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Mercer CFA Institute Global Pension Index 2024

Feature chapter:
Helping DC members get the best retirement outcome

welcome to brighter

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The United Nations World Population Prospects 2024 makes for sobering reading. We all know that fertility rates are falling (dramatically in some cases), and life expectancies are continuing to increase. The UN notes that one in four people now live in a country whose population has already peaked and that by 2080 the global population age 65 and over is expected to exceed the number of children under the age of 18.

The social, cultural, economic and financial consequences of this new world will be significant.

Now is the time for governments, policymakers and the pension industry to work together to ensure that older populations are treated with dignity and are able to maintain a lifestyle similar to that they experienced in their working years. For many countries, this requires tackling pension reform now, before it's too late.

This reform needs to consider all aspects of the broader retirement income system, including:

- Ensuring the public pension arrangements are affordable in the future
- Promoting private pension arrangements
- Making sure the public and private pension arrangements work together
- Highlighting the opportunities for ongoing employment for many (but not all) older people
- Recognizing the potential value of the home to provide future income

These are complex issues that each country will need to tackle in its own way while also recognizing that it's vital to broaden the discussion and help its population appreciate the need for reform.

Planning for the long term is now more critical than ever.

The Mercer CFA Institute Global Pension Index 2024 compares 48 retirement income systems and compares each system with regard to adequacy, sustainability and integrity. Or, to put it another way:

- What benefits are retirees receiving now?
- Can the existing systems continue to deliver in the future, notwithstanding the demographic and financial challenges mentioned above?
- Are the private pension plans regulated in a manner that encourages long-term community confidence?

The primary objective of the research covered by this report is to benchmark each retirement income system using more than 50 indicators.

An important secondary purpose is to highlight some shortcomings in each system and to suggest areas of reform that could potentially provide more adequate retirement benefits, increased sustainability and greater community trust in the pension system. These could include increasing private pension coverage, encouraging people to work a little longer, increasing the level of funding for retirement, and improving disclosure and transparency.

This year's report also tackles the important issue of how to improve retirement outcomes for members of defined contribution (DC) pension plans. As the OECD notes, personal and occupational DC pension plans have been gaining importance at the expense of occupational defined benefit (DB) plans. Yet many of these arrangements leave significant risks and uncertainty with the individual. The pension industry must do better than many of the current arrangements. Chapter 5 of the report provides insights on considerations to improve the retirement outcomes for individuals and households.

We are often asked by relevant officials what is required for a country's pension system to be included in the Index. In brief, there are three broad requirements:

— The availability of data from international agencies with regard to the pension system
— A pension expert, independent of government, who is very familiar with the pension system and is willing to complete our detailed questionnaire
— Appropriate funding support

I am delighted to recognize CFA Institute as our major sponsor and sincerely thank them for their enthusiasm and participation. The Index is a real partnership between two respected global organizations.

I would also like to thank our Advisory Board, established by the Monash Centre for Financial Studies, for their continued involvement and valuable insights.

I am very grateful to our Mercer consultants and other correspondents around the world who have been invaluable in providing information regarding their retirement income systems and checking our interpretation of the data.

We also appreciate the support of the Finnish Centre for Pensions, the Icelandic Pension Funds Association, the Association of Pension Funds Management Companies and Pension Insurance Companies in Croatia, the United Accumulative Pension Fund of Kazakhstan, Sun Life Vietnam, and Alexander Forbes with regard to South Africa and Botswana.

Finally, on a personal note, I am retiring in 2025, so this will be my 16th and last Index report. It's been a wonderful journey, and my hope is that together we have improved pension systems and the outcomes for retirees. I am pleased to say that the work will continue next year under the guidance of Tim Jenkins, a fellow partner at Mercer.

We hope you enjoy reading this year's report and that it continues to encourage pension reform to improve the provision of financial security for all retirees.

Dr. David Knox AM
Lead author and Senior Partner, Mercer

CFA Institute preface

CFA Institute is honored to once again sponsor the Mercer CFA Institute Global Pension Index in partnership with Mercer and the Monash Centre for Financial Studies. Each year, the Index serves as an important marker of the progress that has been made, as well as the myriad challenges that persist, as it relates to pension systems worldwide.

At CFA Institute, our mission is to lead the investment profession globally by promoting the highest standards of ethics, education and professional excellence for the ultimate benefit of society. When we think about the impact of pension schemes on the world at large, the ultimate benefit of society takes on a deeper meaning. Our role as investment professionals is paramount to help safeguard the financial futures of beneficiaries. We recognize that considerable work remains to ensure that pension schemes and retirement plans operate optimally and provide long-term financial security for individuals, a complexity compounded by the varied governmental approaches to retirement security. That's why research and recommendations, like those in the Mercer CFA Institute Global Pensions Index, are so important to making informed decisions that lead to progress.

The global landscape of pension systems is rapidly changing in response to increasing life expectancies, declining fertility rates and evolving beneficiary expectations. Traditional defined benefit (DB) plans, once a mainstay of retirement security, continue to be replaced by defined contribution (DC) plans, shifting the burden of risk from employers to individuals. This shift has introduced a host of new challenges, including investment risk, inflation risk and longevity risk, all of which now fall squarely on the shoulders of retirees in DC plans, who often lack sufficient financial literacy. This transition is progressing at varying speeds across many markets around the globe.

In this context, informed decision-making has become critical for individuals managing their retirement outcomes. Unlike the predictability of DB pensions, DC plans require individuals to make numerous and often complex decisions, ranging from contribution levels and investment strategies to retirement age and decumulation planning. These choices significantly impact financial security in retirement, yet the complexity can be overwhelming. With an increasing demand for personalization and diverse financial needs among retirees, it is clear that one-size-fits-all solutions are not sufficient. Pension systems must therefore evolve to provide a range of options and support that empower individuals to achieve the best possible retirement outcomes.

In a landscape where DC plans place greater responsibility on individuals, the support of pension plans and investment managers remains critical to providing opportunities, guidance and security. We believe that placing ethics at the forefront of these efforts when working with clients will result in making better-informed decisions for retirement outcomes and contribute to the overall betterment of the investment industry.

I would like to extend our appreciation to the team at Mercer, who invest an immense amount of time and energy into developing the Mercer CFA Institute Global Pension Index each year. I'd like to acknowledge Dr. David Knox in particular for spearheading the Index for the last 16 years. His efforts and contributions to the industry are inspiring to us all. We'd also like to thank the Monash Centre for Financial Studies for their continued dedication to the Index.

Margaret Franklin, CFA
President and CEO, CFA Institute

02 Executive summary

The provision of financial security in retirement is critical for both individuals and societies as most countries are now grappling with the social, economic and financial effects of aging populations. As the World Economic Forum has noted: “For the first time in human history, people aged 65 and over outnumber children aged five or younger.”[1]

Retirees are also facing increasing risks with the reemergence of inflation and higher interest rates, which increase the cost of existing government debt and therefore the ability of some governments to continue with their current level of services.

As the OECD notes: "The current financial and economic uncertainty as well as the rising cost of living may lead policy makers, regulators and supervisors to postpone reforms that could improve their pension systems. However, delaying needed reforms would put at risk the well-being of current and future pensioners."[2]

Within this context of uncertainties and long-term challenges, a comparison of the different pension systems around the world can be invaluable for policymakers, governments and the pension industry itself. Yet such a comparison is not straightforward.

As the OECD comments: "Retirement-income regimes are diverse and often involve a number of different programmes."[3]

Hence, any comparative ranking of systems is likely to be controversial as each system has evolved from particular economic, social, cultural, political and historical circumstances. This means there is no single system that can be transplanted from one country and applied, without change, to another. However, certain features and characteristics are likely to lead to improved financial benefits for the older members of society, an increased likelihood of future sustainability of the system, and a greater level of community trust and confidence.

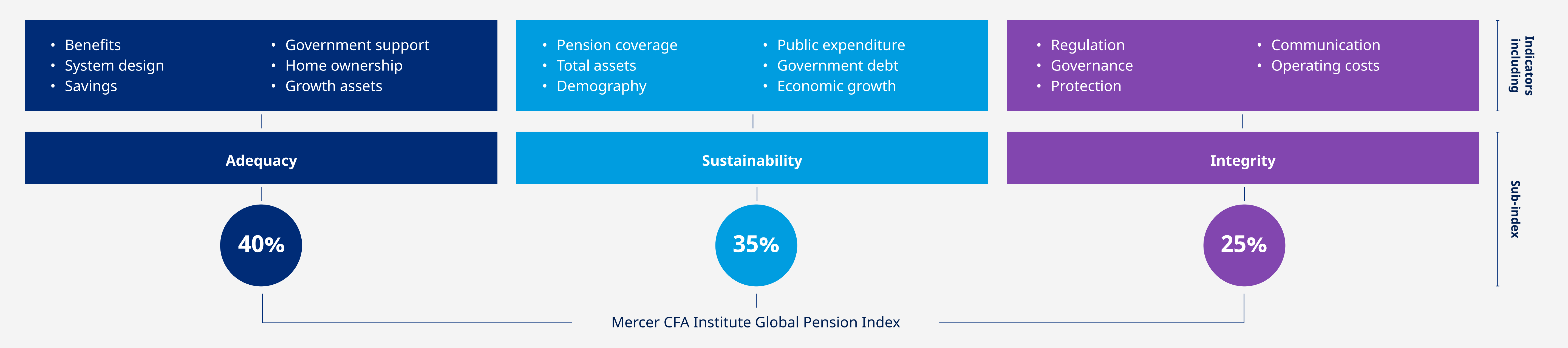
With these desirable outcomes in mind, the Mercer CFA Institute Global Pension Index (the Index) uses three sub-indices — adequacy, sustainability and integrity — to measure each retirement income system against more than 50 indicators. Figure 1 below highlights some of the topics covered in each sub-index.

The overall index value for each system represents the weighted average of the three sub-indices. The weightings used are 40% for the adequacy sub-index, 35% for the sustainability sub-index and 25% for the integrity sub-index. These have remained unchanged since the first Index was published in 2009.

The different weightings used reflect the primary importance of the adequacy sub-index, which represents both the benefits provided by the current pension systems and an assessment of some important system design features. The sustainability sub-index has a focus on the future and uses various indicators that will influence the likelihood that the existing systems will be able to provide benefits for decades to come. The integrity sub-index includes many legislative requirements that influence the overall governance and operations of the system, which affect the level of confidence that the citizens of each country have in their system.

With the inclusion of Vietnam in 2024, this study now includes 48 retirement income systems, representing 65% of the world's population. There is great diversity between the systems around the world, with the Index scores ranging from 44.0 for India to 84.8 for the Netherlands.

Figure 1. Calculating the Mercer CFA Institute Global Pension Index



This year's results

Figure 2. Summary of the 2024 results

Grade	Index value	Systems	Description
A	>80	Netherlands Iceland Denmark Israel	A first-class and robust retirement income system that delivers good benefits, is sustainable and has a high level of integrity
B+	75–80	Singapore Australia Finland Norway	A system that has a sound structure, with many good features but has some areas for improvement that differentiate it from an A-grade system
B	65–75	Chile Sweden UK Switzerland Uruguay New Zealand Belgium Mexico Canada Ireland France Germany Croatia Portugal	
C+	60–65	UAE Kazakhstan Hong Kong SAR Spain Colombia Saudi Arabia USA	A system that has some good features but also has major risks and/or shortcomings that should be addressed; without these improvements, its efficacy and/or long-term sustainability can be questioned
C	50–60	Poland China* Malaysia Brazil Botswana Italy Japan Peru Vietnam Taiwan Austria Korea (South) Indonesia Thailand	
D	35–50	South Africa Türkiye Philippines Argentina India	A system that has some desirable features but also has major weaknesses and/or omissions that need to be addressed; without these improvements, its efficacy and sustainability are in doubt
E	<35	Nil	A poor system that may be in the early stages of development or nonexistent

* In this report, "China" refers to the pension system in mainland China. The results for Hong Kong SAR and Taiwan are shown separately as they have different pension systems.

This study shows that the Netherlands, Iceland, Denmark and Israel have the best systems, each of them receiving an A grade in 2024. Although the Netherlands is currently undertaking significant pension reform, moving from a mostly collective benefit structure to a more individual defined contribution (DC) approach, its system has received the highest index value in 2024. The reason for this rating is that, notwithstanding these changes, the system will continue to provide very good benefits, supported by a strong asset base and very sound regulation.

No system in this year's Index is an E-grade system, which would be represented by an index value below 35. A score between 35 and 50, representing a D-grade system, indicates a system that has some sound features but also major omissions or weaknesses. A D-grade classification may also occur in the relatively early stages of the development of a particular retirement income system.

Figure 3 below shows the overall index value for each system, together with the index value for each of the three sub-indices: adequacy, sustainability and integrity. Each index value represents a score between 0 and 100.

Figure 3. Overall index value for each system, including the three sub-indices

System	Overall index value	Sub-index values		
		Adequacy	Sustainability	Integrity
Argentina	45.5	61.5	29.4	42.3
Australia	76.7	68.4	79.5	86.1
Austria	53.4	67.2	22.0	75.2
Belgium	68.6	81.8	40.1	87.4
Botswana	55.4	39.7	52.0	85.2
Brazil	55.8	70.4	31.0	67.3
Canada	68.4	67.0	63.8	77.1
Chile	74.9	71.2	70.9	86.5
China	56.5	65.2	37.8	69.1
Colombia	63.0	63.9	57.4	69.5

System	Overall index value	Sub-index values		
		Adequacy	Sustainability	Integrity
Croatia	67.2	66.8	57.4	81.7
Denmark	81.6	84.0	82.6	76.3
Finland	75.9	77.0	64.2	90.8
France	68.0	84.8	43.4	75.7
Germany	67.3	81.1	45.8	75.3
Hong Kong SAR	63.9	51.5	61.1	87.5
Iceland	83.4	82.0	84.3	84.4
India	44.0	34.2	44.9	58.4
Indonesia	50.2	38.1	50.4	69.3
Ireland	68.1	73.6	52.8	80.5
Israel	80.2	75.7	82.6	84.1
Italy	55.4	68.2	25.1	77.2
Japan	54.9	57.1	47.1	62.1
Kazakhstan	64.0	45.8	73.1	80.4
Korea (South)	52.2	40.5	52.4	70.5
Malaysia	56.3	44.5	54.6	77.4
Mexico	68.5	73.8	63.4	67.1
Netherlands	84.8	86.3	81.7	86.8
New Zealand	68.7	64.8	64.9	80.2
Norway	75.2	77.2	63.6	88.3

System	Overall index value	Sub-index values		
		Adequacy	Sustainability	Integrity
Peru	54.7	55.3	46.9	64.7
Philippines	45.8	41.7	63.4	27.7
Poland	56.8	59.2	45.2	69.4
Portugal	66.9	83.4	34.6	85.7
Saudi Arabia	60.5	61.1	58.0	62.9
Singapore	78.7	79.8	74.3	83.0
South Africa	49.6	34.7	48.0	75.7
Spain	63.3	82.9	30.7	77.6
Sweden	74.3	75.2	73.7	73.6
Switzerland	71.5	66.0	71.4	80.4
Taiwan	53.7	46.2	51.9	68.2
Thailand	50.0	50.2	43.8	58.2
Türkiye	48.3	48.3	32.2	70.8
UAE	64.8	77.1	43.3	75.3
UK	71.6	75.7	61.5	79.3
Uruguay	68.9	84.0	46.6	76.1
USA	60.4	63.9	58.4	57.5
Vietnam	54.5	56.8	41.3	69.3
Average	**63.4**	**64.7**	**54.3**	**74.1**

Each overall index value takes into account more than 50 indicators, some of which are based on data measurements that can be difficult to compare between countries. For this reason, when the difference in the overall index value is less than two or three points, a definitive statement that one system is better than another should be avoided. On the other hand, when the difference is five or more, it can be fairly concluded that the higher index value indicates a better retirement income system.

Figure 4 below shows the grade for each system's sub-index values as well as the overall grade. This approach highlights the fact that some systems may have a weakness in one area (for example, sustainability) while being much stronger in the other two areas. Such a weakness highlights areas for future reforms.

Figure 4. Overall index grades for each system, including the three sub-indices

System	Overall index value	Sub-index values		
		Adequacy	Sustainability	Integrity
Argentina	D	C+	E	D
Australia	B+	B	B+	A
Austria	C	B	E	B+
Belgium	B	A	D	A
Botswana	C	D	C	A
Brazil	C	B	E	B
Canada	B	B	C+	B+
Chile	B	B	B	A
China	C	B	D	B
Colombia	C+	C+	C	B
Croatia	B	B	C	A
Denmark	A	A	A	B+
Finland	B+	B+	C+	A

System	Overall index value	Sub-index values		
		Adequacy	Sustainability	Integrity
France	B	A	D	B+
Germany	B	A	D	B+
Hong Kong SAR	C+	C	C+	A
Iceland	A	A	A	A
India	D	E	D	C
Indonesia	C	D	C	B
Ireland	B	B	C	A
Israel	A	B+	A	A
Italy	C	B	E	B+
Japan	C	C	D	C+
Kazakhstan	C+	D	B	A
Korea (South)	C	D	C	B
Malaysia	C	D	C	B+
Mexico	B	B	C+	B
Netherlands	A	A	A	A
New Zealand	B	C+	C+	A
Norway	B+	B+	C+	A
Peru	C	C	D	C+
Philippines	D	D	C+	E
Poland	C	C	D	B

System	Overall index value	Sub-index values		
		Adequacy	Sustainability	Integrity
Portugal	B	A	E	A
Saudi Arabia	C+	C+	C	C+
Singapore	B+	B+	B	A
South Africa	D	E	D	B+
Spain	C+	A	E	B+
Sweden	B	B+	B	B
Switzerland	B	B	B	A
Taiwan	C	D	C	B
Thailand	C	C	D	C
Türkiye	D	D	E	B
UAE	C+	B+	D	B+
UK	B	B+	C+	B+
Uruguay	B	A	D	B+
USA	C+	C+	C	C
Vietnam	C	C	D	B

Overall recommendations

Chapter 6 makes several suggestions for improving each retirement income system. Although each system reflects a unique history, there are some common themes for improvement as many systems face similar problems in the decades ahead.

Significant pension reform is never easy, but an important starting point is to express the objectives of the overall system. As van Popta and Steenbeek note:

> **"The objective of pension reform must be crystal clear and the perspectives of all stakeholders — consumers, employers, government, industry — must be addressed."[4]**

The World Economic Forum highlighted the three key areas that will have the biggest impact on the overall level of financial security in retirement.

These were to:

1. Provide a "safety net" pension for all

2. Improve ease of access to well-managed, cost-effective retirement plans

3. Support initiatives to increase contribution rates[5]

A range of reforms that can be implemented to improve the long-term outcomes from our retirement income systems include:

- Increasing coverage of employees (including nonstandard workers) and the self-employed in the private pension system, recognizing that many individuals will not save for the future without an element of compulsion or automatic enrollment
- Increasing the state pension age and/or retirement age to reflect increasing health-adjusted life expectancy, both now and into the future, thereby reducing the costs of publicly financed pension benefits[6]
- Promoting higher labor force participation at older ages, which will increase the savings available for retirement and limit the continuing increase in the length of retirement
- Encouraging higher levels of private saving, both within and beyond the pension system, to reduce the future dependence on the public pension while also adjusting the expectations of many workers
- Introducing measures to reduce the gender pension gap and gaps that exist for minority groups in many retirement income systems
- Reducing the leakage from the retirement savings system prior to retirement, thereby ensuring that the funds saved, often with associated taxation support, are used for the provision of retirement income
- Improving the governance of private pension plans and introducing greater transparency to improve the confidence of plan members

Further comments

Let's consider the features that are often present in each of the A-grade systems. They are:

- A state pension for the aged poor of at least 25% of the average wage
- A net replacement rate (including both public and private pensions) of at least 65% for a median-income earner with a full career
- Private pension coverage of at least 80% of the working-age population
- Pension contributions that are being invested for the future of at least 12% of wages
- Pension assets of at least 100% of GDP
- A well-governed and well-regulated private pension system

Chapter 5 discusses how to help DC members get the best retirement outcome and makes the following recommendations:

- The focus must be on the provision of regular income during the retirement years
- Retirees need some long-term protection from future risks
- Cognitive decline during the later years of life needs to be recognized
- Some flexibility is required in the benefits permitted
- Pension plans must play a critical role
- Retirees need help, guidance and advice

03 Background to the Index

The structure and characteristics of pension systems around the world exhibit great diversity, with a wide range of features and norms. Comparisons are not straightforward. In addition, the lack of readily available and comparable data relating to many systems provides additional challenges for such a comparison. Therefore, this report uses a variety of data sources, drawing on publicly available data wherever possible.

These challenges of data and benchmarking should not, however, prevent the comparison of retirement income systems. Within the context of our aging populations and current economic conditions, it is too important to ignore. Furthermore, programs, policies and practices adopted in some retirement income systems provide valuable lessons, experience or ideas for the development or reform of other systems.

This 16th edition of the Index compares 48 retirement income systems, highlighting both the considerable diversity and the positive features of many systems. Notwithstanding these highlights, the study also confirms that no pension system is perfect and that every system has some shortcomings. In Chapter 6, we make suggestions to improve the efficacy of each retirement income system. This study acts as a reference for governments and policymakers around the world as they review retirement income systems and so improve the outcomes for future retirees.

In its influential report Averting the Old Age Crisis, the World Bank[7] recommended a multipillar system for the provision of old-age income security, comprising:

- **Pillar 1:** A mandatory, publicly managed, tax-financed public pension
- **Pillar 2:** Mandatory, privately managed, fully funded benefits
- **Pillar 3:** Voluntary, privately managed, fully funded personal savings

Subsequently, the World Bank's Pension Conceptual Framework[8] extended this three-pillar system to the following five-pillar approach:

- **Zero pillar:** A noncontributory basic pension from public finances to deal explicitly with the poverty-alleviation objective
- **First pillar:** A mandated public pension plan with contributions linked to earnings, with the objective of replacing some preretirement income
- **Second pillar:** Typically, mandated DC, with individual accounts in occupational or personal pension plans with financial assets
- **Third pillar:** Voluntary and fully funded occupational or personal pension plans with financial assets that can provide some flexibility when compared to mandatory schemes
- **Fourth pillar:** A voluntary system outside the pension system with access to a range of financial and nonfinancial assets and informal support, such as family, healthcare and housing

The World Bank noted that multipillar designs provide more flexibility than single pillars in meeting the core objectives of pension systems; namely, protection against the risk of poverty in old age and smoothing some consumption from one's work life into retirement. Sangho Kim has recently added that: "To mitigate problems connected with unfunded public pension schemes, multipillar systems for incomes in retirement need to be reinforced."[9]

This five-pillar approach provides a good basis for comparing retirement income systems around the world. Hence, the range of indicators used in this report considers features or results associated with each pillar.

