension-transparency-benchmark.top1000funds.com.

Strategies for Both DB and DC Plans

The first strategy is to ensure that each investment portfolio is appropriately diversified. By spreading investments across different forms of investments, various asset classes, different fund managers, and different geographic regions, pension funds can reduce the impact of poor performance from any single investment or market. This diversification can help stabilise returns and reduce overall risk.

A related strategy to further enhance diversification is to consider investments in assets whose returns are generally uncorrelated with the major asset classes. These assets may include private credit, private equity, venture capital, and even physical assets, such as gold bullion or works of art.

Although private assets are attractive for the purpose of additional diversification benefits, the market value of some of these assets may be somewhat opaque, making regular third-party valuation important for these assets. For example, in Australia, such valuations are now required at least quarterly. Compared with publicly listed assets, these types of assets also have less liquidity, as well as less regulation in some markets. Notwithstanding these concerns, a global shift towards private markets is well underway, with more than three-quarters of all investible assets held privately.

A second strategy to reduce the probability of poor investment returns is to ensure that all assets are regularly reviewed using relevant and reliable market values. This review is particularly important for assets that are not traded publicly. Without such regular reviews, it is more likely that a particular investment could lose value relatively quickly and thereby contribute to a poor outcome.

These regular reviews should also lead to a rebalancing of the asset allocation within the portfolio, where necessary. Rebalancing is likely to be needed either when the current market values of a particular asset class are outside the agreed strategic asset allocation or when the perceived risk is beyond the agreed tolerance.

A third strategy is to adopt an active portfolio management approach (such as dynamic asset allocation) that adjusts the mix of asset classes based on short- to medium-term market trends and/or macroeconomic factors. This approach aims to enhance returns and/or manage risk by tilting away from the long-term strategic asset allocation.

A fourth, and possibly self-evident, strategy is to ensure that appropriate analysis is undertaken before any investment is made. Although financial markets are often influenced by emotion or sentiment, pension funds are investing for the long term. A focus on fundamental analysis and sustainable investing can enhance returns and reduce the probability of poor outcomes.

Strategies Specific to DC Plans

A relevant strategy for some members of DC funds is to use a life-cycle or target-date fund approach. This approach automatically adjusts the asset allocation based on the individual's expected retirement date, gradually shifting from higher-risk investments to more conservative options as retirement approaches. Doing so can be particularly helpful if the future retiree intends to use the accumulated retirement benefit to purchase an annuity or take a lump sum benefit to pay off a debt.

This de-risking strategy is not appropriate for all DC plan participants, however. For example, if the retiree plans to transfer their retirement benefit into a market-linked drawdown product for the longer term, it may be wise to retain a higher exposure to riskier investments because the retiree is not crystallising their benefit at the point of retirement.

Education and regular communication with plan participants are also critical components of de-risking DC plans for these individuals. Providing participants with clear and concise information about the available investment options, as well as helping them understand their risk tolerance, can empower them to make informed decisions. Such engagement can encourage participants to review their investment allocations regularly and make adjustments based on their personal situation to help them stay on track towards their retirement objectives.

The approach to de-risking DC pension funds can also differ significantly between developed pension markets and emerging markets due to variations in regulatory frameworks, financial market maturity, participant behaviour, and economic conditions.

In developed markets, the pension system is typically more mature, with a wider range of investment options and a greater emphasis on participant education. As a result, de-risking strategies can focus on enhancing the sophistication of investment choices available to participants. For instance, offering a diverse array of asset classes, including alternative investments, can be more feasible in developed markets as the participants have greater access to these options.

In contrast, emerging markets may face challenges such as limited investment options, less-developed financial markets, and lower levels of financial literacy among participants. Simplifying investment choices and providing clear guidance on risk and return can help participants make informed decisions. For pension systems in these countries, the focus may be on building a foundational understanding of the importance of saving for retirement rather than offering complex investment products.

However, such simplification should not be limited to emerging markets. Many DC pension plan participants in developed economies have very limited understanding of the risks inherent in their pension arrangements. In such a scenario, a sensible default arrangement—in which the individual is not required to make a decision but instead is provided with a balanced portfolio over the longer term—may be the best way to reduce the probability of a poor outcome in the future.