Figure 5. The World Bank Pension Conceptual Framework

The multipillar approach

Pillar 0	A basic public pension that provides a minimal level of protection
Pillar 1	A public, mandatory and contributory system linked to earnings
Pillar 2	A private, mandatory and fully funded system
Pillar 3	A voluntary and fully funded system
Pillar 4	Financial and nonfinancial support outside formal pension arrangements

The International Labour Organization also supports the concept of a multipillar pension system, noting "the possibility of combining a set of social protection instruments, each of which plays one or more functions, to guarantee the whole range of objectives of a national pension system."[10] Their four pillars are similar to Pillars 0–3 of the World Bank's framework.

In contrast to the World Bank, the OECD adopts a three-tier system,[11] namely:

- **Tier 1:** A universal or targeted pension
- **Tier 2:** A mandatory savings system, provided by either the public or private sector
- **Tier 3:** A voluntary savings system in the private sector

The ARC Centre of Excellence in Population Ageing Research suggests that the first tier is primarily a safety net designed for those unable to provide for themselves.[12] On the other hand, the second tier represents some consumption-smoothing from a person's working years to the retirement years. The third tier is voluntary and enables some households to save more than required under the mandatory system.

Although this three-tier approach clarifies the different roles for each type of pension, the Index continues to include non-pension factors, such as home ownership, non-pension savings and household debt, which can have a significant influence on financial security during retirement. That is, an individual's financial wellness in retirement does not depend solely on government and employment-related pensions.

The "best" system for a particular country at a particular time must also consider that country's economic, social, cultural, political and historical context. In addition, regulatory philosophies vary over time and between countries. No pension system is perfect for every country at the same time. It's not that simple. However, some characteristics of all pension systems can be tested or compared to give us a better understanding of how each system is tackling the provision of retirement income.

Since its inception, the Index has grouped these desirable characteristics into adequacy, sustainability and integrity.

Adequacy

The adequacy of benefits is perhaps the most obvious way to compare different systems. After all, the primary objective of any pension system is to provide adequate retirement income. Hence, this sub-index considers the base (or safety-net) level of income provided by each system as well as the net replacement rate at income levels ranging from 50% to 150% of the average wage. The net replacement rates use the OECD economic assumptions and allow for country-specific projections of mortality rates and the relevant retirement ages.

Critical to the delivery of adequate benefits are the design features of the private pension system (that is, the Second and Third Pillars). Although we could assess many features, we have considered the following six broad topics, each of which represents a feature that can potentially improve the likelihood that adequate retirement benefits are provided.

Taxation support

Are **voluntary member contributions** made by a full-time median-income earner to a funded pension plan treated more favorably by the tax system than similar savings in a bank account? Is the investment income earned by the pension plan exempt from tax in the preretirement and/or postretirement periods? The first question assesses whether the government provides any incentives to encourage median-income earners to save for retirement. It is recognized that the taxation treatment of pensions varies greatly around the world, so this question assesses whether an incentive exists or not, not the value of the concession. The second question recognizes that the level of investment earnings is critical, especially for DC plans. A tax on investment income reduces the compounding effect and will therefore reduce the adequacy of future benefits.

Retirement benefit design

Is it a requirement to take part or all of the retirement benefit as an **annuity or income stream**? If so, are lump sum benefits also available? In lump-sum-based schemes, are there any incentives or rules that encourage taking income streams? Many systems require lifetime annuities, whereas others provide lump-sum retirement benefits that are not necessarily converted into an income stream. A flexible hybrid arrangement probably delivers the best outcome for many retirees.

Preservation

Is there a **minimum access age** to receive benefits from private pension plans (except for death, ill health, disability and cases of significant financial hardship)? This question determines whether the private pension system permits the undesirable leakage of accumulated benefits from the system before retirement or whether the regulations are focused on the provision of benefits at and during retirement.

Separation

Upon a couple's **divorce or separation**, are the individuals' accrued pension benefits normally considered in the overall division of assets? This question recognizes that the financial treatment of accrued pension assets can have a major effect on the future financial security of one or both partners following a divorce or separation.

Vesting and portability

Upon **resignation** from an employer, is a plan member normally entitled to the full vesting of their accrued benefit? After resignation, is the value of the member's accrued benefit normally maintained in real terms (either by inflation-linked indexation or through market investment returns)? Can a member's benefit entitlements normally be transferred to another pension plan upon the member's resignation from an employer? These questions focus on what happens to the individual's accrued benefits when they change employment. Traditionally, many private pension designs penalized resigning members, which, in turn, affected the level of benefits available at retirement.

Additional benefits on leave

Is it a requirement that individuals **continue to accrue** their retirement benefits when they receive income such as a disability pension or paid parental leave? Does the system provide any pension contributions or benefits for parents who are caring for young children while the parent is not in the paid workforce? These questions recognize that the adequacy of an individual's retirement income can be affected if there is no requirement for benefits to continue to accrue when a worker is temporarily out of the workforce; for example, due to parental leave, ill health, disability or the need to care for young children.

In addition to these design issues, we consider savings from outside formal pension programs, highlighting the fact that, as the World Bank notes, the Fourth Pillar can play an important role in providing financial security in retirement. These indicators cover the rate of household savings, the level of household debt and the level of home ownership.

Finally, we recognize that the net investment return over the long term represents a critical factor in determining whether an adequate retirement benefit will be provided. This is particularly true given the increasing importance of DC plans. Although investment and administrative costs are considered part of the integrity sub-index, the long-term return is likely to be affected by the types and diversity of assets held by the pension fund. Hence, the adequacy sub-index includes an indicator representing an assessment of the percentage of investments held in growth assets (including equities and property).

Sustainability

The long-term sustainability of the existing retirement income system is a concern in many countries, particularly in light of the aging population, the increasing old-age dependency ratio, the public expenditure on pensions, substantial government debt and inflation. Indeed, the World Bank notes that:

> **"Most public pension schemes are not viable financially and cannot therefore keep their promises to younger cohorts that will retire in the future."[13]**

This sub-index therefore brings together several measures that affect the sustainability of current programs. Although some demographic measures, such as the old-age dependency ratio (both now and in the future), are difficult to change, others, such as the state pension age, the opportunity for phased retirement and the labor force participation rate among older workers, can be influenced, either directly or indirectly, by government policy.

An important feature of sustainability is the level of funding in advance, which is particularly important where the ratio of workers to retirees is declining. Hence, this sub-index considers contribution rates, the level of pension assets and the coverage of the private pension system. In addition, real economic growth over the long term has a significant impact on the sustainability of pensions as it affects employment, saving rates and investment returns.

Given the growing importance and impact of climate change and other global effects on future investment returns, the sub-index also explores the relevance of economic, social and governance (ESG) factors on the investment policies or strategies adopted within each system.

Finally, given the key role that the provision of a public pension plays in most systems, the levels of government debt and public pension expenditure represent important factors affecting a system's long-term sustainability and the future level of these pensions.

Integrity

The third sub-index considers the integrity of the overall pension system but with a focus on funded schemes that are normally found in the private sector. As most systems are relying on private pensions to play an increasingly important role in the provision of retirement income, it is critical that the community have confidence in the ability of private-sector pension providers to deliver retirement benefits over many years into the future.

This sub-index therefore considers the role of regulation and governance, the protection provided to plan members from a range of risks, and the level of communication provided to individuals. In each case, we consider the requirements set out in the relevant legislation and not the best practice delivered by some pension plans.

In addition, the Worldwide Governance Indicators published by the World Bank are used to provide a broader perspective of governance within each country.

An important contributor to the long-term confidence of members is that they receive good value from their pension plans and that costs are kept to a reasonable level. Although an objective comparison of the total costs of operating each system is impractical, this sub-index includes some proxy measures relating to industry structure and scale that should provide a good indication.

The construction of the Index

In the construction of the Index, we have endeavored to be as objective as possible in calculating each system's index value. Of course, we recognize that the Index is artificial, at least to some extent, as it does not calculate the pension that any retired individual will actually receive. Furthermore, it cannot recognize every aspect of a pension system, particularly the more subjective matters, such as community confidence. We also recognize that comparable international data are not available for every desirable feature.

Nevertheless, where international data are available, we have used those data. In other cases, we have developed objective questions to obtain a better understanding of each system's operations and outcomes. Some countries have more than one system or may have different regulations in different parts of the country. Where this occurs, we have concentrated on the most common system or taken an average position.

Each system's overall index value is calculated by taking 40% of the adequacy sub-index, 35% of the sustainability sub-index and 25% of the integrity sub-index.

Although each sub-index is not weighted equally, the overall results are not materially impacted by the weightings; for example, reweighting each sub-index equally does not provide any significant changes to the results. Of course, the weighting of each indicator within each sub-index is subjective as there is no "correct" answer. Our approach has been to give higher weightings to the more important indicators.[14]

Living standards in retirement are also affected by several other factors, including the provision and costs of healthcare services and aged care through both the public and private sectors. However, some of these factors can be difficult to measure within different systems and, in particular, difficult to compare. We therefore decided to concentrate on indicators that directly affect the provision of financial security in retirement, both now and in the future. The Index does not claim to be a comprehensive measure of living standards in retirement; rather, it is focuses on the provision of financial security in retirement.

04 Changes from 2023 to 2024

There is constant change in pension systems around the world as well as in the social and economic environments in which they operate. Hence, every year, we review the questions used in the Index.

New questions

Two new questions have been added to the integrity sub-index this year to recognize the growing importance of cyber risk in financial services and the associated need to maintain public confidence in this industry. The new questions are:

- Has the government, a government department or the pensions regulator issued instructions or guidance relating to cybersecurity and related data breaches to pension plan fiduciaries/trustees or those administering pension plans?
- Are pension plans or pension administrators required to report incidents of cyberattacks and the related data breaches to the pensions regulator or the relevant government authority?

Each question has been given a weighting of 1% in the integrity sub-index, with a related reduction of 2% in the question about the strength of the ongoing activity of the pensions regulator in discharging its supervisory responsibilities. There were also some minor but important tweaks to some of the previous questions. These included:

- Recognition that the government support to encourage voluntary pension contributions could be made through the tax system or by other means, such as a government co-contribution
- Clarification with regard to any required annuity or income stream at retirement as to whether it is provided for life or for a shorter period
- Clarification regarding whether, during periods of leave (whether due to disability, parental responsibilities or caring), additional retirement benefits would be received in the future relating to these periods
- With regard to the need for regulatory approval for a private sector pension plan, broadening of the question to include the right to operate or to pay benefits
- Tightening of the question relating to the requirement to show benefit projections on members' annual statements to focus on income or pension benefits and not lump-sum benefits

Updated OECD data

Since the publication of last year's Index, the OECD has published *Pensions at a Glance 2023 OECD and G20 Indicators*, which updated several data points used in the Index:

- The net replacement rates were increased materially for Chile and Sweden and decreased for several systems, including Iceland, India and Japan. For these systems, the impact on the overall index score has been a change of at least 1.0.
- The basic or targeted pension, when expressed as a percentage of the average wage, has changed significantly in some systems. Argentina, Chile and Mexico have all increased this pension materially, which has led to an increase in their overall index scores of at least 1.4. In contrast, the targeted pension in both Portugal and South Africa has decreased materially, which has led to a decline in their index scores of more than 1.4.
- Participation rates in several pension schemes have increased. In particular, the increases in Mexico and Norway have led to an increase in their overall index scores of more than 0.5. On the other hand, the participation rate in the US has dropped materially.

Additional system

The Index has been expanded in 2024 to include one new retirement income system — Vietnam. This addition continues our longstanding practice of considering a variety of systems from different economic, geographical and political backgrounds. This approach highlights an important purpose of the Index: to enable comparisons of different systems around the world with a range of design features operating within different contexts and cultures. The Index now includes 48 retirement income systems covering more than 65% of the world's population.

Significant score changes

As expected, the Index scores for most systems change from year to year due to updated data and/or pension reform. The most significant changes in 2024 were for:

- **Mexico:** An increase in the Index score of 13.4, primarily due to a revised scoring approach that focused on the mandatory funded DC system and not voluntary occupational pension systems. An increase in the basic pension, as reported by the OECD, also helped.
- **Chile:** An increase in the Index score of 5.0, primarily due to increases in both the targeted pension and net replacement rates as reported by the OECD.
- **Croatia:** An increase in the Index score of 4.9, primarily due to the new publication of net replacement rates by the OECD.
- **France:** An increase in the Index score of 6.0, primarily due to improved understanding of the relevant pension regulations.
- **South Africa:** A decrease in the Index score of 4.4, primarily due to a reduction in the targeted pension, as reported by the OECD.

A comparison from 2023 to 2024

Figure 6 below compares the results for 47 systems from 2023 to 2024, which show that the average value for the overall index has increased by 0.6.

Comments about each system are made in Chapter 6.

Figure 6. Comparison index values for each system from 2023 to 2024

System	Total		Adequacy		Sustainability		Integrity	
	2023	2024	2023	2024	2023	2024	2023	2024
Argentina	42.3	45.5	56.3	61.5	29.5	29.4	37.8	42.3
Australia	77.3	76.7	70.7	68.4	78.4	79.5	86.1	86.1
Austria	52.5	53.4	66.8	67.2	22.6	22.0	71.6	75.2
Belgium	68.6	68.6	82.0	81.8	39.4	40.1	88.2	87.4
Botswana	54.5	55.4	39.8	39.7	52.8	52.0	80.6	85.2
Brazil	55.7	55.8	70.4	70.4	28.5	31.0	70.1	67.3
Canada	70.2	68.4	71.1	67.0	64.5	63.8	76.7	77.1
Chile	69.9	74.9	60.0	71.2	71.3	70.9	84.0	86.5
China	55.3	56.5	64.2	65.2	39.0	37.8	63.7	69.1
Colombia	61.9	63.0	62.9	63.9	55.4	57.4	69.3	69.5
Croatia	62.3	67.2	57.1	66.8	56.0	57.4	79.3	81.7
Denmark	81.3	81.6	82.5	84.0	82.5	82.6	77.8	76.3
Finland	76.6	75.9	77.4	77.0	65.6	64.2	90.9	90.8

System	Total		Adequacy		Sustainability		Integrity	
	2023	2024	2023	2024	2023	2024	2023	2024
France	62.0	68.0	84.5	84.8	41.8	43.4	54.4	75.7
Germany	66.8	67.3	79.8	81.1	45.3	45.8	76.3	75.3
Hong Kong SAR	64.0	63.9	51.9	51.5	61.1	61.1	87.6	87.5
Iceland	84.8	83.4	85.5	82.0	83.8	84.3	85.0	84.4
India	45.9	44.0	41.9	34.2	43.0	44.9	56.5	58.4
Indonesia	51.8	50.2	41.6	38.1	50.6	50.4	69.8	69.3
Ireland	70.2	68.1	77.1	73.6	54.4	52.8	81.1	80.5
Israel	80.8	80.2	77.0	75.7	82.7	82.6	84.4	84.1
Italy	56.3	55.4	72.7	68.2	23.7	25.1	75.9	77.2
Japan	56.3	54.9	59.2	57.1	46.5	47.1	65.6	62.1
Kazakhstan	64.9	64.0	46.9	45.8	74.8	73.1	80.0	80.4
Korea (South)	51.2	52.2	39.0	40.5	52.7	52.4	68.5	70.5
Malaysia	56.0	56.3	44.3	44.5	56.1	54.6	74.6	77.4
Mexico	55.1	68.5	63.5	73.8	58.4	63.4	37.0	67.1
Netherlands	85.0	84.8	85.6	86.3	82.4	81.7	87.7	86.8
New Zealand	68.3	68.7	65.6	64.8	64.3	64.9	78.3	80.2
Norway	74.4	75.2	79.4	77.2	59.1	63.6	87.8	88.3
Peru	55.5	54.7	55.0	55.3	50.4	46.9	63.5	64.7
Philippines	45.2	45.8	41.8	41.7	63.2	63.4	25.7	27.7

System	Total		Adequacy		Sustainability		Integrity	
	2023	2024	2023	2024	2023	2024	2023	2024
Poland	57.6	56.8	59.8	59.2	45.4	45.2	71.2	69.4
Portugal	67.4	66.9	86.7	83.4	32.0	34.6	85.9	85.7
Saudi Arabia	59.5	60.5	61.5	61.1	54.9	58.0	62.9	62.9
Singapore	76.3	78.7	79.8	79.8	71.6	74.3	77.0	83.0
South Africa	54.0	49.6	44.2	34.7	49.1	48.0	76.6	75.7
Spain	61.6	63.3	79.7	82.9	28.5	30.7	79.2	77.6
Sweden	74.0	74.3	72.1	75.2	75.6	73.7	75.0	73.6
Switzerland	72.0	71.5	69.6	66.0	70.6	71.4	77.9	80.4
Taiwan	53.6	53.7	47.6	46.2	52.9	51.9	64.1	68.2
Thailand	46.4	50.0	45.4	50.2	42.2	43.8	53.9	58.2
Türkiye	46.3	48.3	46.5	48.3	31.1	32.2	67.3	70.8
UAE	62.5	64.8	72.2	77.1	45.4	43.3	70.8	75.3
UK	73.0	71.6	77.3	75.7	62.7	61.5	80.6	79.3
Uruguay	68.9	68.9	84.0	84.0	46.2	46.6	76.5	76.1
USA	63.0	60.4	66.7	63.9	61.1	58.4	59.5	57.5
Average	**63.0**	**63.6**	**64.8**	**64.9**	**54.2**	**54.5**	**72.2**	**74.2**

05 Helping DC members get the best retirement outcome

Feature chapter

With the continuing growth of defined contribution (DC) pension plans around the world, it is critical that policies and principles be developed to ensure that retirees from these defined contribution plans receive the best retirement outcome possible.

Summary of key recommendations

With this goal in mind, we believe:

- The focus must be on the provision of regular income during the retirement years.
- Retirees need some long-term protection from future risks.
- Cognitive decline during the later years of life needs to be recognized.
- Some flexibility is required in the benefits permitted.
- Pension plans must play a critical role.
- Retirees need help, guidance and advice.

The problem

Our pension systems need to change in the face of increasing life expectancies, falling fertility rates, increasing individualism and changing expectations from better-informed members. They should ensure that individuals and households receive the best possible financial support during their retirement years. In this chapter, we explore issues and practices that are particularly relevant for pension systems where funded DC pension plans are popular.

Background

Before we discuss these present practices, it's helpful to briefly recall the history of our pension systems.

In most developed economies, the government provides a pension to the aged. In many cases, these state pensions are earnings-related; that is, they reflect, to a greater or lesser extent, the individual's career. In addition, there is normally some form of minimum pension so that no aged person lives in poverty, however that may be defined.

While each state pension system has its own complexities and indexation arrangements, the outcome is that almost every aged person will receive a pension from the government. Although the costs of many of these systems are increasing with aging populations, the expectation of each older person is that they will receive a state pension until they die. This amount is known and, in most cases, the individual needs to make no decision. It happens automatically.

Occupational pension systems represent the second type of pension scheme. These typically began as defined benefit (DB) plans and were initiated by employers for various reasons or through collective industrial agreements.

The most common benefit from these schemes is a retirement pension (often indexed) based on the individual's salary (either averaged over their career or final years) and the length of service. In addition, a reversionary spouse pension is often available. Apart from selecting their retirement age, which influences the size of their pension, most individuals have no further decisions to make.

The changing pension arrangements

The arrangements now emerging in many pension systems are very different from those outlined above. These include the following:

— Governments are seeking to reduce their future state pension costs through several adjustments, including increasing the retirement age, adjusting the pension accrual rate, reviewing indexation arrangements and improving financial solvency. For example, three in five OECD countries will have a higher normal retirement age in the future as increasing retirement ages represents a common strategy to improve financial sustainability without reducing pension levels.[15]

— Due to accounting standards, employers are moving away from DB pension arrangements with the associated uncertain future liability in their financial statements. Increasing life expectancy also increased the DB pension costs for employers, whereas this risk is borne by employees in occupational DC plans.

— This shift from DB to DC also means that a range of risks associated with the financing of retirement benefits has shifted from employers to individuals. These risks include the investment risk both before and after retirement, the sequencing of investment returns (particularly immediately after retirement), inflation risk (as the resulting pensions may not be indexed) and longevity risk, unless an annuity is purchased with the DC pension pot. These risks for DC members do not imply that DB members bore no risk. There have been several examples where the employer support failed, and the promised benefit did not eventuate.[16]

— This transition to DC is occurring at different speeds around the world and often takes decades to fully implement. This means the retirement benefits for many current retirees are a mixture of a DB pension and a DC pension pot, whereas most future retirees will have a DC benefit only. These changing circumstances must be considered by policymakers in each jurisdiction as pension reform occurs.

— The concept of retirement is changing, with many individuals transitioning gradually to retirement or rejoining the workforce in a different role after their initial retirement. It is noteworthy that more than half the pension systems in this year's Index permit older employees to access part of their retirement savings while continuing to work and accrue additional retirement benefits.

— Individualism is on the rise, and many retirees desire greater flexibility and choice. This is important as the financial needs and expectations of retirees vary considerably, even among individuals with similar backgrounds.

Under the traditional DB pension arrangement, an individual knew the size of their retirement pension (when expressed as a fraction of their past salary) and could plan accordingly. In the DC world, this is not the case. The final accrued benefit at retirement is subject to a range of factors, including the asset allocation of the DC arrangement, the investment return, the level of contributions, the level of fees and the actual retirement age. In addition, the future benefit is no longer expressed as a percentage of salary.

The OECD notes: "Personal plans and occupational defined contribution plans have been gaining importance at the expense of occupational defined benefit plans."[17] Indeed, the OECD 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."[18]

The risks facing individuals in personal plans are very similar to those facing members of occupational DC plans; the key difference is that, for personal plans, there is usually no financial support from an employer. The individual is on their own.

In our increasingly DC world, this chapter takes a deep dive into how to improve the retirement outcome for members of occupational DC and personal pension plans.

Options and flexibility

By their very nature, DC and personal pension plans offer much more flexibility than traditional DB arrangements. In short, individuals are able to make many decisions that will affect their retirement benefits. These decisions may include:

- 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
- Their retirement age
- The form of their retirement benefits
- When the benefit drawdown begins
- The rate of drawdown during retirement

Although these DC arrangements can be flexible, they are potentially confusing for retirees and can lead to suboptimal outcomes in retirement. To understand the issues that arise, let's explore the current operating rules or regulations in several DC systems that directly affect the benefits received by retiring members.

Retirement age

Retirement ages (or the commencement age for a DC pension) vary considerably around the world.[19] For example, in the Netherlands, the lifetime pension may commence anywhere from 10 years before the normal retirement age of 68 to five years after that age — in effect, a 15-year age range. Iceland has a more restrictive age range, allowing commencement of retirement between ages 65 and 70. Singapore uses the same age range, and the lifetime pension must commence from age 70. In the US, an individual must start making withdrawals from their account by age 73.

In contrast, in Australia and the UK, there are no prescribed retirement ages and not even a requirement to commence a retirement income at any age.

An added complexity is the interaction between the permitted retirement ages and the commencement age(s) for the public pension.

As noted earlier, the concept of retirement is also changing in many economies as some individuals retire and then reenter the workforce. DC pension arrangements permit this flexibility to varying extents, but society's concept of "retirement" must also recognize this trend.

Recommendation

In view of the broad range of personal and other circumstances individuals face as they approach retirement, we believe a particular pension-commencement age for DC pensions is inappropriate and unhelpful in generating the best long-term outcome. Rather, there should be a range of ages, with a spread of at least 10 years, to provide greater flexibility and enable individuals to start their pensions at an age that best suits their personal circumstances. Of course, this range should also have some alignment with the commencement of the public pension.

However, there should also be a maximum age from which pensions must begin. Leaving funds in a personal accumulation account for many years after the "common" retirement age is inconsistent with the purpose of pension arrangements and the associated taxation support received in many systems.

Benefit types

The traditional DB pension plan provided members with a regular retirement pension, often indexed to inflation. That is, the retirees received regular income that was financially underwritten by their previous employers.

However, in DC and personal pension plans, there is no employer support. The risks are fully borne by the individual. So, let's consider the retirement benefits that are available from the members' accumulated benefits in a range of DC pension systems around the world.

Figure 7 briefly outlines the options available in these systems and, where possible, comments on the most popular outcome.

Figure 7. Retirement benefits available in different DC pension systems

System	Benefits available at retirement	Comments, including common practice
Australia	Full choice is available, from a lump sum to annuity, including a market-linked income product	The market-linked income product is the most popular retirement product. The minimum drawdown rate varies from 4% of the balance (for ages 60–64) to 14% (age 95 and over)
Canada — RRSPs[20]	The benefits come from an income fund with a minimum annual payment	The minimum payments range from 3.33% of the balance at age 60 to 20% for those age 95 and over
Chile	An income stream is required, with choices of an immediate life annuity, a temporary income with a deferred life annuity and a programmed withdrawal	The most common practice is a programmed withdrawal, although the annuity options are becoming more popular. Lump sums are available when the pension exceeds a prescribed income, but this is relatively rare
Denmark	Lifelong payments, term annuities and lump sums are available, but contribution limits exist for the last two benefit forms	The regular annuity payment fluctuates with interest rates. Many benefits currently come from annuities, with a minimum 10-year payout and a maximum 25-year payout. In the future, life annuities are likely to become the most prevalent due to new regulations
Iceland	Lifetime annuities are required for most mandatory contributions	The annuity benefit is based on a forward yield of 3.5% (fixed by government regulation) and future mortality projections
Israel	Lifetime annuities are required	The annuities are not guaranteed, although, in practice, they are, due to government support and a low-risk approach
Mexico	An indexed lifetime annuity and/or a programmed withdrawal are the only options available	The lifetime annuities are not guaranteed. The programmed withdrawal payments are determined by life expectancy and market rates
Netherlands	Lifetime pensions are required	The system is currently transitioning from DB to collective DC. In the future, plan members will be able to take up to 10% of the benefit as a lump sum at retirement

System	Benefits available at retirement	Comments, including common practice
Norway	The annuity must be payable for at least 10 years and until age 77	The payments vary by market movements. A 10-year-term annuity is the most popular product
Singapore	A lifetime annuity is provided, offering three choices: indexed at 2%, level or declining (which provides a higher bequest)	The annuity rates are set by the Central Provident Fund based on a 4% interest rate. The standard (or level) annuity is the most popular
South Africa	At least two-thirds of the benefit must be used to purchase a guaranteed life annuity or a market-linked “living annuity”	The annual income drawdown from the living annuity must be between 2.5% and 17.5% of the balance
Sweden	An annuity must be taken, but it can be a lifetime annuity, a term annuity or a variable annuity	The variable annuity assumes a future interest rate of 3% pa with payment adjustments as market rates change
Switzerland	The benefits can range from a 100% lump sum to 100% annuity or a mix	The conversion rate to the annual pension amount for the mandatory contribution component is a fixed percentage of the account. The tax rate on lump sums is concessional. Annuities are the most prevalent, but lump sums are increasing in popularity
United Kingdom	Full choice is available, from lump sum to annuity	There is a tax on lump sums greater than 25% of the benefit to discourage larger lump sums. Encashment of the full benefit is the most popular by number, but income drawdown is the most popular by value
United States	There is no legal requirement to take part or all of the retirement benefit as an annuity	Most DC members withdraw their balances as a single lump sum or in installments. The required minimum distribution each year is the balance divided by the relevant life expectancy factor

As we can see, retirement systems use a wide range of approaches in converting an accumulated account into a benefit for retirement. However, in every case, the individual has some choices to make.

The extremes in this summary are from Australia and the UK, where there are no requirements to take an income stream (although there are tax incentives to do so in both countries), to Singapore, where a lifetime annuity must be taken with just three options. In between, there are many options, including:

- Immediate lifetime annuities with guaranteed payments and various levels of indexation
- Deferred lifetime annuities with guaranteed payments and various levels of indexation
- Term annuities for a fixed period, with payments that may be market linked
- Variable annuities, where payments vary with market conditions
- Programmed withdrawal arrangements that are normally market linked
- The balance between lump-sum and income benefits
- Taxation and other regulations that encourage preferred behavior

There are also a variety of requirements relating to drawdowns from market-linked retirement accounts.

Another important consideration involves required annuity purchases and the health of the individual. This issue is particularly relevant for mandatory or quasi-mandatory DC systems, in which a retiree is required to use some or all of their accumulated benefit to purchase a lifetime annuity. That is, many individuals in DC pension plans consider their pension accounts to be their own money.
The requirement to purchase a lifetime annuity, particularly for individuals with reduced life expectancy due to poor health, may seem somewhat unfair or unreasonable unless it is understood to be part of a broader societal compact.

There are relatively few pension systems that make allowances for these conditions. Exceptions include Singapore, where an individual with appropriate certification can receive improved benefits, and the UK, where providers are free to offer enhanced annuities for poor health and other factors.

Recommendation

There are very significant differences in the financial needs and expectations of retirees, even for those with similar retirement benefits. For example, there may be material differences in life expectancies as well as varying needs to access some capital. In some cases, this need for capital will be determined by the level of government support available for health and aged care services. However, it is also influenced by the individual's aspirations for their retirement years.

In brief, there is much more variety in the retirement years than during the earlier accumulation years. Hence, no single solution provides the best approach to convert an accumulated pension account into the best retirement outcome.

Recommendations to improve retirement outcomes from DC and personal pension plans

In light of the issues outlined above, along with the desire to improve the retirement outcome for members of occupational DC and personal pension plans, we recommend adopting the following principles:

1. The focus must be on the provision of regular income during the retirement years.

In broad terms, occupational or personal pension plans, together with public pensions, are designed to spread an individual's earned income from their working years to their complete lifetime. That is, the primary purpose is not merely the accumulation of wealth.

Article 113 of the Federal Constitution of the Swiss Confederation states:

> **"The occupational pension scheme, together with the Old-age, Survivors' and Invalidity Insurance, enables the insured person to maintain his or her previous lifestyle in an appropriate manner."**

The proposed objective of superannuation in Australia expresses a similar sentiment:

> **"The objective of superannuation is to preserve savings to deliver income for a dignified retirement, alongside government support, in an equitable and sustainable way."**

In both cases, we note that the purpose of occupational and personal pensions is to work with any government pension and support, thereby enabling the individual to maintain their previous lifestyle and live their retirement years with dignity.

This focus on the provision of regular income must also be supported by appropriate government regulations (these may define the permitted form of benefits, a range of ages for the income to commence and/or taxation) and other incentives to encourage certain outcomes. A critical first step is to ensure that accumulated savings are transferred into a pension account to provide future income.

2. Retirees need some long-term protection.

During their retirement, individuals face many financial uncertainties for an unknown future period, which is likely to last for decades. It is therefore necessary that the overall retirement income system offer retirees some protection against the risks of inflation, falling investment markets, liquidity needs, longevity, and the uncertainty of future health and aged care costs.

In some systems, the state pension will provide some protection with regular indexation, thereby providing a reliable income base for retirement. However, in other cases, this pension may be means-tested or under threat due to deterioration in a government's finances arising from a variety of possible factors, including the impact of an aging population.

The extent of the protection needed will also depend on the individual's financial circumstances beyond their pension arrangements. It is reasonable to suggest that any required protection should focus on those with lower incomes and less access to other personal financial assets. Such support can only be provided by the government.

3. Cognitive decline needs to be recognized.

During the accumulation years, many DC pension plan members are able and willing to make decisions relating to the level of their pension contributions, the allocation of their investments and even their choice of pension plans. For some DC retirees, this involvement and decision-making process continues into retirement.

However, it's important to recognize that cognitive ability declines with age, and it is therefore inappropriate to expect retirees to continue to make these decisions into their 80s and 90s. Three national actuarial bodies recognized this difference between the earlier and later years of retirement and concluded that:

> **"There would be value in developing appropriate defaults that allow individuals to access their pensions through an income stream that offers flexibility in their early years of retirement. However, in the latter years, they could provide, at a minimum, a structured lifetime payment with the potential for a lifetime income guarantee to protect against their longevity risk."[21]**

Therefore, the retirement income products offered to retirees should not require ongoing decisions throughout life. In particular, at the older ages, the benefits provided should be relatively stable and sustainable.

4. Some flexibility is required in the benefits permitted.

Although the major focus should be on the provision of regular retirement income, it's essential to recognize that the financial and personal circumstances of retirees vary significantly. The same product (or combination of products) will not be suitable for every retiree. For many, access to some capital or the presence of a financial buffer is greatly appreciated.

While some may consider indexed lifetime pensions to be the ideal, many DC pension plan members have become accustomed to investment markets directly influencing their account balances. Hence, some market-linked retirement products (such as variable annuities or programmed withdrawals) may be acceptable to some retirees and provide better long-term outcomes given the absence of the need for capital to support a guaranteed income.

A range of permitted retirement products, with a focus on income, is also likely to encourage greater innovation and competition. This diversity of products should enable each retiree to access the products that are most suitable for their personal circumstances instead of a single product or limited range of products that may be required by government legislation.

Additional flexibility may also be appropriate for those with small or very large pension pots.

5. Pension plans must play a critical role.

This heterogeneity of personal circumstances highlights the critical roles pension plans should play as individuals approach retirement as well as during their retirement years. These roles are much more varied than the traditional DB pension plan, in which the only benefit offering was a pension, often indexed to inflation.

In this new environment of DC pension pots and some choice available to individuals, pension plans must seriously consider several topics, including:

- What retirement benefits and how many choices will the pension plan offer to their members, as permitted by relevant legislation?
- How will these different benefit forms allow for different personal circumstances, including the different risk appetites of retirees?
- How will pension plans engage with members as they approach retirement, and how will they continue to support their members after retirement?
- How will pension plans determine whether they are delivering the best possible outcomes to their retired members?

However, responses to these questions are not enough. Pension plans must also introduce ongoing monitoring programs to regularly review their offerings and member communications as social, economic and financial circumstances change. The provision of retirement benefits should not be a “set and forget” paradigm.

6. Retirees need help, guidance and advice.

As noted earlier, individuals in most DC pension plans have choices to make at retirement. In some pension systems, the choice is very broad in an ever-expanding marketplace, whereas in other systems, the choice may be limited to the level of the initial pension and the rate of future indexation. Whatever the choice available, the decisions made when entering the retirement phase will be critical in determining the future lifestyle of individual retirees.

Yet the necessity of making such a decision places many retirees in a new context and outside their comfort zones. In short, many retirees need some help.

Currently, there is great diversity around the world regarding the requirements for assisting DC plan members approaching and during retirement.

For example, in the Netherlands, under new pension legislation, pension administrators will be obliged to guide their participants in making choices regarding their pensions. The pension administrator shall provide the participant or pensioner with adequate support in making an appropriate choice within the pension agreement.

In the UK, current arrangements require pension schemes to signpost members to the government-financed Pension Wise organization, which gives free impartial guidance but not advice, which means it cannot propose individual tailored solutions.

In an ideal world, accessible and affordable financial advice should be available to all retirees. Unfortunately, most retirement income systems have not yet reached this point of maturity.

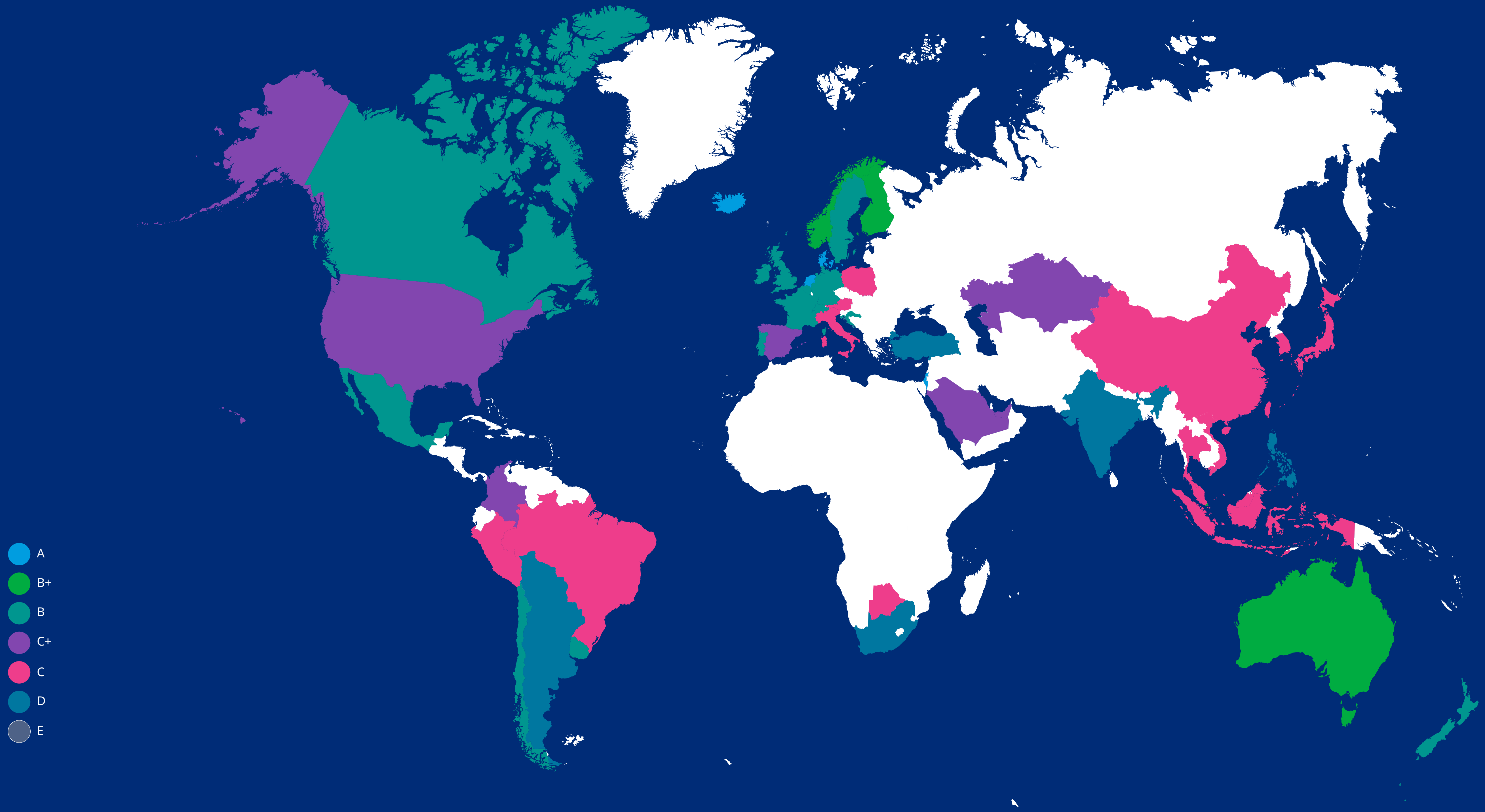
Given this shortcoming, the best approach may be for governments, in consultation with the pension industry, to develop defaults or guidance that will initially be appropriate for most members. However, such defaults should not lock members into a single product as some flexibility is needed since an individual’s financial situation is likely to change during their many years of retirement.

William Sharpe, the Nobel-Prize-winning economist, acknowledges that there is no easy answer to all the decisions facing retirees. In fact, he has called it the “nastiest, hardest problem in finance.”[22] But this is not a reason to avoid the problem. Instead, the global pension industry owes it to our occupational DC and personal pension plan members to improve our services and offerings to deliver the best possible retirement outcome to all individuals.

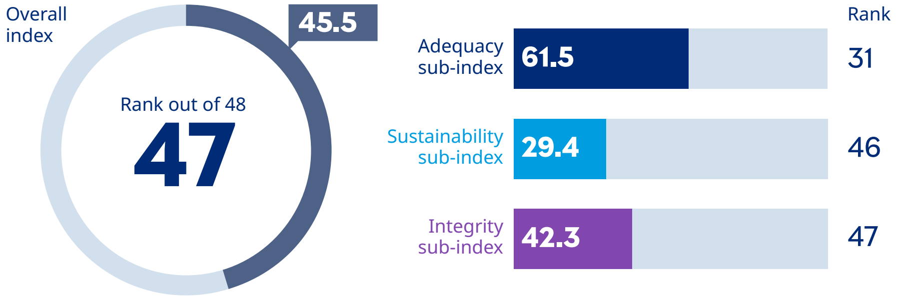
06 A brief review of each system

This chapter provides a summary of each retirement system and potential areas for improvement. Whether such developments are appropriate in the short term depends on the current social, political and economic situation. We have provided some comments on changes from 2023 to 2024 where relevant. As detailed in Chapter 4, many of these changes were due to updated data from the OECD and the United Nations.

Figure 8. Global grades



Argentina



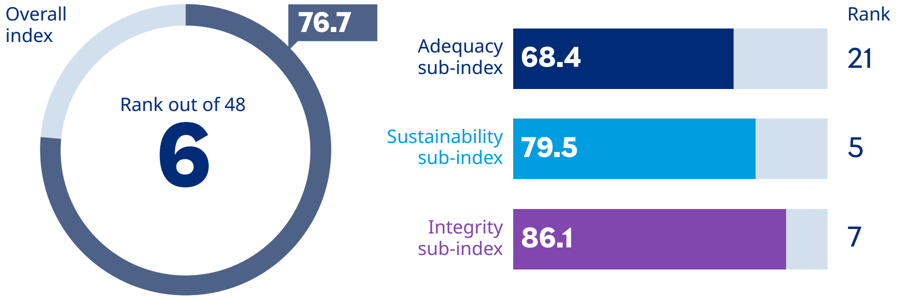
Argentina's retirement income system is composed of a pay-as-you-go social security system (comprising a basic pension and an earnings-related benefit) together with voluntary occupational corporate and individual pension plans that may be offered through employer book reserves, insurance companies or pension trusts.

The overall index value for the Argentinian system could be increased by:

— Expanding coverage of employees in occupational pension schemes through automatic membership or enrollment, thereby increasing the level of contributions and assets
— Introducing a minimum level of mandatory contributions into a retirement savings fund
— Introducing a minimum age to access benefits from private pension plans
— Improving the regulatory requirements for the private pension system

The Argentinian index value increased from 42.3 in 2023 to 45.5 in 2024, primarily due to an increase in the base pension.

Australia



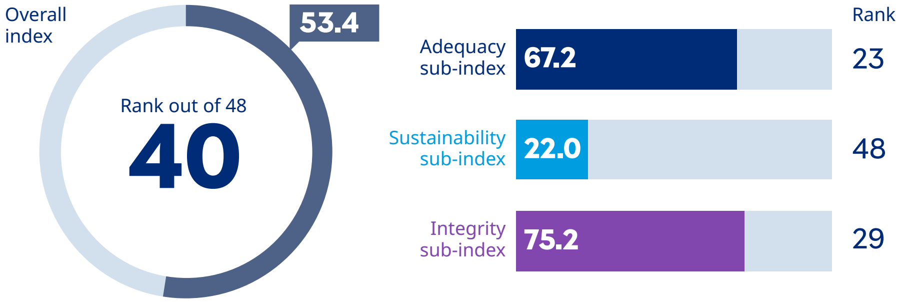
Australia's retirement income system comprises a means-tested age pension (paid from general government revenue); a mandatory employer contribution paid into private-sector arrangements and additional voluntary contributions from employers, employees or the self-employed paid into private-sector plans.

The overall index value for the Australian system could be increased by:

— Moderating the assets test on the means-tested age pension to increase the net replacement rate for average income earners
— Introducing a requirement that part of the retirement benefit be taken as an income stream in most circumstances
— Introducing a government superannuation contribution to primary carers of young children
— Introducing a requirement to show retirement income projections on members' annual statements

The Australian index value decreased slightly from 77.3 in 2023 to 76.7 in 2024, primarily due to reduced net pension replacement rates.

Austria



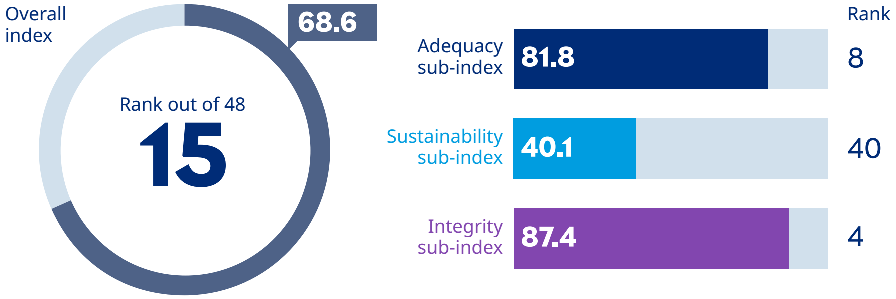
Austria's retirement income system consists of a DB public pension scheme with an income-tested top-up for low-income pensioners and voluntary private pension plans.

The overall index value for the Austrian system could be increased by:

— Increasing the minimum level of support for the poorest aged individuals
— Introducing a minimum access age so that the benefits from private pension plans are preserved for retirement purposes
— Expanding coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets (which could be done by collective bargaining agreements or tax-effective regulation)
— Introducing arrangements to protect the pension interests of both parties in a divorce
— Increasing the labor force participation rate at older ages

The Austrian index value increased slightly from 52.5 in 2023 to 53.4 in 2024, primarily due to a clarification in our understanding of the regulations.