Strategies Specific to DB Plans

As discussed earlier, DB funds have a different benefit structure from DC funds, with the benefits normally calculated as a product of each participant's salary, the benefit scale, and the individual's years of service. This structure means that the fund's future pension liability is normally unaffected by investment returns.

Hence, one of the primary methods of de-risking DB funds is through asset–liability management. This process involves aligning the pension fund's investment strategy with its liabilities, which are the future pension payouts. By matching the duration and cash flows of assets with liabilities, pension funds can minimise the impact of interest rate fluctuations and market volatility. This strategy often includes investing in fixed-income securities that provide predictable cash flows, such as government bonds or high-quality corporate bonds.

Another common approach is the use of liability-driven investment (LDI) strategies. LDI focuses on investing in assets that closely correspond to the pension fund's liabilities. These assets can include interest rate swaps, inflation-linked bonds, and other derivatives that help hedge changes in interest rates and inflation. Using LDI, DB pension funds can better manage their risk and ensure they have sufficient assets to meet future obligations.

In contrast, some employer-sponsors have supported a more aggressive investment strategy, with the expectation that such a strategy would outperform more-conservative approaches and thereby reduce the employer's contributions to the pension fund over the longer term. This attitude highlights the potential differences in strategy that can occur between the employer-sponsor and the trustees/fiduciaries who are managing the pension plan for the participants. It is therefore critical that such differences are discussed between the relevant parties and a common understanding is reached. In extreme cases, the pension regulator may need to intervene.

Additional Factors

Three other factors must be considered to reduce the probability of poor investment returns. First, cultural attitudes toward retirement savings vary between countries and markets. For instance, some developed markets place a strong emphasis on individual responsibility for retirement planning. In contrast, other developed markets and some emerging markets emphasise a stronger collective understanding. Therefore, de-risking strategies need to consider the broader social and economic context and work to integrate private retirement savings with public pensions and traditional support systems.

Second, pension regulations also vary between countries and markets. A range of approaches has been adopted around the world in an effort to restrict the likelihood of a poor retirement outcome for DC pension plan participants. These approaches include investment limits on particular asset classes that carry higher risks, a minimum return required from pension funds, or a quantitative risk limit, such as value at risk (VaR). As the OECD notes, however, "designing suitable investment regulations for DC plans is a complex task."[16] Their analysis also showed that a trade-off exists between potential retirement income and protection from bad outcomes.

Third, the fees charged by investment managers directly impact both the account balance of DC participants and the cost for DB sponsors. It is therefore critical that pension plans regularly review the market and seek to provide the best net outcome to participants. Public disclosure of the fees paid to external providers represents an important component of keeping pressure on the level of fees.

As with governance, the Global Pension Transparency Benchmark ranks the major pension organisations around the world in terms of their disclosure of costs. The best-performing pension organisations in their 2024 report[17] in terms of disclosing costs are as follows:

- Government Pension Fund Global in Norway
- Canada Pension Plan Investment Board

[16]Antolín, P., S. Blome, D. Karim, S. Payet, G. Scheuenstuhl, and J. Yermo, "Investment Regulations and Defined Contribution Pensions," OECD Working Papers on Insurance and Private Pensions, No. 37 (July 2009). https://doi.org/10.1787/222771401034.

[17]See https://global-pension-transparency-benchmark.top1000funds.com/#tab-470121.

- PGGM, a not-for-profit cooperative pension fund service provider in the Netherlands
- Foundation for the Construction Industry Pension Fund in the Netherlands
- CalPERS, or the California Public Employees' Retirement System, the largest DB public pension fund in the United States
- APG, the largest pension fund in the Netherlands

The Netherlands leads the way when it comes to the disclosure of costs by pension plans.