Belgium



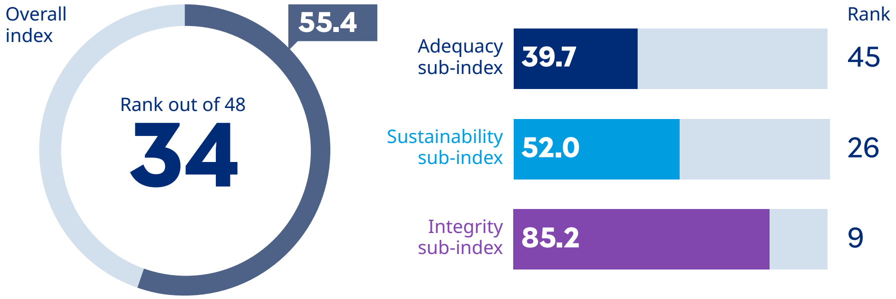
Belgium's retirement income system comprises public, occupational and private pension schemes. The public pension scheme is earnings-related with a means-tested safety net. Voluntary private pension arrangements are typically operated by insurance companies.

The overall index value for the Belgian system could be increased by:

— Introducing a requirement that part of the retirement benefit be taken as an income stream
— Introducing a minimum level of mandatory contributions into a retirement savings fund, thereby increasing the level of pension assets over time
— Introducing greater flexibility relating to pension design as individuals transition into retirement
— Increasing the labor force participation rate at older ages as life expectancies rise

The Belgian index value remains unchanged at 68.6.

Botswana



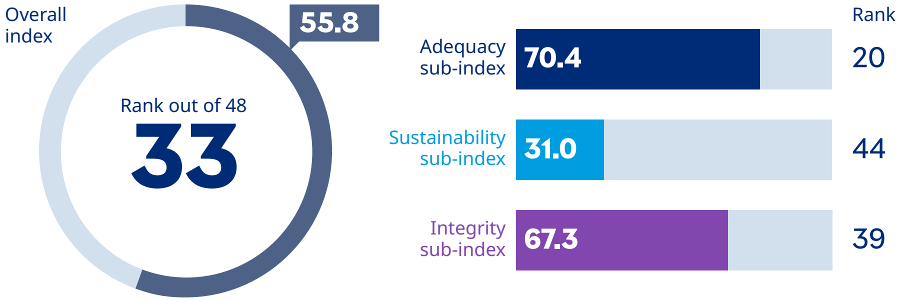
Botswana's retirement income system consists of private and public pension systems. The Public Old Age Pension (POAP) is fully funded by the government and provides a benefit to all citizens above age 65 living in Botswana. The benefit is adjusted periodically based on cost of living and is not means-tested. Private pensions consist of a mandatory pension scheme for public-sector employees and a voluntary pension system for private-sector employees. Private pensions include both DB and DC arrangements.

The overall index value for the Botswanan system could be increased by:

— Increasing the minimum level of support for the poorest aged individuals
— Expanding coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets
— Introducing greater flexibility relating to pension design as individuals transition into retirement
— Increasing the level of home ownership

The Botswanan index value increased slightly from 54.5 in 2023 to 55.4 in 2024, primarily due to improvements in our understanding of the prevalence of DB plans in the pension system.

Brazil



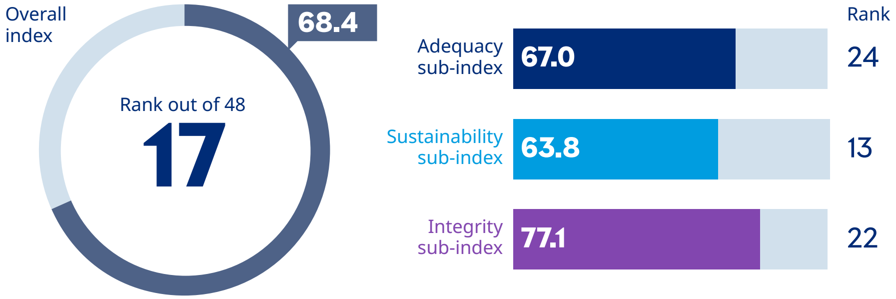
Brazil's retirement income system comprises a pay-as-you-go social security system and voluntary occupational corporate and individual pension plans. These plans may be offered through insurance companies or pension trusts.

The overall index value for the Brazilian system could be increased by:

— Increasing coverage of employees in occupational pension schemes through automatic membership or enrollment, thereby increasing the level of contributions and assets
— Introducing a minimum level of mandatory contributions into a retirement savings fund
— Introducing a minimum access age so that the benefits are preserved for retirement purposes, including the pension plans operated by insurance companies

The Brazilian index value increased slightly from 55.7 in 2023 to 55.8 in 2024 due to improvements in transition to retirement arrangements.

Canada



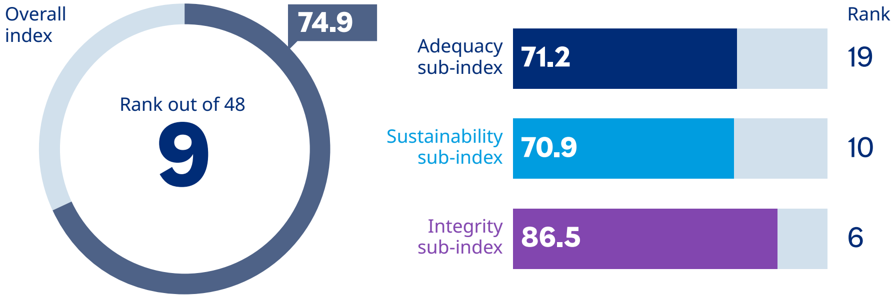
Canada's retirement income system comprises a universal flat-rate pension supported by a means-tested income supplement, earnings-related pensions based on revalued lifetime earnings provided through a national program, voluntary occupational pension schemes (many of which are DB schemes, but DC schemes' prevalence is increasing), and voluntary individual retirement savings plans.

The overall index value for the Canadian system could be increased by:

— Increasing the coverage of employees in occupational pension schemes, mainly in the private sector, through the development of an attractive product for those without an employer-sponsored scheme
— Introducing a minimum access age for all pension products
— Increasing the level of household savings and reducing the level of household debt
— Reducing government debt as a percentage of GDP

The Canadian index value decreased from 70.2 in 2023 to 68.4 in 2024, primarily due to decreases in the base pension (when expressed as a percentage of the average wage) and net pension replacement rates, following an increase in the average wage published by the OECD.

Chile



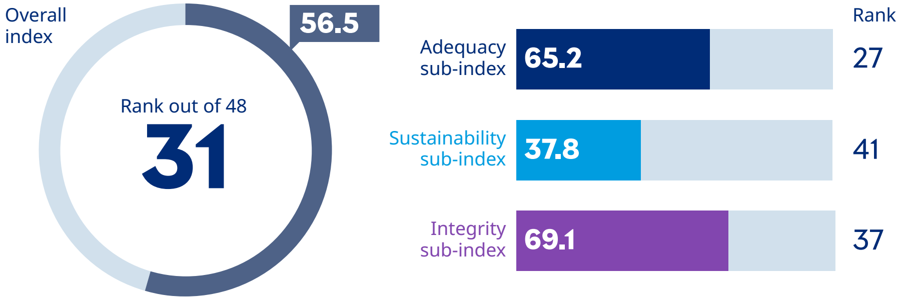
Chile's retirement income system comprises a near universal old-age social pension, a mandatory privately managed DC system based on employee contributions with individual accounts managed by a small number of Administradoras de Fondos de Pensiones (AFPs) and a framework for voluntary contributions.

The overall index value for the Chilean system could be increased by:

— Further increasing the minimum level of support for the poorest aged individuals
— Introducing a government pension contribution for those caring for young children
— Increasing coverage of employer-sponsored plans, thereby increasing the level of assets over time
— Increasing the labor force participation rate at older ages

The Chilean index value increased from 69.9 in 2023 to 74.9 in 2024, primarily due to increases in the base pension and net pension replacement rates.

China



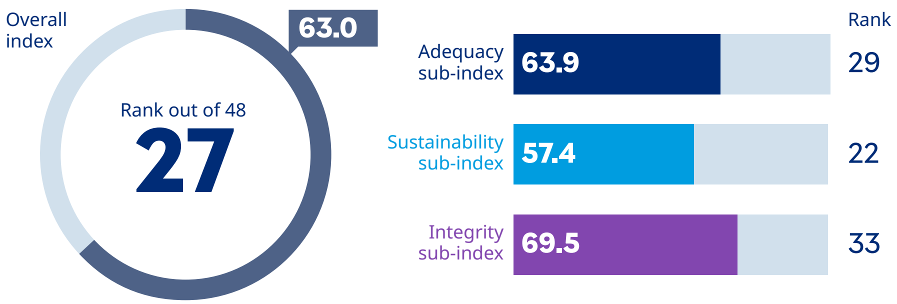
China's retirement income system comprises a mandatory pillar-one state pension, a voluntary employer-sponsored pillar two (enterprise annuity for corporates and occupational annuity for the public sector) and a voluntary pillar-three private pension arrangement unveiled in 2022. The state pension comprises an urban employee basic pension and an urban/rural residents (non-employed) basic pension system. State pension has a pay-as-you-go social pooling account (combination of contribution and fiscal expenditure) and funded individual accounts (from employee contributions).

The overall index value for the Chinese system could be increased by:

— Increasing the minimum level of support for the poorest aged individuals
— Continuing to increase the coverage of the pension systems, thereby increasing the level of assets over time
— Introducing a requirement that part of the supplementary retirement benefit be taken as an income stream
— Increasing the state pension age over time
— Offering more investment options to members and thereby permitting a greater exposure to growth assets

The Chinese index value increased from 55.3 in 2023 to 56.5 in 2024, primarily due to improvements in our understanding of the regulations in the pension system. In September 2024, China announced increases in their retirement ages.

Colombia



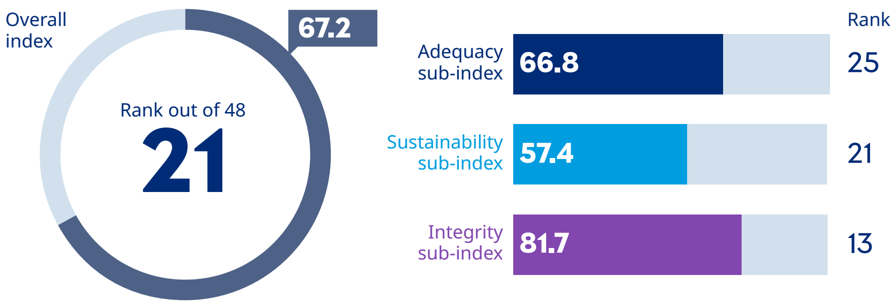
Colombia's retirement income system comprises a means-tested pension paid to the needy and two parallel and mutually exclusive pension systems. The first is a pay-as-you-go DB plan managed by a public-sector entity, and the second is a system of funded individual accounts offered through qualified financial institutions in the private sector. Individuals can make additional voluntary contributions to increase retirement benefits and/or reduce taxes. An employee elects to join one system, although there is the option to change later, with certain restrictions. The employer and employee contribution rates are the same for both systems, but retirement benefits differ between systems (DB versus individual accounts).

The overall index for the Colombian system could be increased by:

- Increasing the minimum level of support for the poorest aged individuals
- Raising the level of household savings
- Increasing coverage of employees in the pension schemes, thereby gradually increasing the level of pension assets
- Raising the state pension age over time, particularly for women
- Introducing arrangements to protect the pension interests of both parties in a divorce

The Colombian index value increased from 61.9 in 2023 to 63.0 in 2024, primarily due to increases in the future state pension age and an increase in coverage of retirement savings plans.

Croatia



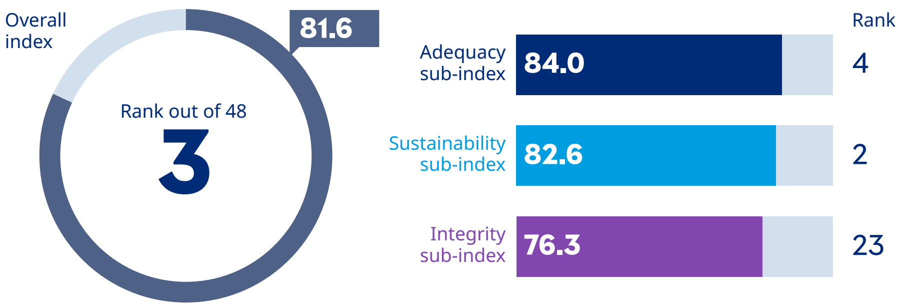
Croatia's retirement income system has seen major reform since 2002, resulting in a three-pillar retirement system. The first pillar comprises mandatory contributions of 15% of salary, resulting in a DB pension paid on retirement. The second pillar is DC, where employees contribute 5% of salary into an individual pot from which members draw a retirement pension. There is also a voluntary pension fund that members can choose to contribute to.

The overall index for the Croatian system could be increased by:

- Increasing the minimum level of support for the poorest aged individuals
- Increasing the level of funded contributions in private pension plans, thereby increasing the level of assets over time
- Increasing the labor force participation rate, particularly at older ages as life expectancies rise
- Introducing arrangements to protect the interests of both parties in a divorce

The Croatian index value increased from 62.3 in 2023 to 67.2 in 2024, primarily due to an increase in the net pension replacement rates due to newly available data.

Denmark



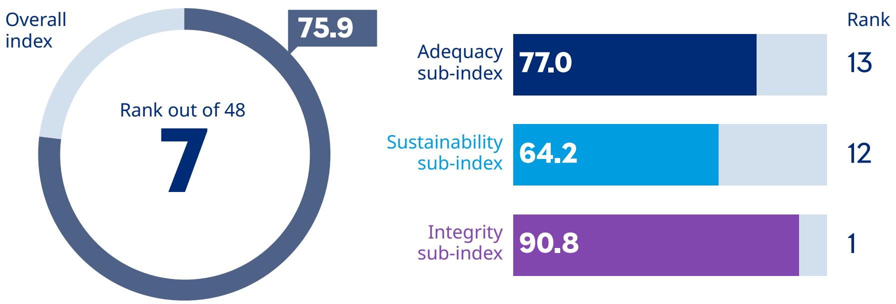
Denmark's retirement income system comprises a public basic pension scheme, a means-tested supplementary pension benefit, a fully funded DC scheme providing lifelong pensions and mandatory occupational DC schemes.

The overall index value for the Danish system could be increased by:

- Introducing arrangements to protect the interests of both parties in a divorce
- Requiring all pension plans to produce an annual report available to all members
- Introducing a requirement to show retirement income projections on members' annual statements

The Danish index value increased slightly from 81.3 in 2023 to 81.6 in 2024 due to several minor changes.

Finland



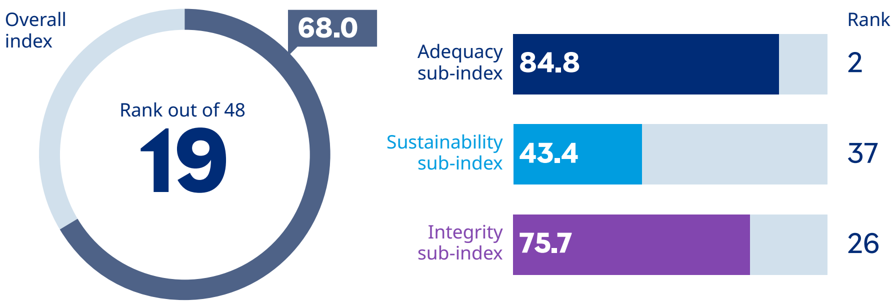
Finland's retirement income system consists of a basic state pension, which is income tested, and a range of statutory earnings-related schemes.

The overall index value for the Finnish system could be increased by:

— Increasing the minimum level of support for the poorest aged individuals
— Raising the level of household savings and reducing the level of household debt
— Continuing to raise the level of mandatory contributions set aside for future retirement benefits, thereby also increasing the level of assets over time
— Introducing arrangements to protect the pension interests of both parties in a divorce

The Finnish index value decreased slightly from 76.6 in 2023 to 75.9 in 2024, primarily due to a reduction in the level of pension assets.

France



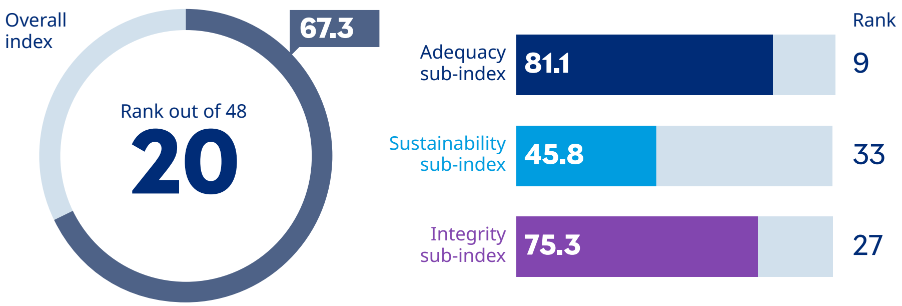
France's retirement income system comprises an earnings-related public pension with a minimum pension and a supplementary retirement pension scheme for private-sector workers (known as AGIRC-ARRCO). France also has voluntary occupational plans.

The overall index value for the French system could be increased by:

— Increasing the level of funded contributions, thereby increasing the level of assets over time
— Increasing the labor force participation rate at older ages as life expectancies rise
— Improving the level of communication to members from pension arrangements
— Reducing gradually the level of public expenditure on pensions

The French index value increased from 62.0 in 2023 to 68.0 in 2024, primarily due to an improvement in our understanding of the regulations of the pension system.

Germany



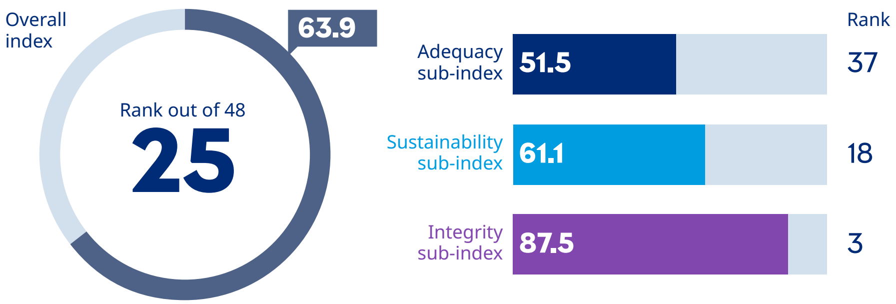
Germany's retirement income system comprises an earnings-related pay-as-you-go system based on the number of pension points earned during an individual's career, a means-tested safety net for low–income pensioners and supplementary pension plans that are common among major employers. These plans typically adopt either a book–reserving approach, with or without segregated assets, or an insured–pensions approach.

The overall index value for the German system could be increased by:

— Increasing the minimum pension for low-income pensioners
— Increasing the level of funded contributions in private pension plans, thereby increasing the level of assets over time
— Increasing coverage of employees in occupational pension plans

The German index value increased slightly from 66.8 in 2023 to 67.3 in 2024, primarily due to an increase in the net pension replacement rates and improvements in household savings and household debt.

Hong Kong SAR, China



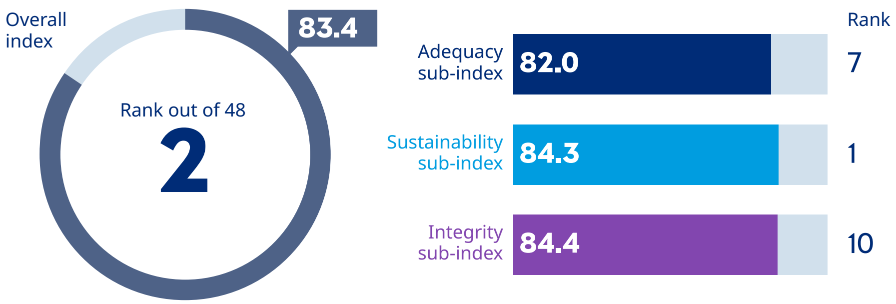
Hong Kong's retirement income system consists of Mandatory Provident Funds (MPFs) in which employers, most employees and the self-employed are each required to make mandatory contributions of 5% of relevant income to the MPF scheme, subject to minimum and maximum relevant income levels. Scheme members who have reached age 65, or who have reached age 60 and have decided to retire early, can choose either to withdraw their MPF benefits as a lump sum or by installments, or to retain all their MPF benefits in their accounts for continuous investment.

The overall index value for the Hong Kong SAR system could be increased by:

— Introducing a requirement that part of the retirement benefit be taken as an income stream
— Increasing the minimum pension for low-income pensioners
— Increasing the level of household savings and reducing the level of household debt
— Increasing the labor force participation rate at older ages as life expectancies rise
— Introducing requirements to protect all the pension interests of both parties in a divorce

The index value for Hong Kong SAR decreased slightly from 64.0 in 2023 to 63.9 in 2024 due to several minor changes.

Iceland



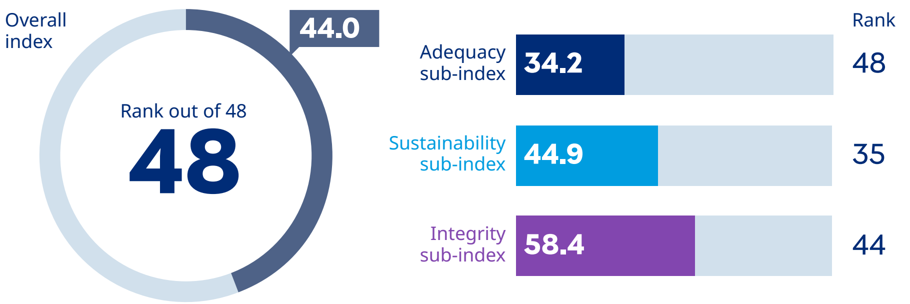
Iceland's retirement income system comprises a basic state social security pension and a pension supplement (both of which are income tested according to different rules), mandatory occupational private pension schemes with contributions from both employers and employees, and voluntary personal pensions.

The overall index value for the Icelandic system could be increased by:

— Reducing the level of household debt as a percentage of GDP
— Introducing arrangements to protect all the pension interests of both parties in a divorce
— Reducing government debt as a percentage of GDP

The index value for Iceland decreased from 84.8 in 2023 to 83.4 in 2024, primarily due to a decrease in the net pension replacement rates.

India



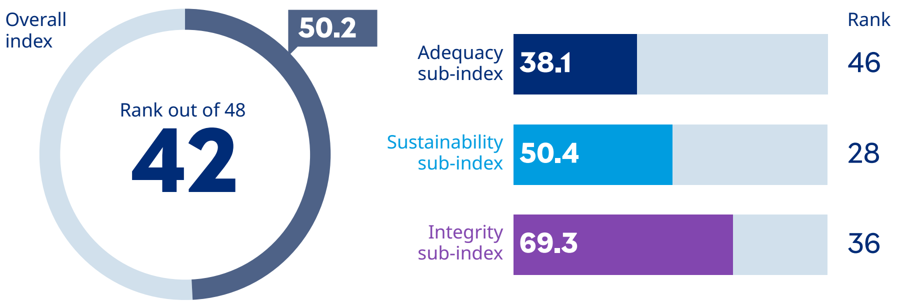
India's retirement income system comprises an earnings-related employee pension scheme, a DC employee provident fund (EPFO) and supplementary employer-managed pension schemes that are largely DC in nature. Government schemes have been launched as part of the universal social security program aimed at benefiting the unorganized sector.

The overall index value for the Indian system could be increased by:

— Introducing a minimum level of support for the poorest aged individuals
— Increasing coverage of pension arrangements for the unorganized working class, thereby increasing the level of assets over time
— Introducing a minimum access age so that benefits are preserved for retirement purposes
— Improving the regulatory requirements for the private pension system

The Indian index value decreased from 45.9 in 2023 to 44.0 in 2024, primarily due to decreases in the net pension replacement rates.

Indonesia



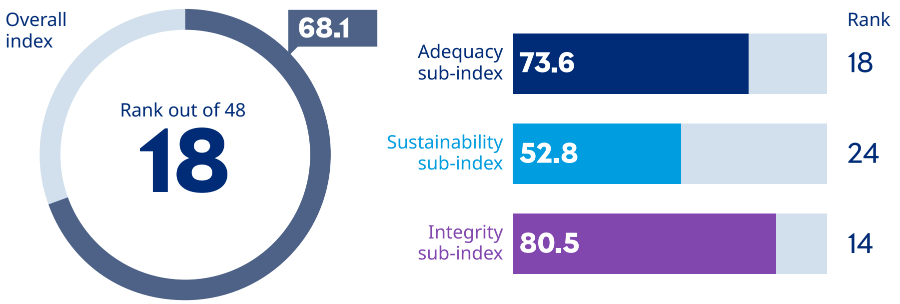
Indonesia's retirement income system comprises earnings-based civil-service pensions and DB/DC plans for private-sector workers. The Government Social Security Program is a mandatory DC-based scheme funded through regular employer and employee contributions. The national statutory pension provides a DB-based payout with two components: severance pay and long–service pay.

The overall index value for the Indonesian system could be increased by:

- Establishing a minimum level of support for individuals below the poverty line
- Expanding coverage of employees in occupational pension schemes, thereby increasing the level of assets over time
- Continuing to improve the regulatory requirements for the private pension system
- Introducing a requirement to show retirement income projections on members' annual statements

The Indonesian index value decreased from 51.8 in 2023 to 50.2 in 2024, primarily due to some recent clarification around the payment of annuities and decreases in the net pension replacement rates.

Ireland



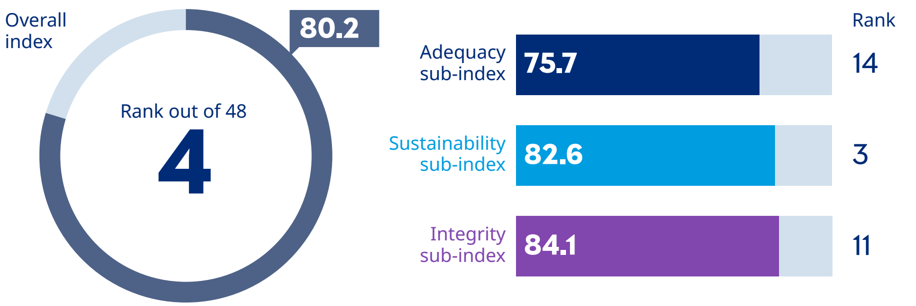
Ireland's retirement income system comprises a flat-rate basic social security scheme and a means-tested benefit for those without sufficient social insurance contributions. Voluntary occupational pension schemes and personal pension schemes provide supplementary income in retirement. Currently, the occupational pensions market in Ireland is experiencing a period of rationalization and consolidation due to the introduction of the IORP II regime. As a result, several plans are consolidating into master trusts, which will increase the governance, operational standards and regulatory supervision of these plans over time.

The overall index value for the Irish system could be increased by:

- Implementing government plans to introduce an automatic enrollment retirement savings regime, thereby increasing pensions coverage for many employees and increasing the level of contributions and assets, whether through employer-sponsored occupational pension schemes or the state-operated auto-enrollment
- Increasing the labor force participation rate at older ages as life expectancies rise
- Providing greater protection of members' accrued benefits

The Irish index value decreased from 70.2 in 2023 to 68.1 in 2024, primarily due to decreases in the base pension (when expressed as a percentage of the average wage) and net pension replacement rates and a reduction in the household saving rate.

Israel



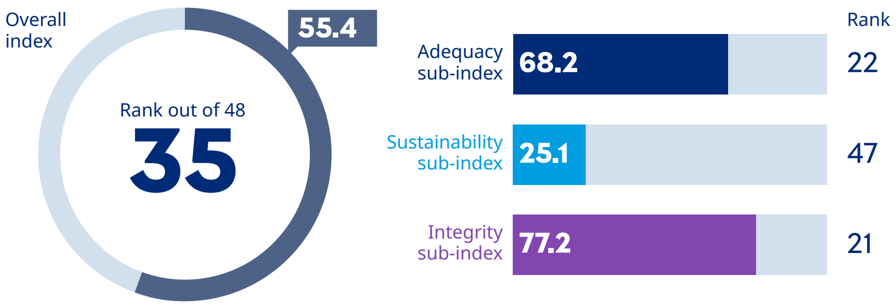
Israel's retirement income system comprises a universal state pension with an income-tested supplement and private pensions with compulsory employer and employee contributions.

The overall index value for the Israeli system could be increased by:

- Reducing government debt as a percentage of GDP
- Improving protection for members of private pension plans in the event of mismanagement or fraud
- Introducing a carer's pension credit for those caring for young children

The Israeli index value decreased slightly from 80.8 in 2023 to 80.2 in 2024, primarily due to a reduction in the net pension replacement rates.

Italy

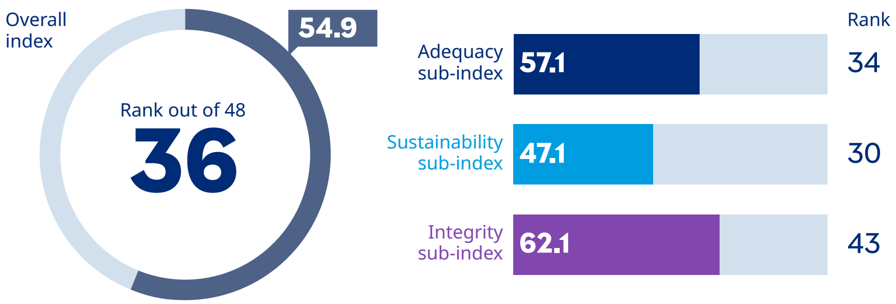


Italy's retirement income system comprises a notional DC scheme for workers and a minimum means-tested social assistance benefit. Voluntary supplementary occupational schemes also exist.

The overall index value for the Italian system could be increased by:
— Expanding coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets
— Continuing to raise the labor force participation rate at older ages as life expectancies rise
— Restricting the availability of benefits before retirement (other than bridge pensions)
— Reducing government debt and government spending on pensions as a percentage of GDP

The Italian index value decreased slightly from 56.3 in 2023 to 55.4 in 2024, primarily due to a decrease in the base pension (when expressed as a percentage of the average wage) and clarifications around the payment of annuities.

Japan

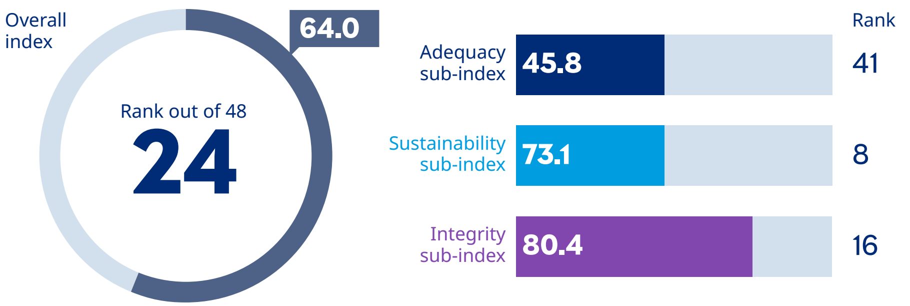


Japan's retirement income system comprises a flat-rate basic pension, an earnings-related public pension and voluntary private pension plans.

The overall index value for the Japanese system could be increased by:
— Continuing to increase the level of private pension coverage and thereby increase the level of contributions and pension plan assets
— Introducing an encouragement that part of the retirement benefit be taken as an income stream, such as an annuity payment
— Announcing a further increase in the future state pension age as life expectancy continues to increase
— Reducing the level of government debt as a percentage of GDP

The Japanese index value decreased from 56.3 in 2023 to 54.9 in 2024, primarily due to a reduction in the net pension replacement rates.

Kazakhstan

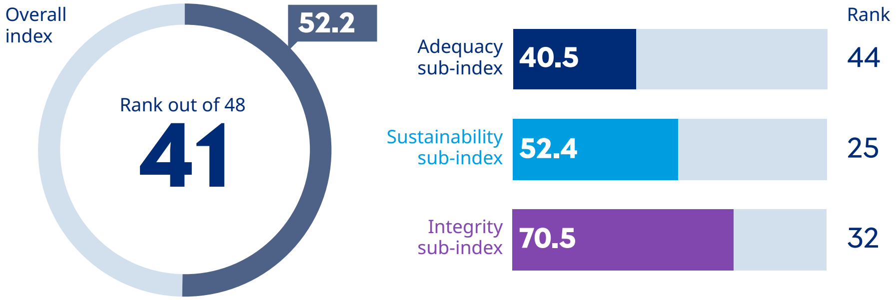


Kazakhstan's retirement income system is multi-pillar and comprises public and private pensions. Public pensions include a basic pension and an earnings-related benefit (for retirees with service before 1998), both paid from general government revenue. In 1998, a private fully funded mandatory DC component was launched, with a compulsory employee contribution of 10% paid into individual accounts. In 2024, a new mandatory notional DC component was launched, with a compulsory employer contribution paid into notional individual accounts and rising from 1.5% in 2024 to 5% in 2028. There are also additional voluntary DC plans.

The overall index value for the Kazakhstani system could be increased by:
— Increasing the minimum level of support for the poorest aged individuals
— Raising the level of household savings
— Reducing preretirement leakage by limiting the access to private pension funds before retirement
— Increasing the labor force participation rate at older ages as life expectancies rise
— Introducing a requirement to show retirement income projections on members' annual statements

The Kazakhstani index value decreased slightly from 64.9 in 2023 to 64.0 in 2024, primarily due to a reduction in the net pension replacement rates and the updated demographic data.

Korea (South)



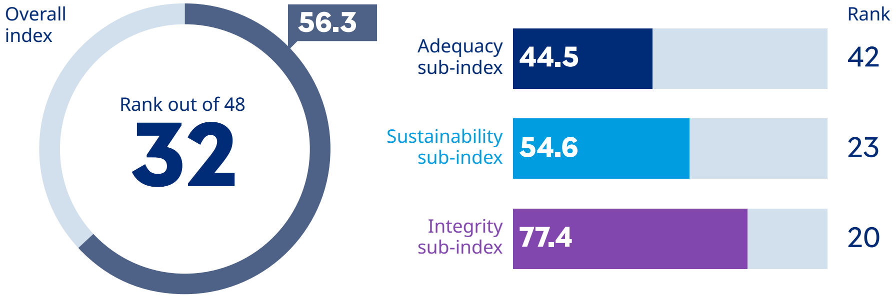
Korea's retirement income system comprises a public earnings-related pension scheme, based on both individual earnings and the average earnings of the insured as a whole, and statutory private pension plans.

The overall index value for the Korean system could be increased by:

— Improving the level of support provided to the poorest pensioners
— Introducing a requirement that part of the retirement benefit from private pension arrangements be taken as an income stream
— Increasing the level of funded contributions over time, thereby increasing the level of assets over time
— Improving the governance and communication requirements for the private pension system

The Korean index value increased from 51.2 in 2023 to 52.2 in 2024, primarily due to an increase in the net pension replacement rates and improvements in household savings and household debt.

Malaysia



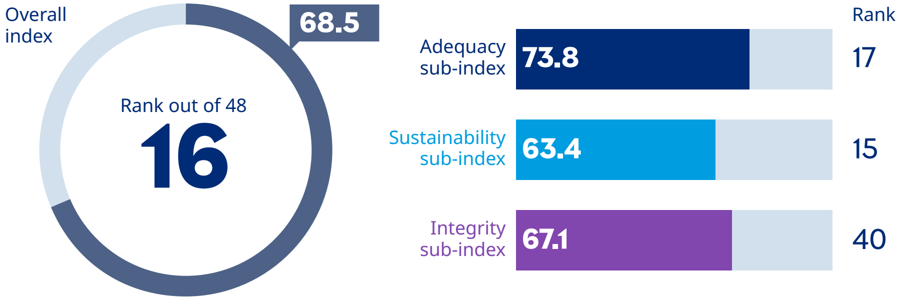
Malaysia's retirement income system is based on the Employee Provident Fund (EPF), which covers all private-sector employees and public-sector employees that are not covered under the KWAP pension scheme. Under the EPF, some benefits are available to be withdrawn at any time (under predefined circumstances, including education, home loans and severe ill health), with other benefits preserved for retirement.

The overall index value for the Malaysian system could be increased by:

— Increasing the minimum level of support for the poorest aged individuals
— Raising the level of household savings and lowering the level of household debt
— Introducing a requirement that part of the retirement benefit be taken as an income stream
— Increasing the pension age and the labor force participation rate at older ages as life expectancy continues to rise

The Malaysian index value increased slightly from 56.0 in 2023 to 56.3 in 2024, primarily due to improvements in our understanding of the prevalence of DB in the pension system.

Mexico



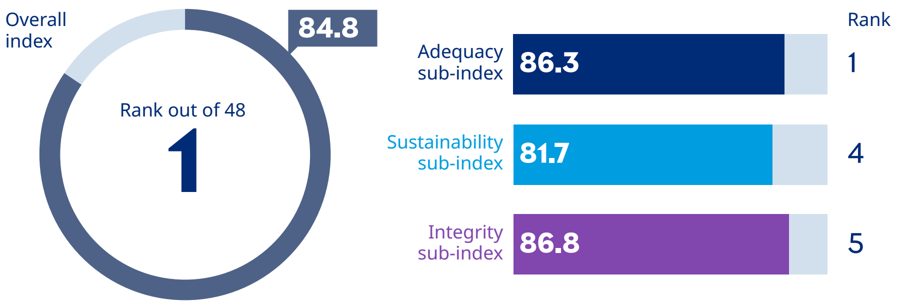
Mexico's retirement income system comprises a universal pension from age 65, a mandatory funded DC system that includes a minimum pension and voluntary occupational pension schemes.

The overall index value for the Mexican system could be increased by:

— Continuing to increase the level of the universal pension paid to the poorest aged individuals
— Increasing the level of funded contributions, thereby increasing the level of assets over time
— Introducing a requirement to show retirement income projections on members' annual statements
— Providing greater protection of members' accrued benefits

The Mexican index value increased from 55.1 in 2023 to 68.5 in 2024, primarily due to a major review of the approach taken for the integrity sub-index and an increase in the base pension.

The Netherlands



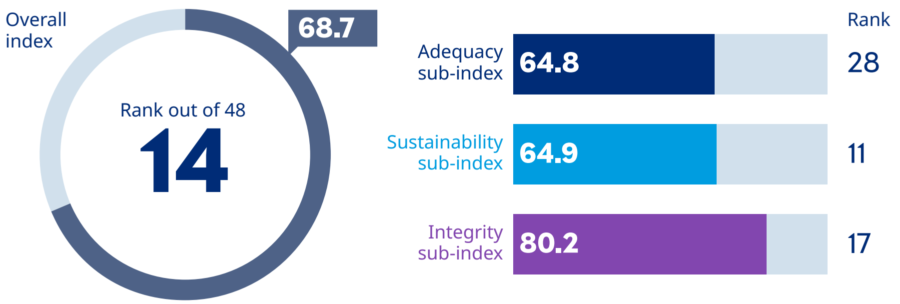
The Netherlands' retirement income system comprises a flat-rate public pension and quasi-mandatory earnings-related occupational pension schemes linked to industrial agreements.

The overall index value for the Dutch system could be increased by:

— Reducing the level of household debt
— Introducing a carer's pension credit for those caring for young children
— Providing greater protection of members' accrued benefits

The Dutch index value decreased slightly from 85.0 in 2023 to 84.8 in 2024 due to several minor factors.

New Zealand



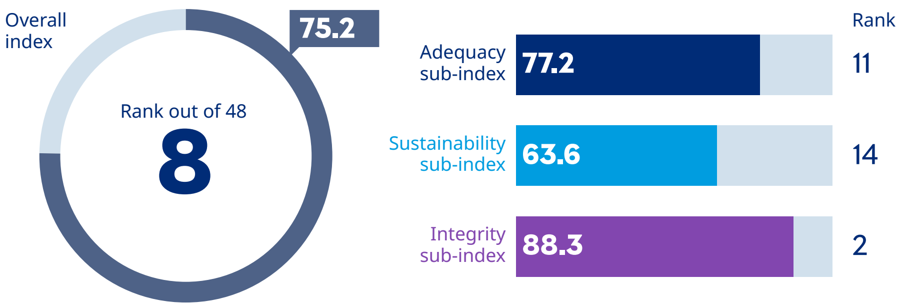
New Zealand's retirement income system predominately comprises a universal public pension and the KiwiSaver DC retirement scheme. There are also some occupational schemes. KiwiSaver is a voluntary scheme with contributions from the government, employers and members. New employees who are not already members of KiwiSaver are automatically enrolled by their employers and can remain in KiwiSaver unless they elect to opt out within a limited time of joining.

The overall index value for the New Zealand system could be increased by:

— Increasing the level, coverage and tax efficiency of KiwiSaver contributions, thereby increasing the level of assets set aside for future retirement benefits
— Raising the level of household savings and reducing the level of household debt
— Introducing a carer's savings credit or contribution for those caring for young children that is not contingent on the carer making a contribution
— Focus on retirement income as the primary purpose of KiwiSaver, and work to increase decumulation options

The New Zealand index value increased slightly from 68.3 in 2023 to 68.7 in 2024, primarily due to improvements in our understanding of the prevalence of DB in the pension system.

Norway



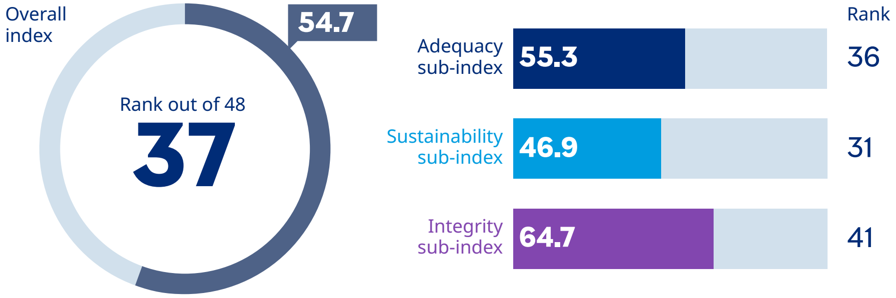
Norway's retirement income system comprises an earnings-related social security pension with a minimum pension level and mandatory occupational pension plans. Many voluntary arrangements also provide additional benefits.

The overall index value for the Norwegian system could be increased by:

— Raising the level of household savings and reducing the level of household debt
— Increasing the level of mandatory contributions to DC plans, thereby raising the level of pension assets
— Introducing the option for voluntary contributions with tax relief for members of occupational DC plans
— Introducing arrangements to protect all the pension interests of both parties in a divorce

The Norwegian index value increased slightly from 74.4 in 2023 to 75.2 in 2024, primarily due to increases in the coverage of retirement savings plans and the level of pension assets.

Peru

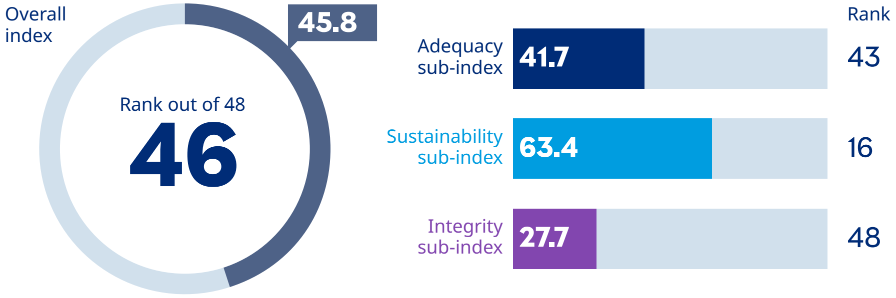


Peru's retirement income system comprises a means-tested pension paid to the needy and two parallel and mutually exclusive pension systems. At the time of enrollment, people choose between a pay-as-you-go DB public system and a fully funded DC system managed by the private sector. Individuals under the DB scheme can change; otherwise, it is an irreversible decision. Employers don't contribute to the system — all contributions are made by the employee.

The overall index value for the Peruvian system could be increased by:
- Reducing access to pension assets before retirement
- Increasing the minimum level of support for the poorest aged individuals
- Expanding coverage of employees in occupational pension schemes (for example, by promoting tax benefits or flexible investment rules), thereby increasing the level of contributions and assets
- Introducing a requirement to show retirement income projections on members' annual statements
- Enabling individuals to retire gradually while receiving a part pension

The Peruvian index value decreased slightly from 55.5 in 2023 to 54.7 in 2024, primarily due to updated demographic data.

The Philippines

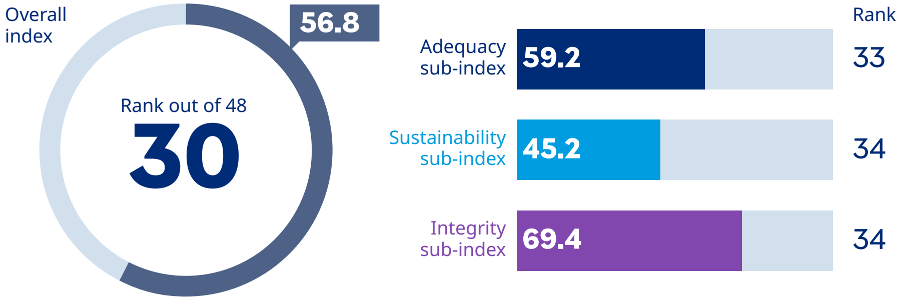


The Philippines' retirement income system comprises a small basic pension and an earnings-related social security pension. Members can receive a lifetime pension if they have contributed for a minimum of 180 months for government and 120 months for nongovernment members. Both schemes provide calibrated benefits if the minimum number of contributions is not satisfied.

The overall index value for the Philippine system could be increased by:
- Increasing the minimum level of support for the poorest aged individuals and aligning the benefit to cost-of-living indices
- Improving vesting requirements in private-sector plans
- Introducing non-cash-out options for retirement plan proceeds so they are preserved for retirement purposes
- Improving the governance requirements for the private pension system

The Philippine index value increased slightly from 45.2 in 2023 to 45.8 in 2024, primarily due to the changes in the integrity sub-index outlined in Chapter 4.