Of course, another way of keeping pressure on fees is for the government or regulator to publish the fees charged by pension plans. This occurs in Australia as part of the annual performance test that applies to all superannuation funds. A concentration on fees alone, however, may be insufficient to deliver the best long-term outcome for plan participants. This fact is recognised in the 2023 Mansion House Compact, sponsored by the City of London and endorsed by the UK Chancellor of the Exchequer, which endorses "maximising risk adjusted net returns, including value over cost, to deliver better outcomes" (p. 1).[18]

Conclusions

Good investment returns in the long term are the most important feature of a funded pension system that seeks to provide adequate and sustainable retirement benefits for decades. Legislation or regulatory frameworks can play a significant role in decreasing the probability of poor investment returns through prudential standards and/or the presence of active regulators. It must always be recognised, however, that pension funds invest in dynamic economies that are subject to a broad range of domestic and global pressures. Hence, there can be no guarantees.

Poor investment returns in the long term are likely to lead to higher contribution rates for employer-sponsors of DB schemes, lower retirement benefits for participants in DC plans, increased pension costs for governments that provide means-tested benefits, and most importantly, a loss of confidence within the community in the overall pension system. Such an outcome is most unfortunate because it can become the catalyst for civil unrest or the unwillingness by society to accept the necessary pension reform in the context of an ageing population. Hence, there is a fundamental requirement in all pension systems to reduce, as far as possible, the likelihood of poor investment returns in funded pension arrangements over the longer term.

Reducing the Probability of Volatile Investment Returns

Introduction

Volatile investment returns lead to reduced confidence amongst participants in DC pension plans because individuals' account balances can move up and down by a significant percentage over a relatively short period. This experience is contrary to the expectations of many

[18]See https://www.theglobalcity.uk/PositiveWebsite/media/Research-reports/Mansion-House-Compact-Signatories-updated.pdf.

participants, who are anticipating a steady increase in their pension account. Furthermore, some DC participants may respond to a significant decline in their account value by changing their asset allocation, a move that could be detrimental in the longer term.

The first and most important step for DC plan participants is for each individual to ask a few basic questions about their pension investment. Some sample questions include the following:

- *What is your timeline?* In other words, when do you expect to withdraw your benefit? The longer the timeline, the less short-term volatility matters.
- *What is your risk appetite?* How will you react if the value of your pension account falls by 10%, 20%, or 30%? This question may be particularly relevant for retirees. It is important for each plan participant to feel comfortable with the investment approach adopted for their DC pension account.
- *What is your level of understanding about investments and the financial markets?* Increased understanding may lead to some participants accepting a higher level of volatility.

Hence, given that DC plan participants bear the consequences of volatile investment returns, they should appreciate the extent of the volatility that a given strategy is likely to deliver. This understanding will assist in considering the relevance (or otherwise) of the strategies outlined in the following subsection.

Volatile investment returns also affect the value of assets held by DB pension funds, which directly affects the net liability shown in the financial accounts of the employer-sponsor. In addition, the value of the future pension liabilities is directly affected by movement in interest rates, with lower interest rates leading to an increase in the pension liability. That is, volatility in the investment returns and/or interest rates can lead to uncertainty in the financial position of the sponsoring employer.

Volatile investment returns and variable interest rates represent long-term risks to the delivery of future retirement pensions. Therefore, it is often desirable to reduce such an impact. It must also be recognised, however, that some volatility represents a characteristic of free-market economies—and that this volatility is normally expressed in the capital markets. Hence, the issue is not how to avoid all volatility but how to reduce its effect on pension fund assets and the behaviour of DC pension plan participants.

Strategies to Reduce the Likelihood of Volatile Investment Returns

As with the previous discussion on how to reduce the likelihood of poor investment returns, the starting point to reduce the likelihood of volatile investment returns is to hold a diversified investment portfolio. In particular, it is helpful to hold assets that respond to economic and political influences in different ways. This lack of correlation will not only reduce the likelihood of an overall poor investment return but also will likely reduce the volatility of the portfolio's overall return. A broad range of assets—including bonds, equities, property, as well as alternatives and cash—is likely to deliver lower volatility than a portfolio concentrated in one or two asset classes.

This process of diversification should also consider the level of concentration that may exist within any investment portfolio. For example, the investments of many pension funds have a significant home bias in their asset allocation. This concentration may be a natural outcome of local taxation rules; legislated limits on overseas investments; or the expectations of plan participants, employer-sponsors, or governments. Nevertheless, the result is that the pension fund's assets may experience greater volatility than would occur with increased exposure to global assets.

Another example is alternative investments, such as infrastructure, property, private equity, or hedge funds, which can enhance returns while reducing overall portfolio volatility. These assets often have low correlations with traditional markets, providing less volatility during significant fluctuations in the major markets. As noted earlier, however, these assets do not have regular market-linked valuations, which means that a significant re-valuation (up or down) can occur with little warning.

A second strategy to reduce volatility is to identify risks within the portfolio that could lead to significant volatility in the investment return. Such risks could include currency risk (which occurs when some assets are invested in a currency that is different from that of the pension liabilities) and interest rate risk, where the value of some fixed-interest assets could change significantly with a movement in the relevant interest rates. In both cases, pension fund managers could adopt some hedging strategies, such as the use of derivatives, to reduce the probability of a significant reduction in the investment return. In some cases, hedging strategies will mean taking opposite positions in a related asset to reduce the likely volatility. Of course, adopting such hedging strategies comes with a cost, and the pension plan's trustees/fiduciaries will need to balance this cost against the potential benefit.

A somewhat different strategy is to focus on investments that are likely to exhibit lower volatility in their investment returns than other investments. Examples include the purchase of equities with a low beta, which are therefore considered less speculative than shares with a higher beta. These defensive or low-beta stocks may be for companies that produce essential goods and services, leading to more consistent earnings and reliable dividends.

Another strategy is to consider absolute return–type bond investments, which focus on avoiding a negative return. This strategy stands in contrast to taking an index replication approach, which may result in a negative return if interest rates increase.

One approach with the potential to reduce volatility in the account balances of DC pension plan participants is to smooth the credited investment return over several months or even years. In brief, this means reducing some of the better returns so that the poorer returns can be "topped up" with the overall result of less volatility and more stable returns. Although this smoothing or averaging may appear attractive, it has some significant issues, including the following:

- *Is it fair?* With a smoothing approach, there will be winners and losers among participants depending on when they joined or left the pension plan.
- *Can it be explained?* One advantage of a DC pension fund is its transparency. Yet any smoothing operation is likely to be complicated and lead to some adverse reactions from participants.
- *Will it encourage arbitrage activity?* Because some DC pension plans are now offering greater choice to participants, it may be possible for some informed participants to adjust their asset allocation and so maximise their benefit from the funds previously set aside.

- *Will it affect participants' behaviour?* Another advantage of many DC pension funds is that an individual can choose when to join or leave a particular fund. The presence of a smoothing operation is likely to influence such behaviour.

A better approach is to educate DC participants about the likelihood of volatile investment returns. That is, investment returns are not set in advance and will depend on the financial markets. In addition, DC pension plans should constantly inform their members that they must take a long-term perspective. That is, for the vast majority of participants, day-to-day market movements are not relevant. This reminder is particularly important whenever a significant market fall occurs, which happens from time to time.

This strategy of focusing on the longer term will not remove the volatility of investment returns. If done regularly and clearly, however, it should reduce participants' concerns and lead to greater confidence in the pension system in the long term.

Reducing the Probability of Uncertain Retirement Outcomes

With DC pension plans becoming increasingly popular around the world, there is a growing risk of uncertain—indeed, unknown—retirement outcomes as individuals approach retirement. Gone are the days when a DB pension plan provides a CPI-indexed pension equal to 50%–70% of a person's career-average or final-average salary, underwritten by the employer-sponsor. Yet, if our workers and retirees are to have long-term confidence in the DC pension system, we must explore ways to reduce the uncertainties that are a basic characteristic of a DC-only pension system.

The Bigger Picture of Retirement Income

The first step in encouraging this confidence is to highlight that most pension systems are a combination of the public pension and benefits from the private pension plan. Of course, the size and availability of the public pension varies considerably between countries, but in many developed economies, the public pension (e.g., social security) will be sufficient to provide the essentials of a basic retirement lifestyle. This scenario means that the private pension benefit can be used to meet unexpected costs as well as discretionary expenditure, both of a regular and occasional type.