Poland

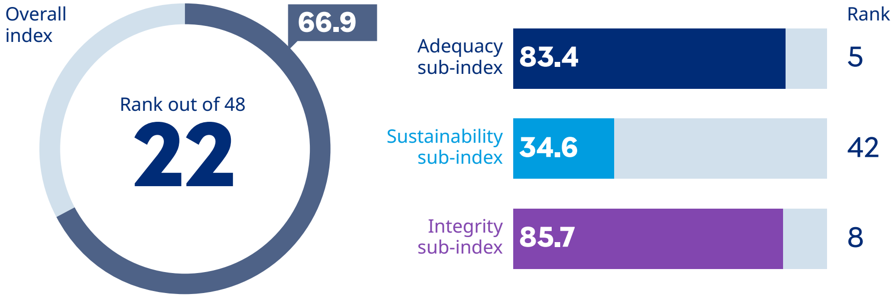


Poland's retirement income system comprises a minimum public pension with an earnings-related pension based on notional accounts, supplemented by open private DC pension funds. The overall system, excluding the open DC pension funds, is pay-as-you-go. There are also mandatory auto-enrollment employer-sponsored pension plans with mandatory employee contributions, voluntary employer pension plans with voluntary employee contributions and individual pension accounts.

The overall index value for the Polish system could be increased by:
- Increasing the level of funded contributions, thereby increasing the level of assets over time
- Raising the minimum level of support available to the poorest pensioners
- Raising the level of household savings
- Increasing the labor force participation rate at older ages as life expectancies rise

The Polish index value decreased slightly from 57.6 in 2023 to 56.8 in 2024 due to small reductions in each sub-index.

Portugal



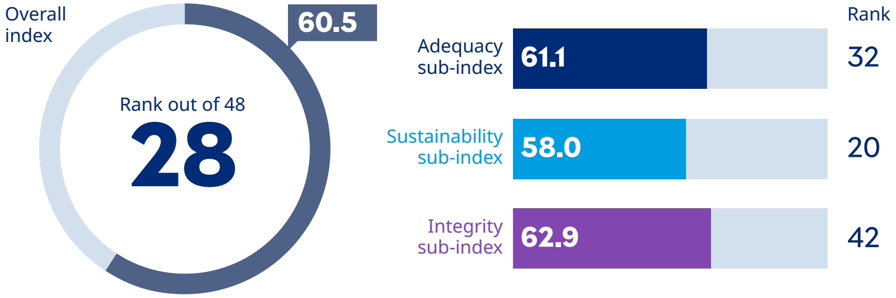
Portugal's retirement income system comprises an earnings-related public pension with an income-tested safety net. There are also voluntary personal and occupational pension schemes, but coverage is low.

The overall index value for the Portuguese system could be increased by:

- Increasing the coverage of private pension plans, thereby increasing the level of contributions and the level of assets set aside for future retirement benefits
- Gradually reducing the levels of government debt and public pension expenditure
- Introducing a carer's pension credit for those caring for young children

The Portuguese index value decreased slightly from 67.4 in 2023 to 66.9 in 2024, primarily due to a reduction in the base pension (when expressed as a percentage of the average wage).

Saudi Arabia



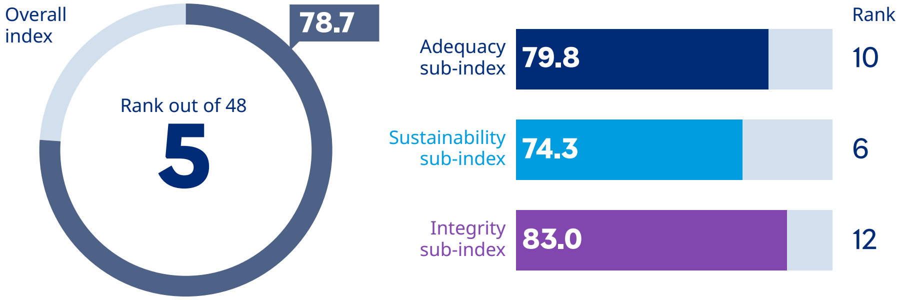
Saudi Arabia's retirement income system comprises an earnings-related pension or an earnings-related lump-sum retirement benefit for individuals who do not fulfill any of the retirement conditions. In July 2024, Saudi Arabia enacted new regulation (Royal Decree no. 273). The decree included changes to the state pension age (increased to 65, subject to some transitional rules), contribution and accrual rates for new joiners.

The overall index value for the Saudi Arabian system could be increased by:

- Increasing the minimum level of support provided to the poorest aged individuals
- Increasing the labor force participation rate at older ages as life expectancies rise
- Improving the required level of communication to members from private pension arrangements

The Saudi Arabian index value increased from 59.5 in 2023 to 60.5 in 2024 due to clarification around transition to retirement arrangements and the updated demographic data.

Singapore



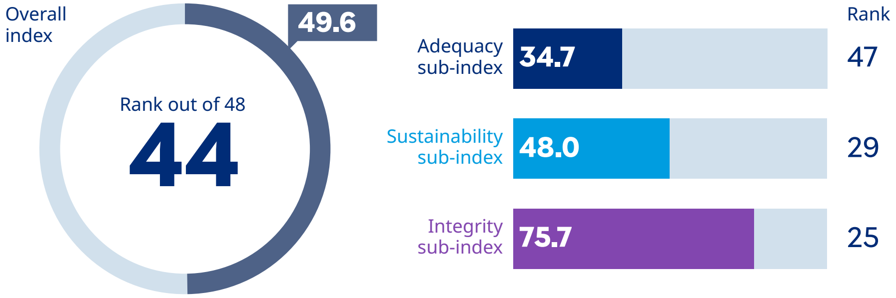
Singapore's retirement income system is based on the Central Provident Fund (CPF), which covers all employed Singaporeans and permanent residents. Under the CPF, some benefits are available to be withdrawn at any time for specified housing and medical expenses, with other benefits preserved for retirement. A prescribed minimum amount is required to be drawn down at retirement age in the form of a lifetime income stream through CPF Life.

The overall index value for the Singaporean system could be increased by:

- Reducing the barriers to establishing tax-approved group corporate retirement plans
- Opening the CPF to nonresidents (who make up a significant percentage of the labor force)
- Increasing the age at which CPF members can access their savings that are set aside for retirement
- Introducing a requirement to show income projections on members' annual statements

The Singaporean index value increased from 76.3 in 2023 to 78.7 in 2024, primarily due to the improvements in our understanding of the level of communication provided to CPF members and our understanding of the prevalence of DB in the system.

South Africa



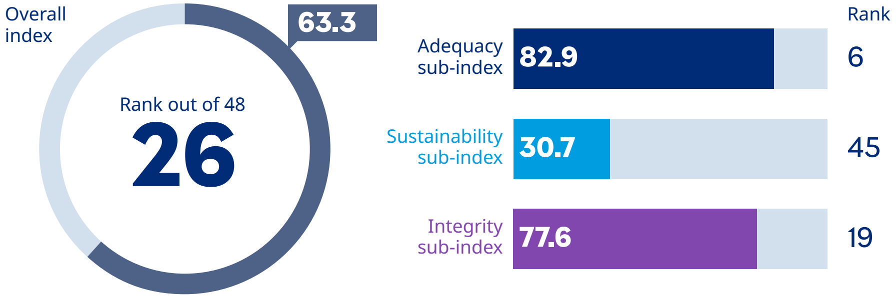
South Africa's retirement income system comprises a means-tested public pension and tax-supported voluntary occupational schemes. On 1 September 2024, a two-pot system was introduced, with one-third of contributions allocated to savings and two-thirds preserved until retirement.

The overall index value for the South African system could be increased by:

— Increasing the minimum level of support for the poorest aged individuals
— Increasing the coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets
— Introducing a minimum level of mandatory contributions into a retirement savings fund
— Increasing the labor force participation rate at older ages as life expectancies rise

The South African index value decreased from 54.0 in 2023 to 49.6 in 2024, primarily due to a reduction in the base pension (when expressed as a percentage of the average wage).

Spain



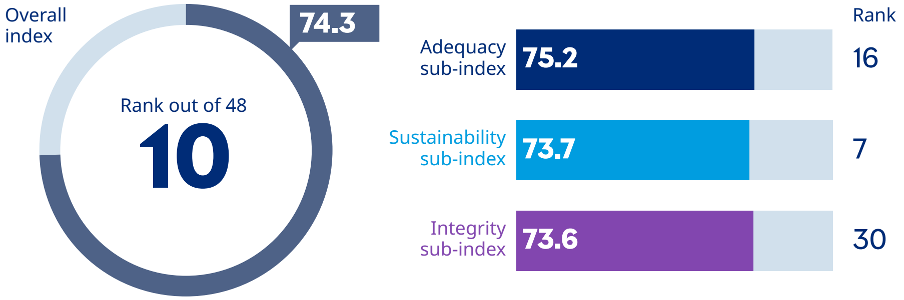
Spain's retirement income system comprises an earnings-related public pension system and a minimum means-tested social assistance benefit. Voluntary personal and occupational pension schemes exist, but coverage is low. Legislation was passed in 2022 with the aim of promoting occupational pension coverage.

The overall index value for the Spanish system could be increased by:

— Expanding coverage of employees in occupational pension schemes through automatic membership or enrollment, thereby increasing the level of contributions and assets
— Continuing to increase labor force participation rate at older ages as life expectancies rise
— Introducing a requirement that part of the retirement benefit be taken as an income stream in most circumstances

The Spanish index value increased from 61.6 in 2023 to 63.3 in 2024, primarily due to an increase in the base pension.

Sweden



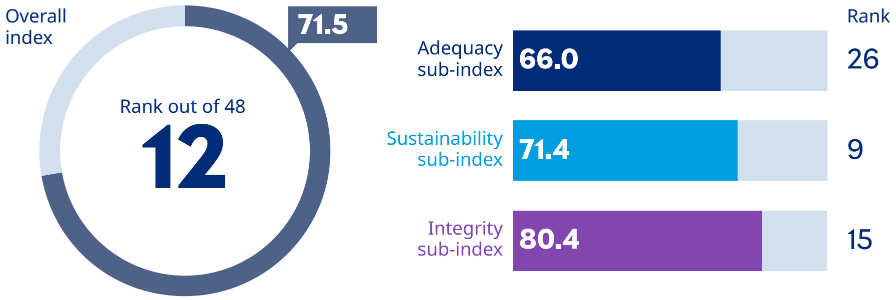
Sweden's national retirement income system comprises a pay-as-you-go earnings-related system with notional accounts and a mandatory DC pension system. The overall system is in transition from a pay-as-you-go system to a funded approach. There is also an income-tested top-up benefit that provides a minimum guaranteed pension. Occupational pension schemes also have broad coverage.

The overall index value for the Swedish system could be increased by:

— Reducing the level of household debt
— Ensuring that all employees can make contributions into employer-sponsored plans
— Reintroducing tax incentives for individual contributions
— Introducing arrangements to protect all the pension interests of both parties in a divorce

The Swedish index value increased slightly from 74.0 in 2023 to 74.3 in 2024, primarily due to increases in the base pension and the net pension replacement rates.

Switzerland



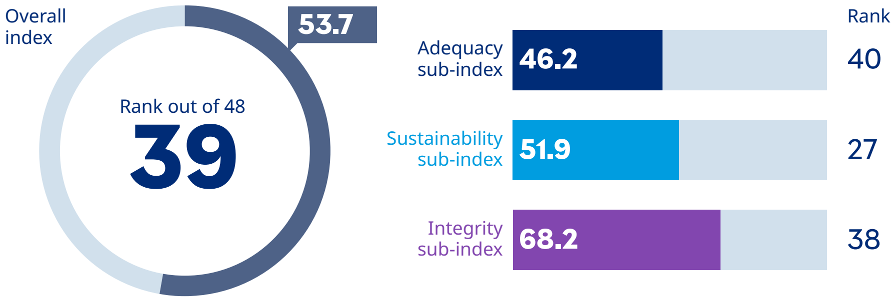
Switzerland's retirement income system comprises an earnings-related public pension with a minimum pension, a mandatory occupational pension system where the contribution rates increase with age. The majority of occupational plans provide benefits above mandatory standards. In addition, there are voluntary pension plans that offer tax-advantaged savings.

The overall index value for the Swiss system could be increased by:

— Introducing a requirement that part of the retirement benefit be taken as an income stream
— Increasing the state pension age over time as life expectancies rise
— Increasing the rate of home ownership

The Swiss index value decreased slightly from 72.0 in 2023 to 71.5 in 2024, primarily due to decreases in the base pension (when expressed as a percentage of the average wage) and net pension replacement rates.

Taiwan



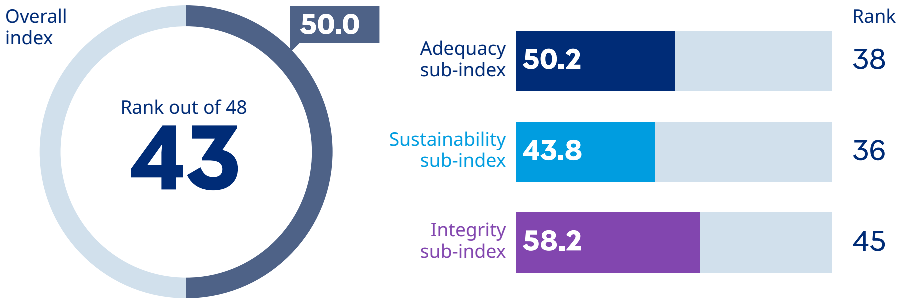
Taiwan's retirement income system consists of an earnings-related public pension and a national labor pension scheme in which the employer contributes 6% or more of a worker's monthly wage into an individual pension account overseen by the Bureau of Labor Insurance. Ownership of this pension account belongs to the worker. Upon reaching age 60, a worker may apply directly to the Bureau of Labor Insurance to receive the principal and investment earnings.

The overall index value for Taiwan's system could be increased by:

— Increasing the minimum level of support for the poorest aged individuals
— Introducing a requirement that part of the labor retirement benefit be taken as an income stream
— Gradually increasing the state pension age as life expectancies increase
— Increasing labor force participation rate at older ages

The Taiwanese index value increased slightly from 53.6 in 2023 to 53.7 in 2024, primarily due to the new questions in the integrity sub-index.

Thailand



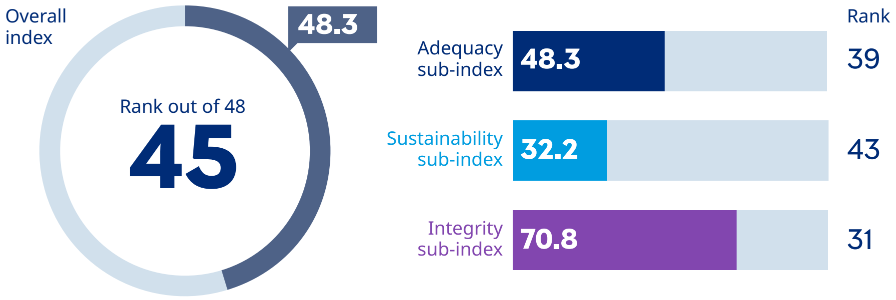
Thailand's retirement income system comprises an old-age pension, a social security fund for private-sector employees in the formal sectors, voluntary employer-sponsored DC plans and individual savings products.

The overall index value for the Thai system could be increased by:

— Increasing the coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets
— Increasing the minimum level of support for the poorest aged individuals
— Reducing government debt as a percentage of GDP
— Continuing to enhance the governance requirements for the private pension system

The Thai index value increased from 46.4 in 2023 to 50.0 in 2024, primarily due to an improvement in our understanding of the form of benefits provided.

Türkiye



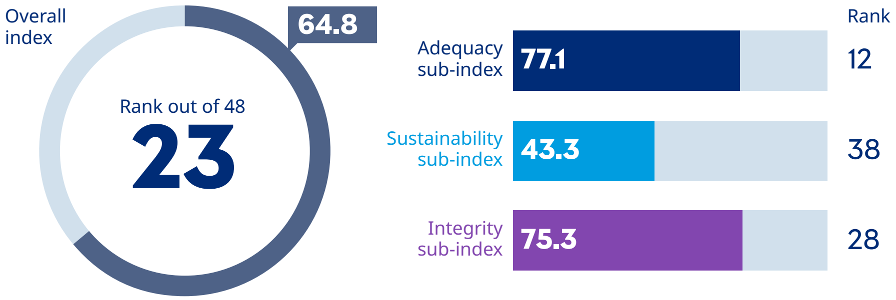
Türkiye's retirement income system comprises an income-tested public pension and an earnings-related public scheme. There are voluntary private pension systems that people can join to supplement their income in retirement, but coverage is low. There are also auto-enrollment plans in which employee contribution is mandatory but with the right to opt out at any time.

The overall index value for the Turkish system could be increased by:

— Increasing the minimum public pension provided to the poorest aged individuals
— Expanding the coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets
— Introducing a requirement that part of the retirement benefit be taken as an income stream
— Reducing preretirement leakage by limiting the access to private pension funds before retirement

The Turkish index value increased from 46.3 in 2023 to 48.3 in 2024 due to small improvements in each sub-index.

United Arab Emirates (UAE)



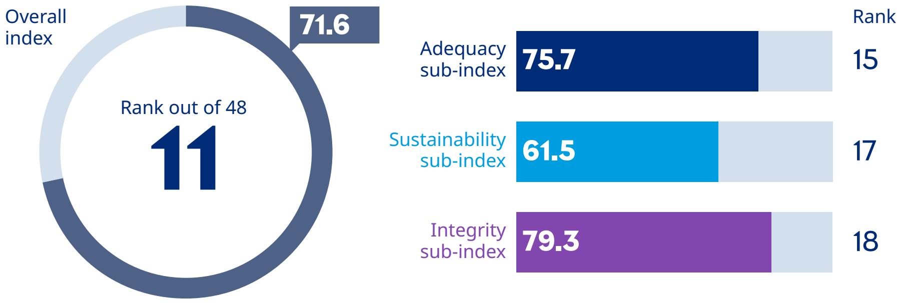
The UAE's retirement income system comprises a minimum means-tested state pension and an earnings-related national employment-based scheme administered by Abu Dhabi Pension Fund for the Emirate of Abu Dhabi, Sharjah Social Security Fund for the Emirate of Sharjah and the General Pensions and Social Security Authority for the rest of the emirates.

The overall index value for the Emirati system could be increased by:

— Increasing the coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets
— Improving the required level of communication to members from pension arrangements
— Increasing the state pension age as life expectancies rise
— Reducing the level of household debt

The Emirati index value increased from 62.5 in 2023 to 64.8 in 2024, primarily due to the introduction of a minimum access age to receive benefits.

United Kingdom (UK)



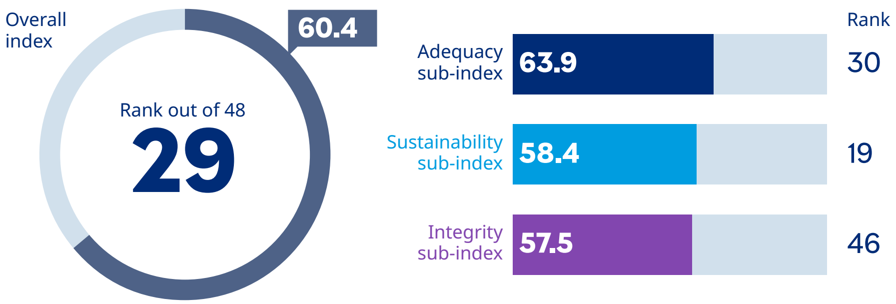
The UK retirement income system comprises a single-tier state pension supported by an income-tested pension credit and supplemented by voluntary occupational and personal pensions. Auto-enrollment now covers all employers, requiring them to enroll eligible employees (who can then choose to opt out) in pension schemes. The minimum contribution rate is currently 8%.

The overall index value for the UK system could be increased by:

— Restoring the requirement to take part of the retirement benefit as an income stream
— Further increasing the coverage of employees and the self-employed in private pension schemes
— Increasing the scope and contribution levels required under auto-enrollment to deliver increased financial security for more retirees
— Reducing the level of household debt

The UK index value decreased from 73.0 in 2023 to 71.6 in 2024, primarily due to decreases in the net pension replacement rates and the level of pension assets.

United States of America (US)

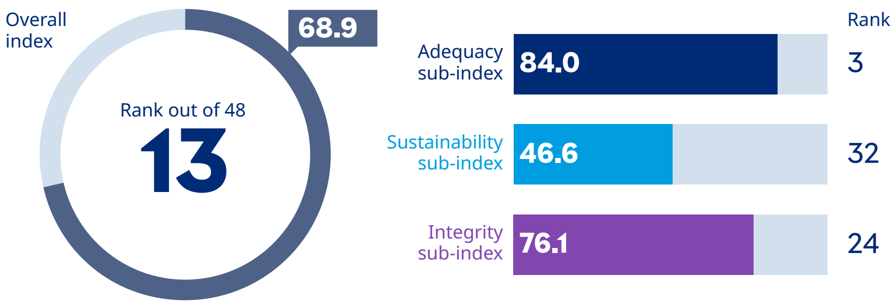


The US retirement income system comprises a social security system with a progressive benefit formula based on lifetime earnings, adjusted to a current-dollar basis, together with a means-tested top-up benefit and voluntary private pensions, which may be occupational or personal.

The overall index value for the US system could be increased by:
- Raising the minimum pension for low-income pensioners
- Improving the vesting of benefits for all plan members and maintaining the real value of retained benefits through to retirement
- Reducing preretirement leakage by further limiting access to funds before retirement
- Introducing a requirement that part of the retirement benefit be taken as an income stream

The American index value decreased from 63.0 in 2023 to 60.4 in 2024, primarily due to the updated OECD data.

Uruguay

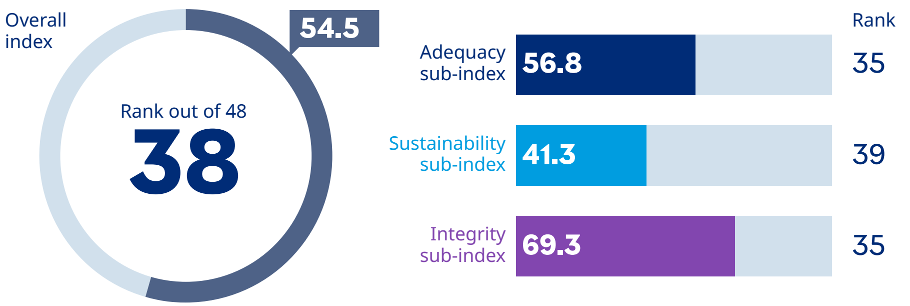


Uruguay's retirement income system comprises a means-tested state pension and mandatory private pension arrangements. Compulsory contributions from employers and employees are paid into both the pay-as-you-go social security system and a private pension fund.