In some nations, where the public pension is smaller or available only on a targeted basis, the private pension benefit would need to provide a regular income to meet the essential expenses in retirement. In such circumstances, it may be appropriate to adopt a slightly more conservative approach as individuals approach their retirement. The reason for this strategy is simple: Investment returns immediately before and after retirement can have a significant effect on the retirement outcome. This is sometimes known as sequencing risk.

As the OECD expresses it, "market volatility increases risks close to retirement,"[19] while also acknowledging that investments in equities lead to better retirement outcomes. Hence, a

[19]OECD, *OECD Pensions Outlook 2024: Improving Asset-Backed Pensions for Better Retirement Outcomes and More Resilient Pension Systems* (Paris: OECD Publishing, 2024). https://doi.org/10.1787/51510909-en.

conservative investment approach in the early years of retirement can have an adverse outcome over the longer term.

No single approach exists that is suitable around the world or, indeed, for a variety of individuals in a particular pension system. It all depends on personal circumstances.

Decisions Made by Individuals and the Pension Plan's Role

As the private pension system in many countries moves towards DC pension plans, a diverse range of arrangements can occur as the individual moves from the accumulation to the decumulation (or pension) phase. In some systems, no decision is required by the individual because a lifetime pension is provided. It is simple and straightforward.

At the other extreme, however, the individual is required to decide what forms of benefit to take (e.g., a lump sum, drawdown, or annuity) and in what proportions. Such decisions are often complex, and individuals can easily make choices that have a long-term negative outcome. To highlight this difficulty, a Conexus Institute report[20] discusses the following behavioural influences that are important in the context of the decisions made by individuals. They include, but are not limited to, the following factors:

- Low financial literacy and numeracy, which means many participants are unable to understand the available options
- Lack of knowledge about the pension system, including the interaction between the public pension system, private pensions, taxation, and government benefits
- Poor longevity awareness, which means many people underestimate their life expectancy prior to and early in retirement
- Short-termism, a focus on the next few years rather than the longer-term possibilities
- Cognitive decline, part of the ageing process that may even cause some individuals to become overconfident in their decision-making process
- Inaction resulting from procrastination or a preference to maintain the status quo
- The use of anchors or reference points, which may be arbitrary benchmarks and not relevant to their personal situation
- Framing of the relevant information or choices, which can lead to a particular or biased perspective
- Money illusion, which can cause people to think in nominal rather than real terms, leading to significant consequences over the longer term

These behavioural influences and biases affect everyone—we all have them. When it comes to converting a DC pension pot into an adequate and sustainable income source for the future, however, it is critical that retirees make these decisions wisely and with full knowledge.

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[20]Hazel Bateman, David Bell, and Geoff Warren, "Behavioural Influences on Retirement Decisions," Conexus Institute, Retirement Explainer series, edition 11 (February 2025). https://theconexusinstitute.org.au/wp-content/uploads/2025/02/Retirement-explainer-11-Behavioural-influences-on-retirement-decisions.pdf.

Although it is impossible to prevent all unwise decisions, it is essential that DC pension plans provide all plan participants, either directly or indirectly, the opportunity to understand the consequences of a range of possible decisions and not leave the individuals on their own. Furthermore, this education and communication process must start years before possible retirement—it needs to be considered a journey rather than a one-off event.

This process should include webinars, regular retirement income projections for each individual (so that participants can assess their progress), retirement income calculators (so that participants can consider a variety of options), and information relating to the likely future standard of living in retirement for a particular size of pension pot.

The Way Forward

As highlighted earlier, individuals who have a pension pot and the freedom to spend or invest it in a multitude of ways may find it very difficult to make the best decisions for their retirement, which may span two, three, or even four decades into the future. One approach that may be appropriate in such circumstances is to develop a default pension product, together with choice and opt-out provisions. As the OECD notes:

> "Default options can be very effective in nudging individuals into a specific financial option, but they do not engage people in the decisions about how to manage their retirement savings."[21]

A default pension product should be a low-cost investment product that pays a regular pension, is flexible, and does not lock individuals into a product that provides longevity protection. Although not perfect, such a product is likely to produce a better outcome for most retirees than leaving their money in the pre-retirement (or accumulation) phase. This outcome also means that these retirees will have money to spend from their pension pot, which is the fundamental purpose of a pension system.

The introduction of a pension payment is also likely to raise awareness and engagement with the retiree, providing an opportunity to discuss the other payout options available. Such engagement should be encouraged with appropriate communication and the development of digital solutions, which together can lead to personalised guidance or advice and improved outcomes.

DB Pension Plans

In a DB pension plan, retirees expect to receive a regular pension payment, often indexed to inflation. As noted earlier, the employer-sponsor normally supports the funding status of these pension plans. In response to increasing life expectancies, investment risk, and uncertain inflation, however, some DB pension plans are transferring these risks to an insurance company (that is normally licensed and subject to prudential regulation) through an annuity buyout or buy-in. The advantages to the employer-sponsor are that it no longer has to accept these risks, because the retirees' pensions are now supported by a life insurance company that meets the capital requirements set by the regulator.

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[21]OECD, *OECD Pensions Outlook 2024*: 135.

In an annuity buyout, a pension plan transfers its liabilities to an insurance company in exchange for a lump sum payment. This transfer effectively removes the risk from the pension fund's balance sheet and the employer-sponsor's financial statements, because the insurance company assumes responsibility for paying out the pensions. The plan participants become policyholders of the insurance company.

Buy-ins, conversely, involve purchasing an annuity that covers part or all the pension fund's liabilities while retaining the plan's assets. The insurance company makes periodic payments to the pension fund according to the insurance policy. The pension plan remains responsible for the administration and payment of the pensions to its retirees.

Both strategies can reduce risk, provide greater certainty of the pension payments, and reduce volatility of the pension fund performance.

Reducing the Probability of Adverse Outcomes from Income Streams

The previous section discussed the broader picture of providing retirement pensions and some strategies for pension plans to adopt to reduce the risk of providing uncertain retirement outcomes to their participants. This section will consider the risks that individuals face during retirement and how designing helpful retirement products may reduce these risks.

Risks for DC Plan Retirees

To begin, consider some of the risks faced by retirees from DC pension plans, who do *not* receive a regular and predictable pension payment for their lifetime. Instead, they receive a pension pot, which often represents the largest amount of money they have ever received. The future risks faced by these retirees include the following:

- *Longevity risk.* How long does the money need to last? In other words, when am I going to die? In most cases, this is very uncertain.
- *Investment risk.* What are the appropriate investments, and how much volatility in the investment returns can I accept?
- *Inflation risk.* What will be the future level of inflation, and how will it affect the cost of my essential and discretionary expenditures?
- *Expenditure risk and capital needs.* How will my spending change during my retirement, and to what extent will the government pay for some or all these costs, including health and aged care? What capital expenditure will I need in 10, 20, or 30 years' time?
- *Allowance for cognitive decline.* Cognitive ability declines with age, sometimes dramatically. Will I be able to make the same financial decisions at the age of 80 or 90 that I am able to make at age 65?

Strategies to Reduce Risks in Retirement

No simple or universal solution exists to removing these risks. Much depends on the individual's personal circumstances as well as the level of the public pension and the breadth of government support available to older persons. Pension plans can, however, adopt strategies in the

design of their retirement products to reduce these risks, and government policies can make it easier for the different forms of support (such as health care and aged care) available during retirement to be clearly integrated.

Longevity Risk

Longevity risk may be the most misunderstood risk in the general community. One of the reasons for this is that the best-known life expectancy figure is the one calculated from birth (i.e., from age 0). However, by the time a person reaches retirement—say, age 65—life expectancy has increased as the person can no longer die before age 65. This means that, on average, they will live for many years longer than the often-quoted figure from birth.

Two other factors also need to be kept in mind. First, in most countries, life expectancy is continuing to rise. Hence, even the latest data for life expectancy at age 65 is likely to underestimate a realistic life expectancy for an individual at that age. Second, life expectancy varies by socioeconomic class, which is related to lifestyle, education, income, and wealth. This means that, on average, individuals with larger pension pots are likely to have a longer life expectancy than those with smaller pots.

The consequence of these factors is that most individuals underestimate their life expectancy when they begin retirement. As a result of this misconception, lifetime annuities do not appear to be good value.