The overall index value for the Uruguayan system could be increased by:
- Increasing the level of individual contributions that are invested through the private pension arrangements for future retirement benefits, thereby increasing the level of assets
- Improving the governance requirements for the private pension system
- Increasing the state pension age as life expectancies rise
- Introducing arrangements to protect all the pension interests of both parties in a divorce

The Uruguayan index value remains unchanged at 68.9.

Vietnam



Vietnam's retirement income system comprises a social security system. There are voluntary occupational corporate and individual pension plans, but since they are relatively recent developments, their coverage is low.

The overall index value for the Vietnamese system could be increased by:
- Increasing the minimum level of support for the poorest aged individuals
- Expanding the coverage of employees in occupational pension schemes, thereby increasing the level of contributions and assets
- Increasing the level of individual contributions that are invested through the private pension arrangements

The Vietnamese index value for 2024 is 54.5.

07 The adequacy sub-index

The adequacy sub-index considers the benefits provided by the existing pension systems to the poor and a range of income earners as well as several design features that enhance the efficacy of the overall retirement income system. The net household saving rate, the level of household debt and the home ownership rate are also included, representing non-pension factors that contribute to financial security during retirement.

The countries with the highest value for the adequacy sub-index are the Netherlands (86.3) and France (84.8), whereas India (34.2) and South Africa (34.7) have the lowest. Although several indicators influence these scores, the level of the basic (or targeted) pension (expressed as a percentage of the average wage) and the net replacement rate for a range of incomes are the most important. Full details of the values relating to each indicator in the adequacy sub-index are shown in Appendix 1.

Question A1

- What is the basic (or targeted) state pension, as a percentage of the average wage, that a single aged person will receive?
- How is the basic (or targeted) state pension increased or adjusted over time (for example, by prices or wages or some other means)?
- Are these increases or adjustments made on a regular basis? If yes, how often?

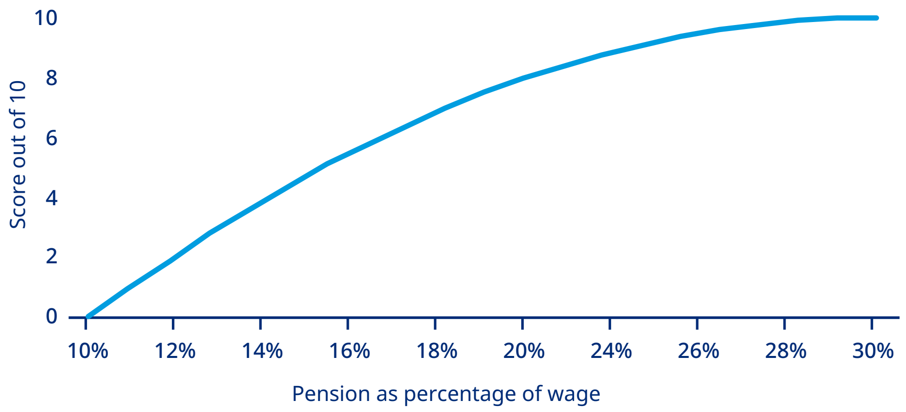
Objective
An important objective of any retirement income system is to provide a minimum pension to the aged poor. In terms of the World Bank's recommended multipillar system, it represents the noncontributory basic pension or zero pillar, which provides a minimum level of income for all aged citizens. Eligibility for this minimum pension requires no period in the paid workforce but will often require a minimum period of residency. As the World Bank notes: "The elderly in the poorest quintile have benefited the most from old-age social pensions, no matter the program design."[23]

This question also considers how the minimum pension is increased or adjusted over time. The level and frequency of increases or adjustments are critical to ensure that the real value of the basic (or targeted) pension is maintained.

Calculation
There is no single answer as to the correct level of the basic (or targeted) pension — it depends on a range of socioeconomic factors. However, a minimum pension of about 30%[24] of average earnings is suggested to adequately meet the poverty-alleviation goal. So, for the first part of this question, a basic (or targeted) pension below 30% will score less than the maximum value of 10, with a 0 score if the pension is 10% or less of the average wage as such a pension offers very limited income provision.

However, we haven't used a linear scoring approach between 10% and 30%. Rather, more credit is given for increases at the lower levels of the pension than at the higher levels as these improvements will provide relatively greater benefits to the poor.

Figure 9. Calculating A1 – Basic (or targeted) pension



The second part of this question is assessed on a four-point scale, with the maximum score of 2 for increases granted on a regular basis related to wage growth (where regular is considered to be at least annually); 1.5 for increases granted on a regular basis related to price inflation; 1 for increases that occur but not on a regular basis related to wage growth or price inflation; and 0 in cases where the minimum pension is not increased.

A maximum score is achieved for this question if the minimum pension is 30% or higher of the average wage and it is increased on a regular basis in line with wage growth.

Commentary
The minimum pension ranges from less than 5% of the average wage in the Philippines and Thailand to more than 35% in Argentina, Brazil, Denmark and New Zealand. India and Indonesia do not provide a basic (or targeted) pension.

Weighting
The major objective of any nation's retirement income system is to provide income support for its older citizens. The level of actual benefits therefore represents the major measurable outcome from the system. Hence, this measure (which considers the retirement income provided to the poorest in the community) and the next measure (which considers the retirement income for a range of income earners) represent the two most important components within the adequacy sub-index. This indicator is therefore given a weighting of 20% in the adequacy sub-index, with 17.5% for the first question and 2.5% for the remaining questions.

Question A2

What is the net pension replacement rate for a range of income earners?

Objective
The most common measure used to assess the adequacy of retirement income is the replacement rate; that is, the income at retirement expressed as a percentage of an individual's preretirement income. Although this concept is simple to understand, several comments are worth noting:

1. Replacement rates should allow for future indexation of the postretirement income so that the purchasing power of the retiree does not reduce during retirement.
2. A net replacement rate recognizes that the taxation of income after retirement may be very different from that before retirement.
3. Low-income earners are likely to need a higher replacement rate than higher-income earners to provide a reasonable standard of living.
4. The replacement rates need to include income from both public and private pensions, which are available to the majority of workers.

The OECD suggested a target replacement rate of 70% of final earnings, or around two-thirds of final salary, while noting that this level may need to be higher for low-income individuals.[25]

The OECD calculates net pension replacement rates for a single person at a range of income levels (revalued with earnings growth) throughout their working career. These calculations assume no promotion of the individual; in other words, the individual earns a particular percentage of average earnings throughout.

To recognize that a range of income levels exists in practice, we have used the net replacement rates at three income levels — namely, 50%, 100% and 150% of average earnings. The net replacement rates at these three income levels are given weightings of 30%, 60% and 10%, respectively, which recognizes that more individuals earn less than the average wage than above it. The use of a range of incomes is more comprehensive than a single point, although the weighted answer will be similar to the net replacement rate for the median-income earner in many systems.

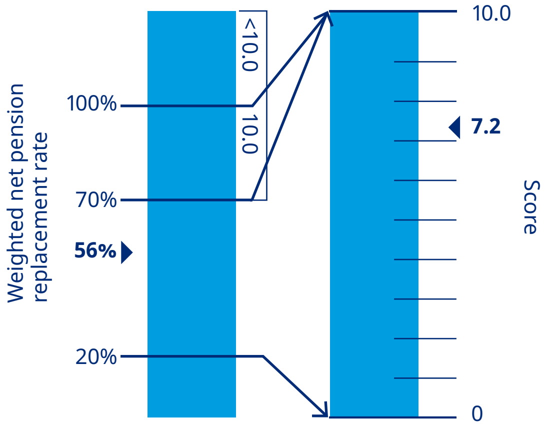
This indicator for the adequacy sub-index includes mandatory components of a retirement income system for private-sector workers as well as an allowance for voluntary plans that cover more than 30% of the working-age population. This allowance takes into account the level of coverage above 30% and the increase in the net replacement rate due to these voluntary schemes.[26]

A net replacement rate below 70% suggests a reliance on some voluntary savings, which many individuals are unable to achieve, whereas a figure above 100% suggests significant overprovision.

Calculation

The maximum score for this indicator is obtained for any system with a result between 70% and 100%. Fifteen of the 48 pension systems in the Index achieve this outcome. Any outcome outside this range scores less than the maximum, with a 0 score being obtained for a result less than 20%.

Figure 10. Calculating A2 — Weighted net pension replacement rate



Commentary

Most systems have a result between 20% and 70%, as shown in Appendix 1, with scores between 0 and 10 for this question. The Chinese, Indian and Indonesian figures have been adjusted to reflect the varying levels of replacement rates that exist in practice.

Weighting

The net pension replacement rates for a range of income earners represent a major outcome in the assessment of any retirement income system. As this indicator reflects the benefits provided to a broad group of retirees, it is given the highest weighting in the adequacy sub-index; namely, 25%.

Question A3

What is the net household saving rate?

What is the net household debt-to-GDP ratio?

Objective

The living standards of the aged will depend on the benefits arising from the total pension system (as covered by the previous two questions) as well as the net level of household savings or debt outside the pension system.

Calculation

For countries where Economist Intelligence Unit (EIU) data were used, we calculated the saving rate in the following way:

$$\text{Household saving rate} = \frac{(\text{PDIN} - \text{PCRD})}{\text{PDIN}}$$

PDIN = Personal disposable income
PCRD = Private consumption

To remove some volatility that may occur in annual figures, we have averaged the 2023 and 2024 measurements.

OECD measures were used for Canada, Denmark, Germany, Italy, Korea, Sweden and Switzerland due to changes in data sources and estimation methods.

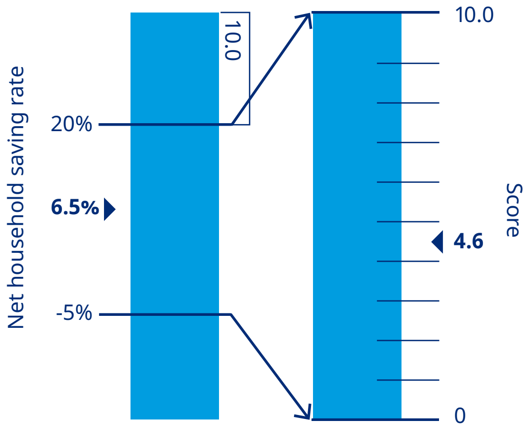
Trading Economics measures were used for Ireland, Mexico, Spain and the UK due to changes in data sources and estimation methods.

Mercer colleagues and other contributors provided responses for Botswana, Iceland, Taiwan, Uruguay and Vietnam.

The calculated household saving rates ranged from -19% in Kazakhstan to +33% in Singapore. A maximum score is obtained for any country with a saving rate of 20% or higher and a 0 score for any country with a saving rate of less than -5%.

The EIU's calculation excludes contributions to pension plans, and the OECD measure also excludes contributions to social security and employer contributions. This is consistent with our approach as we allow for both pension plan assets and the level of pension contributions as part of the sustainability sub-index.

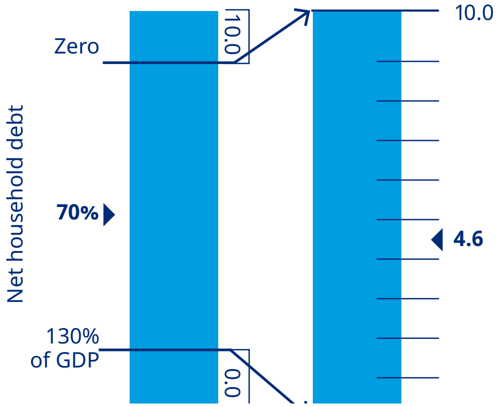
Figure 11. Calculating A3a — Net household saving rate



Although the level of household savings represents the current flow of household savings, the level of household debt represents the financial liabilities that must be paid by households in the future. In many cases, these liabilities will be repaid by accumulated benefits from the pension system, thereby reducing the adequacy of the remaining pension benefits.

The level of household debt ranges from 4% of GDP in Argentina and 11% of GDP in the Philippines to 113% of GDP in Australia and 129% of GDP in Switzerland. A maximum score is obtained for any country with zero household debt and a 0 score for any country with household debt of 130% of GDP or higher.

Figure 12. Calculating A3b — Net household debt



Commentary

The net household saving rate provides some indication of the level of current income that is voluntarily being set aside from current consumption, excluding pension contributions, whereas net household debt provides an indication of the debt levels that will need to be repaid by households in the future.

Weighting

The weighting for these two measures has been set at 5% each of the adequacy sub-index. This indicates the importance of both net household savings and debt as individuals plan for their futures.

Question A4

Are voluntary member contributions to a funded pension plan made by a full-time median-income earner treated more favorably than similar savings in a bank account? This positive treatment could be received through the tax system, with a government co-contribution or through a similar arrangement.

Is the investment income earned by the pension plan exempt from tax in the preretirement and/or postretirement periods?

Objective

The level of total retirement benefits received by an aged person will depend on both the mandatory level of savings and any voluntary savings, which are likely to be influenced by the presence (or otherwise) of taxation and other incentives designed to change individual behavior. The net investment earnings (and the related compounding effect over decades) are critical with regard to adequacy as the size of an individual's retirement benefits are primarily due to investment earnings and not contributions.

Calculation

This indicator is concerned with any taxation or other incentives that make saving through a pension plan more attractive than through a bank account. The benchmark of a bank account was chosen as this saving alternative is readily available in all countries.

Both questions were assessed with a score of 2 for "yes" and 0 for "no." In cases in which the response to the first question was neither a clear "yes" nor a clear "no," a score of 1 was given.

Commentary

All countries offer some taxation incentive for voluntary contributions except Austria and the Philippines, in addition to Saudi Arabia and the UAE, where there is no income tax. In Norway and Sweden, additional employee contributions are encouraged in certain circumstances. Thirty-two systems offer a tax exemption on investment earnings of pension plans in both the preretirement and postretirement periods.

Weighting

Incentives represent important measures that governments can introduce to encourage pension savings and long-term investments. Such incentives provide a desirable design feature of retirement income systems. We have therefore given this measure a total weighting of 5% in the adequacy sub-index, with 2% for the first question and 3% for the second question.

Question A5

Is there a minimum access age to receive benefits from private pension plans[27] (except in the cases of death, invalidity or significant financial hardship)? If so, what is the current age?

Objective

The primary objective of a private pension plan should be to provide retirement income; therefore, the availability of these funds at an earlier age reduces the efficacy of such plans as it leads to leakage from the system.

Calculation

The first question was assessed on a three-point scale, with a score of 2 for "yes," 1 if it was applied in some cases and 0 for "no." The second question was scored on a scale for those who said "yes" to the first question, ranging from a score of 0 for age 55 or below to a score of 1 for age 60 or above. A maximum score is achieved if a minimum access age exists and this age is at least 60.

Commentary

Many pension systems have introduced a minimum access age, whereas others have access provisions described in each pension plan's set of rules. In some cases, early access is not prohibited, although the taxation treatment of the benefit discourages such behavior.

Weighting

Ensuring that the accumulated benefits are preserved until the later years of life represents an important design feature of all pension arrangements. Hence, this desirable feature has been given a 10% weighting in the adequacy sub-index.

Question A6

Is it a requirement to take part or all of the retirement benefit as an annuity or income stream? If yes, is it a requirement that this annuity or income stream be for life?

- **If it is a requirement to take an annuity or income stream, are some lump-sum benefits also available?**
- **If it is not a requirement to take an annuity or income stream, are there any incentives or rules that encourage the provision of income streams?**

Are the annuities or income streams available priced or designed as unisex annuities (that is, the same benefit for males and females)?

Are reverse mortgages (or home equity release schemes) available to retirees (either from the government or the private sector)?

Objective

The primary objective of a private pension system should be to provide income during retirement. Of course, this does not imply that a lump-sum payment is not a valuable benefit; it often is. Indeed, both Rocha and Vittas[28] and the OECD[29] suggest that policymakers should target an adequate level of annuitization but should be wary of causing excessive annuitization. This indicator therefore focuses on whether the system has any requirement that at least part of the benefit be taken as an income stream or if there are any tax incentives to encourage the take-up of income streams. Further, the availability of some lump-sum benefits can provide additional security and comfort to retirees.

Traditionally, the price of purchased annuities often distinguished between males and females. Yet this distinction does not appear in government pensions or most DB pension schemes. The better systems provide the same income streams for a given price irrespective of gender.

Another potential source of retirement income is the home. Although the need for this income source will vary considerably between individuals, its availability provides greater flexibility and income for retirees who may need it.

Calculation

No single design of retirement income products provides the best outcome for all retirees. The significant heterogeneity between retirees means the situation is more complicated than that. The better systems have some flexibility so that retirees have regular income as well as access to some capital for those unexpected expenses.

The first set of questions, relating to the balance between income and lump sums, accounts for 80% of this indicator, whereas the next two questions are worth 10% each.

Commentary

Systems vary considerably in the design of their retirement benefits, and variation also exists within systems with two or more pension arrangements. Thirty of the 48 systems require that part or all of the retirement benefit be taken as an income stream, with 16 of these also permitting some level of lump-sum benefits. Of the 18 systems that do not require that part or all of the retirement benefit be taken as an income stream, 9 provide some level of incentive to encourage the provision of income streams.

Twenty-six systems require that annuities be priced on a unisex basis, while reverse mortgages are available to retirees as a potential source of income in 24 systems.

Weighting

The benefit format of the retirement benefits is a fundamental feature of any private pension system. Therefore, this indicator has a weighting of 10% in the adequacy sub-index.

Question A7

Upon resignation from employment, is a plan member normally entitled to the full vesting of their accrued benefit?

After resignation, is the value of the member's accrued benefit normally maintained in real terms (either by inflation-linked indexation or through market investment returns)?

Can a member's benefit entitlements normally be transferred to another private pension plan upon the member's resignation from an employer?

Objective

Most individuals have many employers during their careers and do not stay with a single employer throughout their working lives. It is therefore important that individuals receive the full value of any accrued benefit upon leaving an employer's service and that the real value of this benefit is maintained until retirement, either in the original plan or in another plan. Further, the availability of portability between schemes provides greater flexibility for individuals and should lead to a more efficient outcome.

Calculation

Each question was assessed with a score of 2 for "yes," 0 for "no" and between 0.5 and 1.5 if it was applied in some cases. The actual score depended on the specific circumstances.

Commentary

There is considerable variation in whether the real value of a member's benefit entitlements can be transferred or is retained after changing employment. That is, in only 26 of the 48 systems is full vesting present, with the real value of the benefits maintained after resignation and the accrued benefit transferrable, thereby obtaining the maximum score.

Weighting

Maintaining the real value of a member's accrued benefit entitlements during a member's working life represents an important feature of all retirement income systems. Hence, this desirable feature has been given a 5% weighting in the adequacy sub-index.

Question A8:

Upon a couple's divorce or separation, are the individuals' accrued pension assets normally taken into account in the overall division of assets?

Objective

The adequacy of an individual's retirement income can be disrupted by a divorce or separation. In many cases involving heterosexual couples, the female partner can be adversely affected as most of the benefits may have accrued in the male's name during the marriage or partnership. We consider it desirable that upon a divorce or separation, the pension benefits that have accrued during the marriage be considered as part of the overall division of assets. This outcome is fair and provides improved adequacy in retirement for both individuals rather than just the main income earner.

Calculation

The question was assessed on a three-point scale with a score of 2 for "yes," 1 if it was applied in some cases and 0 for "no."

Commentary

In 22 of the 48 systems, it is normal practice for the accrued pension benefits to be taken into account in the overall division of assets upon a divorce or separation.

Weighting

With a relatively high level of divorce or separation occurring in many countries, the adequacy of retirement income for the lower-income partner is improved if pension assets are considered in the overall division of assets. This desirable feature has a 3% weighting in the adequacy sub-index.

Question A9

What is the level of home ownership in the country?

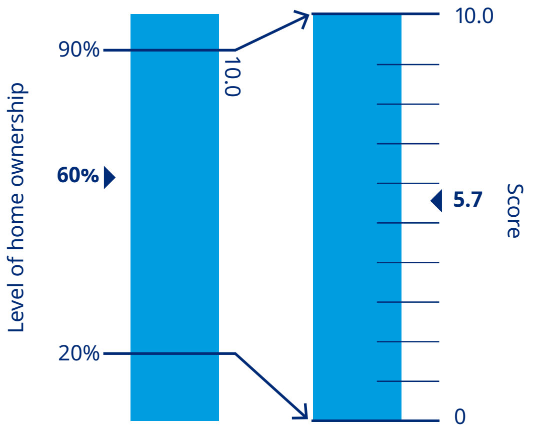
Objective

In addition to regular income, home ownership represents an important factor affecting financial security during retirement. In some countries, taxation support encourages home ownership.

Calculation

A maximum feasible level is considered to be 90%. Hence, a home-ownership level of 90% or more scores maximum results, whereas a level of 20% or less scores 0.

Figure 13. Calculating A9 — Home ownership



Commentary

The level of home ownership ranged from 36% in Switzerland to more than 85% in China, Croatia, India, Indonesia, Kazakhstan, Singapore, the UAE and Vietnam.

Weighting

Home ownership is a significant contributor to financial security in retirement. This indicator has therefore been given a 5% weighting in the adequacy sub-index.

Question A10

What is the proportion of total pension assets in the whole industry (that is, including both the public and private sectors) invested in growth assets?

Objective

The investment performance of funded pension plans over the long term, after allowing for costs and any taxation, represents a key input into the provision of adequate retirement income. Yet international comparisons of investment returns might not be totally meaningful.[30] This report also notes that any benchmarks need to consider a range of factors, including the age of the plan member, the availability of other income (such as social security), the contribution rates, the target replacement rate, the risk tolerance of the member and the types of retirement income products available. There is no ideal asset allocation appropriate for all members at all ages. The development of life-cycle funds suggests that the best approach may be a changing asset allocation during an individual's lifetime.

We must also recognize that the investment performance of a pension plan needs to focus on the longer term and not on short-term returns. With this in mind, we believe it is appropriate for the investments of pension plans to be diversified across a range of asset classes, thereby providing the opportunity for higher returns with reduced volatility.

Calculation

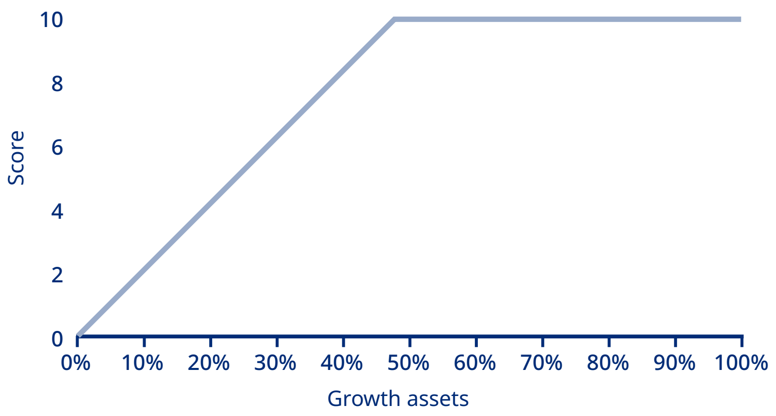
Many systems have pension plan assets invested in a variety of assets, ranging from cash and short-term securities through bonds and equities to alternative assets, such as property, venture capital, private equity and infrastructure.