Protection from longevity risk should be a critical component in most retirement income products, providing retirees with security and comfort that their income will not run out. Yet, it is not that straightforward. The relevance of this protection also depends on the importance of the public pension. For example, if the public pension provides an income at, say, more than half of the retiree's pre-retirement income, then it may be inappropriate to require or recommend additional longevity protection. A somewhat different argument can also be made for high-net-worth individuals, who may have limited need for any longevity protection.

Another example where longevity risk protection may be inappropriate is when an individual is in poor health and has a shortened life expectancy. Relatively few pension systems make allowances for these conditions in the pricing of annuities. Exceptions include Singapore and the United Kingdom, where higher benefits are available for those in poor health. In contrast, the collective DC system in the Netherlands converts 100% of the benefit into a lifetime pension. That is, there are no individual decisions, or any consideration of personal circumstances, required at retirement. This approach is understood to be part of the broader social compact.

Longevity protection should be a starting point in the design of all retirement products. There will be circumstances, however, where such protection is inappropriate or goes against the best interests of the individual retiree.

Market Risk

Previous sections of this report discussed strategies to reduce the probabilities of poor and volatile investment returns. These were presented in the context of the pension plan as a whole. Although similar strategies can be used for an individual, it is critical that the pension provider understands the personal circumstances of each retiree.

For example, a balanced investment portfolio may be inappropriate for a retiree who plans to withdraw a significant sum (presuming such an action is permitted) to undertake a major holiday or home refurbishment in the short term. Similarly, some retirees will not be comfortable if the value of their portfolio drops by 5% or 10% due to a market correction.

Such uncertainties about individual circumstances may lead to a suggestion that the appropriate investment portfolios for retirees should be conservative, with significant investments in fixed interest and cash. This approach, however, could create an even riskier outcome for many retirees because the time horizon for many retirees is at least 20 years, if not longer. Hence, the adoption of a conservative portfolio similar to those in the latter stages of some target-date funds will often be inappropriate and lead to increased risks over the longer term.

Of course, guaranteed income products or lifetime annuities can provide retirees with protection against investment risk, market volatility, and longevity risk, because these products offer a steady income stream throughout retirement. As noted earlier, however, they are not the best product for everybody.

No single solution is applicable for all retirees. Rather, the pension provider must seek to understand each retiree and be willing to adopt an investment strategy suitable for them. This approach also suggests that some flexibility is needed, because an individual's financial needs and attitudes are likely to change during retirement.

Inflation Risk

The risk that future inflation will reduce the real value of future pension payments received by retirees is well understood by many current retirees who lived through the 1970s and by future retirees who lived through a spike in inflation during the COVID years. Hence, many retirees seek to protect themselves from inflation.

As with longevity risk, the importance of this risk depends, in part, on the balance between a public pension, which is normally indexed, and the income generated from the DC pension pot, which is not indexed. Retirees with a significant public pension have better protection from inflation than others.

It should also be recognised, however, that the real level of expenditure for some retirees decreases with age, suggesting that full inflation protection may not be needed. Moreover, the type of expenditure also changes with age: Older individuals spend more on health, pharmaceuticals, and other service-related costs. Some of these costs can rise faster than the Consumer Price Index (or other index) used to measure inflation.

Long-term inflation protection is very costly and probably unaffordable for most retirees, even where it is available in the market. Therefore, the best strategy may be for retirees to consider their essential and discretionary levels of expenditure and the extent to which the indexed public pension will meet their essential needs. This approach may provide them with some guidance on the extent (if any) of their need to purchase some inflation-linked income so they can sleep comfortably at night without the worry that their standard of living may need to be reduced in the future.

Expenditure Risk and Capital Needs

Financial needs during retirement are often unpredictable. Although the level of essential spending needed to maintain a certain lifestyle may be known at retirement, unexpected and unknown future expenditures can cause considerable concern. This uncertainty will vary between countries and will depend, in part, on the availability of government support for health costs, pharmaceuticals, dental care, in-home care, and aged care. In addition, some retirees will require capital expenditures in order to refurbish their home to add personal lifts, ramps, or other forms of physical support.

As a result of this concern, many retirees like to have a capital buffer that provides them with comfort about their future. Of course, this decision also means that they may not wish to spend all their pension pot.

Another way of having this flexibility and the associated availability of capital is to consider home equity release schemes (or reverse mortgages). Although the designs of these schemes vary around the world, in general the retiree turns part of the value of their home into immediate capital or an additional source of regular income.

Interestingly, these schemes are available to retirees (either from the government or the private sector) in half of the 48 pension systems included in the Mercer CFA Institute Global Pension Index 2024. Although such schemes are outside the products offered by a pension plan, they can offer retirees an excellent way of reducing the risks associated with unexpected expenditures. Of course, they must be appropriately regulated and not introduce additional risks to the retiree.

Cognitive Decline

Unfortunately, cognitive decline is a fact of life as we age. For some, it occurs quickly, whereas for others it is slow and almost imperceptible. Nevertheless, the issue is real and must be recognised in the design of retirement products. It means that engagement and the willingness to make decisions will naturally decline over time.

Hence, although flexibility is a very desirable feature during the retirement years as the financial needs and attitudes of retirees change over time, there is also great merit in a "set and forget" approach. Under these conditions, retirees can take great comfort that they will receive a regular income every fortnight or month, and there is no need for them to do anything.

The facts of cognitive decline lead to the need for a balance in the design of retirement products. These products need to be simple to understand and not require retirees to do anything, while at the same time providing options to allow retirees to adjust their investment allocation or income stream to cater for their changing needs or attitudes. At the same time, a large array of options can be overwhelming and lead to confusion and inaction.

Conclusion

This section has deliberately not discussed specific retirement income products that can reduce the risks faced by retirees because these products vary around the world and are influenced by local legislation. Moreover, their value and relevance are often affected by the relative importance of the public pension. As a result, we have focused on strategies that can be followed to reduce the impact of particular risks.

The best strategy, however, is for the pension industry, together with governments and the media, to improve the financial literacy of pension plan participants during both their working years and retirement years. Although such education is likely to be of a general nature before retirement, it must become more personalised as the individual approaches retirement and throughout their retirement years. With the ongoing expansion of digital technology, it will become easier and more cost-effective to offer personalised guidance and advice. All pension providers should willingly accept this responsibility.

Concluding Remarks

As the world faces the social and economic consequences of ageing populations and the need for governments to gradually reduce their financial support for the aged, private pension funds will play an ever-increasing role in providing financial security for future retirees. At the same time, employers are reducing their financial underwriting of DB pension schemes, resulting in a significant increase in the level of financial risks borne by individuals and households before and during their retirement years. These developments require significant enhancements in pension fund legislation and regulations in many countries, so that communities can have sustained long-term confidence in the outcomes that private pension plans will deliver.

Although it is impossible to remove all the risks from the pension system, the legislation should ensure that every private pension plan does the following:

- Operates independent of the employer-sponsor
- Has sound governance practices with relevant policies and procedures
- Has a clear, well-developed, and published investment strategy
- Provides regular and relevant information to their participants in a clear and understandable manner, including investment returns and fees
- Helps participants optimise their retirement outcomes, where choices are available

In addition, each country or market needs an active pension regulator that oversees the pension industry and has legislative backing to act, where necessary. Only 14 regulators out of the 48 pension systems in the 2024 MCGPI were assessed to be operating at the highest level of possible activity. One would expect this number to increase in the future. Yet even where strong regulation is present, the policies, decisions, and actions of the governing boards of all pension plans must ensure that they operate with the best interests of all participants as their primary objective.

Finally, as pension plans become more important for governments and households, as well as in financial markets, more research is essential. The possible range of topics is many and varied but should include the long-term impact of pension fund investments around the world on each economy as well as on the lifestyle of retirees; the efficacy of capital market and pension fund legislation in different systems; the value of defaults, nudges, and choices within pension systems; and the decisions made by pension plan participants in response to capital market shocks as well as during their retirement years.

The combination of comprehensive legislation, strong governance, and ongoing research should provide long-term stability and confidence to a country or market's pension industry and the community for decades to come.

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ISBN 978-1-952927-53-9

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