As a proxy for this diversified approach, we have used the percentage of growth assets (including equities and property) in the total pension assets in each system.

Although a zero percentage in growth assets may highlight the benefits of security for members, it does so without the benefits of diversification and the associated reduction in risk. No exposure to growth assets scores 0 out of 10. This score increases to the maximum score of 10 as the proportion in growth assets increases to 45% of all assets.

Notwithstanding this approach, we recognize that capital markets are underdeveloped in some emerging markets. We also note that in some private pension systems, restrictions imposed by the government may limit the investment decisions made by the pension plan's trustees or fiduciaries.

Figure 14. Calculating A10 — Percentage of growth assets



Commentary

The level of growth assets ranges from less than 5% in Vietnam and Kazakhstan to approximately 83% in the UAE. Twenty-five of the 48 systems have a percentage above 45%.

Weighting

Asset allocation represents an important feature of all funded retirement systems. This indicator has therefore been given a 5% weighting in the adequacy sub-index.

Question A11

Is it a requirement that an individual continue to receive additional retirement benefits in the pension system when they receive income due to invalidity or a disability? These income benefits could be from the public pension scheme or a private-sector pension scheme.

Is it a requirement that an individual continue to receive additional retirement benefits in the pension system when they receive income during paid parental leave? These income payments could be from the government or the employer.

Is it a requirement that an individual continue to receive additional retirement benefits in the pension system while out of the paid workforce caring for young children?

Objective

The adequacy of an individual's retirement income can be affected if there is no requirement for benefits to accrue in a pension scheme when a worker is temporarily out of the workforce and receiving income support; for example, due to parental leave, ill health or disability. Although these additional benefits may be for a relatively short period, the requirement to increase the ultimate benefit represents a desirable feature in these circumstances. In addition, to help reduce the gender pension gap that exists in most retirement income systems, parents caring for young children should receive some additional retirement benefit.

Calculation

These questions were assessed on a three-point scale, with a score of 2 for "yes," 1 if additional benefits are received in some cases and 0 for "no."

Commentary

In 21 of the 48 systems, it is a requirement for additional retirement benefits to accrue if a worker receives income support due to an invalidity, whereas additional benefits are received in 30 systems during paid parental leave.

Thirteen systems provide additional benefits from the government for parents caring for young children.

Weighting

The requirement for contributions to be paid while a worker is receiving income support or a parent is caring for young children is a desirable feature and represents an important signal in the design of the best retirement income systems. These two features have each been given a 1% weighting in the adequacy sub-index.

Question A1

The answers for the first question were taken from the following sources:

- The OECD's *Pensions at a Glance Asia/Pacific 2022* for Hong Kong SAR, Malaysia, the Philippines, Thailand and Vietnam
- The OECD's *Pensions at a Glance 2023: OECD and G20 Indicators,* 2023, for all OECD and G20 countries
- Mercer calculations for Singapore using government information
- Mercer calculations for Peru using websites
- Mercer calculations for Botswana, Croatia, China, Kazakhstan, Saudi Arabia, Taiwan, the UAE and Uruguay using data sourced from Mercer consultants and other contributors.

Question A2

The answers for the second question were sourced from Mercer consultants and other contributors in each country:

- The OECD's *Pensions at a Glance: Latin America and the Caribbean,* 2014, for Uruguay
- The OECD's *Pensions at a Glance Asia/Pacific 2018,* unpublished data, for Peru
- The OECD's *Pensions at a Glance Asia/Pacific 2022* for Hong Kong SAR, Malaysia, the Philippines, Singapore, Thailand and Vietnam
- Mercer model for Botswana, Kazakhstan, Taiwan and the UAE
- The OECD's *Pensions at a Glance 2023: OECD and G20 Indicators,* 2023, for all other countries

Question A3

- Data from the Economist Intelligence Unit was used for the first question for all systems except Botswana, Canada, Denmark, Germany, Iceland, Ireland, Italy, Korea, Mexico, Spain, Sweden, Switzerland, Taiwan, the UK, Uruguay and Vietnam
- The OECD's "OECD Economic Outlook No. 114," OECD *Economic Outlook: Statistics and Projections (database),* November 2023, was used for Canada, Denmark, Germany, Italy, Korea, Sweden and Switzerland
- Trading Economics' "Personal Savings," 2024, was used for Ireland, Mexico, Spain and the UK
- Mercer colleagues and other contributors were the source for Botswana, Iceland, Taiwan, Uruguay and Vietnam
- The answers for the second question used an average of data taken from Trading Economics, "Household Debt to GDP," 2024, and CEIC, "Household Debt: % of GDP," 2024

Questions A4, A5, A6, A7, A8, A9, A10 and A11

The answers were sourced from relevant Mercer consultants and other contributors.

08 The sustainability sub-index

The sustainability sub-index considers a number of indicators that influence the long-term sustainability of current pension systems. These include the economic importance of the private pension system; its level of funding; the length of expected retirement both now and in the future; the labor force participation rate of the older population; the current levels of public pension expenditure and government debt; and the level of real economic growth.

The systems with the highest values for the sustainability sub-index are Iceland (84.3) and Denmark (82.6), with the lowest values being for Italy (25.1) and Austria (22.0). Although several indicators influence these scores, the coverage of private pension plans, the demographic factors and the level of pension assets as a proportion of GDP are the most important. Full details of the values relating to each indicator in the sustainability sub-index are shown in Appendix 2.

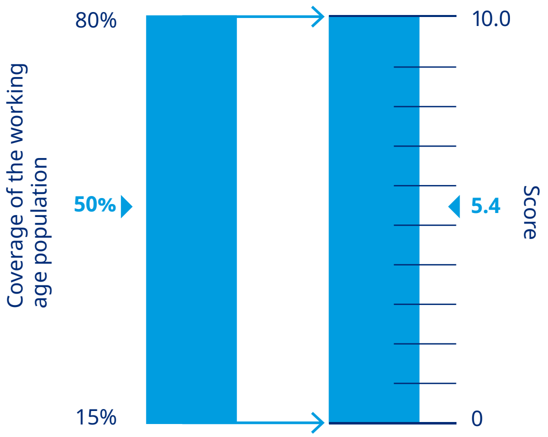
Question S1

What proportion of the working age population are members of retirement savings plans?

Objective
Retirement savings plans (including pension plans for public-sector employees and the military) represent an important pillar within all retirement income systems. A higher proportion of coverage (or participation) among the workforce therefore increases the likelihood that the overall retirement income system will be sustainable in the future as funding continues and the level of pension assets increases over time.

Individuals may participate in an occupational-based pension plan or voluntarily contribute to a personal pension plan, possibly encouraged by government policies. However, it is also important that this pension coverage go beyond full-time workers and those in standard or traditional employment arrangements. As the OECD notes: "The sustainability and adequacy of pension systems includes making sure that workers in non-standard forms of work have the opportunity to save for retirement."[31] This development has become even more important given the changes to work patterns following the COVID-19 pandemic.

Figure 15. Calculating S1 — Coverage



Calculation
The rates of coverage ranged from less than 15% in Brazil to more than 80% of the working-age population in Chile, Denmark, Finland, Hong Kong SAR, Iceland, Israel, Mexico, the Netherlands, New Zealand, Sweden and Taiwan. Each system's score is related to its level of coverage, with a maximum score for 80% or above and a 0 score relating to coverage of 15% or less, as such coverage represents a minimal contribution to the future provision of retirement income.

The coverage figure also allows for public pension arrangements in which the public pension reserve exceeds 10% of GDP and these arrangements are available to most of the workforce.

Commentary
Only 20 of the 48 systems have coverage rates over 64% of the working-age population (that is, a score of 7.5 or more), indicating a heavy reliance on social security benefits in the future for many systems.

Weighting
Retirement savings plans play a critical role in a multipillar retirement income system, particularly with the financial pressures associated with aging populations. Therefore, this indicator was given a weighting of 20% in the sustainability sub-index.

Question S2

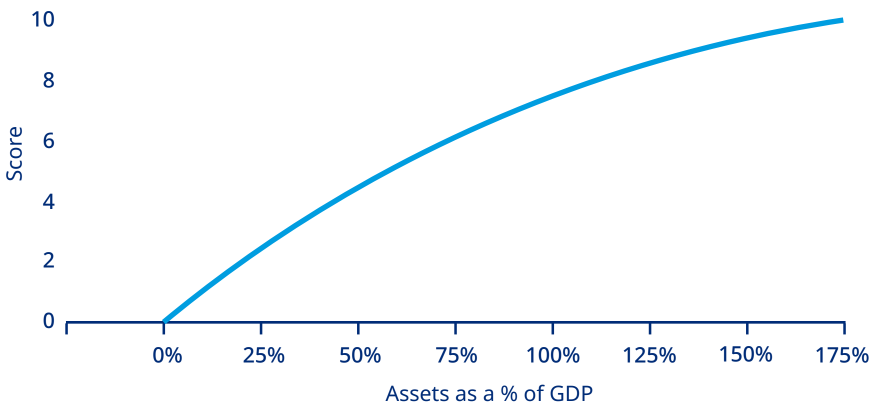
What is the level of pension assets, expressed as a percentage of GDP, held in private pension arrangements, public pension reserve funds, protected book reserves and pension insurance contracts?

Objective
The level of current assets set aside for future pensions, when expressed as a percentage of GDP, represents a good indicator of an economy's ability to meet these payments in the future.

Calculation
We have included assets from many types of funds to calculate the total level of assets held within each system to pay future pensions, irrespective of whether the pensions are paid through public pension provision or from private pension plans. The types of funds that have been included are:

- Assets held in autonomous private pension plans
- Assets held by insured or protected book reserves that are being accounted for to pay future pensions
- Social security reserve funds
- Sovereign reserve funds that have been set aside for future pension payments
- Assets held to support pension insurance contracts

Figure 16. Scoring S2 — Level of assets



The level of assets ranged from less than 10% of GDP for Austria, China, Indonesia, the Philippines, Poland, Thailand, Türkiye and Vietnam to more than 175% for Canada, Denmark and Iceland. The maximum score was achieved for 175% of GDP and the minimum score for 0%.

A linear scoring approach between 0% and 175% is not used. Rather, more credit is given for increases at the lower levels of assets than at the higher levels as these gains will provide relatively greater improvements in sustainability.

Commentary
The size of assets set aside for future pensions around the world varies considerably, reflecting the relative importance of funded pension arrangements. In addition, many countries are partway through a reform process that is expected to increase the level of assets over many decades. In these cases, we expect the score for this indicator to gradually increase in the future.

The level of private pension assets goes beyond pension funds and includes book reserves, pension insurance contracts and funds managed by financial institutions, such as individual retirement accounts. These assets have been included as they represent assets intended to provide future retirement benefits.

Weighting
This indicator shows the level of assets already set aside to fund retirement benefits and represents a key indicator in the ability of each system to pay future benefits. This indicator was therefore given a weighting of 15% in the sustainability sub-index.

Question S3

What is the life expectancy at the current state pension age?

What is the projected life expectancy at the expected state pension age in 2054 (that is, in 30 years' time)? This calculation allows for mortality improvement.

What is the projected old-age dependency ratio in 2054?

What is the estimated total fertility rate (TFR) for 2022–2026?

Objective
A retirement income system is designed to provide benefits to an individual after the person leaves the workforce and prior to their death. The longer the period, the larger the total value of benefits that will be needed and the greater the financial strain placed on the overall system. Although individuals retire for many reasons, the state pension age represents a useful proxy that guides many retirement decisions. As life expectancy increases, one way of reducing the strain is to encourage later retirement by increasing this age.

In the second question, we project this life expectancy indicator to 2054 to highlight the fact that many governments have already taken action and increased the state pension age, thereby reducing the forthcoming pension burden. However, it is also clear that some governments have not yet tackled this difficult issue.

The projected old-age dependency ratio question highlights the impact of the aging population between now and 2054 and therefore the likely effects on the funding requirements for pensions, healthcare and aged care.

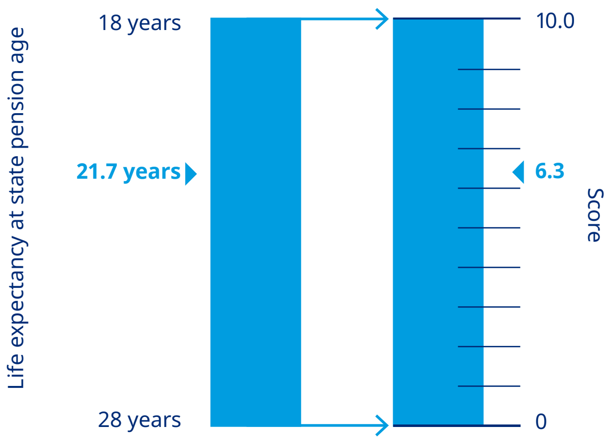
Consideration of the TFR provides an even longer-term perspective as it provides an indication of the likely balance between workers and retirees in future decades.

Calculation
a. A maximum score is achieved with a life expectancy at state pension age of 18 years or less and a 0 score with a life expectancy of 28 years or more.

b. The same scoring is used as for the previous question.

The life expectancies for these two questions are averaged for males and females.

Figure 17. Calculating S3a — Life expectancy at state pension age



c. The old-age dependency ratio is the population age 65 and over divided by the population between ages 15 and 64. The projected dependency ratios for 2054 vary from less than 10% in the UAE to more than 100% in Hong Kong SAR. A maximum score is achieved with a projected dependency ratio of 20% or lower and a 0 score for a ratio of 70% or higher.

d. The TFR ranges from 0.73 in Hong Kong SAR to 2.98 in Kazakhstan. In view of these scores and the likely range in the future, a minimum score of 0 is achieved for a TFR of 1.0 or lower and a maximum score for a TFR of 2.5 or higher.

Commentary
With the exception of the UAE, all systems have current life expectancies at the state pension age of less than 26 years, although China, Hong Kong SAR, Malaysia, Saudi Arabia, Taiwan and Thailand are also expected to exceed this figure by 2054.

A TFR less than 1.4 is currently present in 15 of the 48 systems covered by the Index. This raises serious issues about the future age structures in these countries or regions. Although immigration can assist in the short term, it is unlikely to provide sound long-term solutions.

Weighting

These demographic-related indicators have a total weighting of 20% in the sustainability sub-index, with a 5% weighting for each question.

Question S4

What is the level of mandatory contributions that are set aside for future retirement benefits (that is, funded), expressed as a percentage of the annual wage for a full-time median-income earner? This may include mandatory employer and/or employee contributions paid into funded public benefits (that is, social security) and/or retirement benefits from the private sector.[32]

Objective

Mandatory contributions from employers and/or employees represent a feature of every retirement income system. In some cases, these contributions are used to fund current social security benefits, whereas, in other cases, the contributions are invested, either through a central fund (such as Singapore's Central Provident Fund or a social security reserve fund) or through a range of providers in the private sector. With regard to longer-term sustainability, the important issue is whether the contributions are set aside to pay for the future benefits of the contributors, irrespective of the vehicle used for the saving. Regulations set a minimum contribution rate in systems with mandatory contributions or an auto-enrollment arrangement.

Calculation

We see considerable variety in the extent to which the contributions paid are invested into a fully funded investment vehicle. This calculation multiplies the level of mandatory contributions by the percentage of these funds that are invested to provide for future retirement benefits; for example, in Australia, Chile, Denmark, Hong Kong SAR, Iceland, Israel, Kazakhstan, New Zealand and Norway, the mandatory contributions are fully invested for the individuals concerned.
On the other hand, Argentina, Austria, Belgium, Brazil, France, Germany, Ireland, Japan, Portugal, South Africa and Spain adopt a pay-as-you-go basis.

In some cases, neither extreme is adopted. For instance, the Canada Pension Plan adopts a "steady state" funding basis so that contributions will remain constant for 75 years. In this case, we have assumed that 75% of the contributions are invested.

For India and Indonesia, we have used 50% of the required level of contributions due to the limited coverage in these countries. For Sweden, which is transitioning from a pay-as-you-go approach to a fully funded one, we have used the contributions to the DC funded system plus the contributions to the quasi-mandatory occupational schemes.

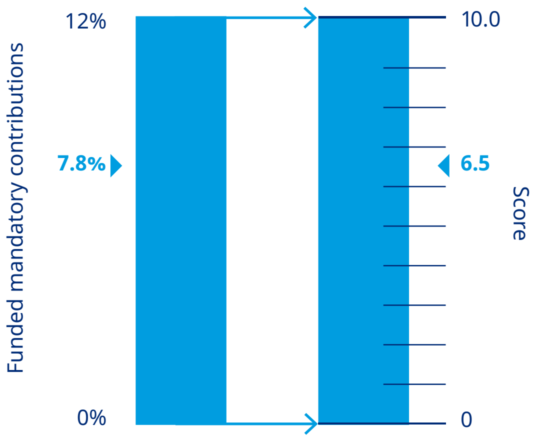
Although Italy's mandatory scheme is funded on a pay-as-you-go basis, we have assumed that 25% of the mandatory contributions required to fund termination indemnity benefits are invested.

In line with OECD data, we have assumed that 35% of all contributions to Singapore's Central Provident Fund are invested. For Malaysia, we have assumed that 70% of all contributions to the Employee Provident Fund are invested for retirement. In both these cases, the maximum score is achieved.

Colombia has two systems: a funded system and a pay-as-you-go system, both with contributions of 16%. Assuming that about 70% of the contributions are in the funded system, we have used 11.3%.

In other cases, social security reserve funds are funded by the difference between contributions and current benefit payments or through top-up contributions from the government. Korea and the US are examples of this approach. In these cases, we have assumed that 50% and 15% of the contributions are invested, respectively.

Figure 18. Calculating S4 — Funded mandatory contributions



The results of the above calculations mean that the net funded level of mandatory contributions (expressed as a percentage of earnings) ranges from 0% in several systems to 12% or more in Denmark, Iceland, Israel, Malaysia, the Netherlands, the Philippines and Singapore.

In view of this range and likely developments in some systems, a maximum score is achieved with a contribution level of 12% invested into a fund for future benefits, with a 0 score being obtained in cases where there are no funded mandatory contributions.

Commentary

The level of mandatory contributions to a funded arrangement paid by employers and employees around the world varies considerably.

In some cases, they represent taxation for social security purposes and are not used to fund future benefits. On the other hand, funded retirement savings with the associated investment funds provide improved sustainability for the system and greater security for future retirees.

Weighting

This question represents one of several key indicators representing desirable features of a sustainable retirement income system. A weighting of 10% in the sustainability sub-index is used for this indicator.

Question S5

What is the labor force participation rate for those aged 55–64?

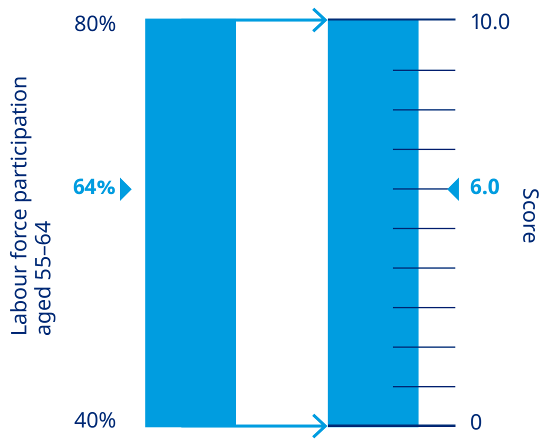
What is the labor force participation rate for those aged 65 or over?

Objective

Higher labor force participation at older ages means individuals are retiring later, thereby reducing both the number of years in retirement and the level of retirement benefits needed, as well as accumulating greater savings for retirement during the working years. As noted in an International Monetary Fund staff discussion note, "Financial sector and labor market policies should be considered as part of a pension reform package … Labor market policies should be geared towards encouraging participation by older workers."[33]

The World Bank has recently supported this direction by encouraging governments to support the productive inclusion of older workers.[34]

Figure 19. Calculating S5 — Labor force participation, ages 55 to 64



Calculation

For ages 55 to 64, the percentages range from 38.5% in Türkiye to 82.2% in Iceland and 82.4% in Sweden. A maximum feasible score is considered to be 80% in most situations. Hence, a participation rate of 80% or more scores the maximum, whereas a participation rate of 40% or less scores 0.

For ages 65 and over, the percentages range from 3.4% in Belgium to 44.0% in Peru and 46.4% in Indonesia. A maximum feasible score is considered to be 30% or more in most situations. Hence, a participation rate of 30% or more scores the maximum, whereas a participation rate of nil at these ages scores 0.

Commentary

With the increasing awareness of longer life expectancies and the pressures associated with an aging population, governments should continue to encourage higher labor force participation at older ages.

Weighting

This indicator has a weighting of 10% in the sustainability sub-index, split into 8% for the first question and 2% for the second question.

Question S6

What is the level of adjusted government debt (being the gross public debt reduced by the size of any sovereign wealth funds that are not set aside for future pension liabilities[35]), expressed as a percentage of GDP?

What is the level of public expenditure on pensions expressed as a percentage of GDP, averaged over the latest available figure and the projected figure for 2050?

Objective

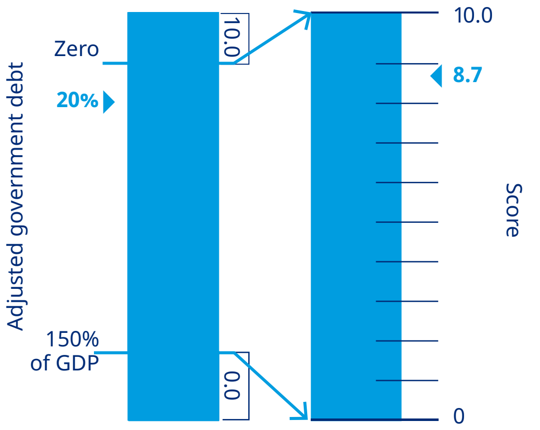
As social security payments represent an important source of income in most retirement income systems, the ability of future governments to pay these pensions and other benefits represents a critical factor in the sustainability of current systems. Due to the fiscal support and health measures adopted during the COVID-19 pandemic, the levels of debt have increased significantly for some governments. The OECD notes "the newly accumulated debt will add pressure on pension finances, already strained by demographic changes."[36]

Similarly, higher pension payments lead to increased financial strains on government budgets.

Calculation

The level of the adjusted government debt ranges from less than zero for Norway and Singapore to 252% of GDP in Japan. A maximum score was achieved for countries with a zero or negative level of adjusted government debt (that is, a surplus), with a 0 score for countries with an adjusted government debt of 150% of GDP or higher.

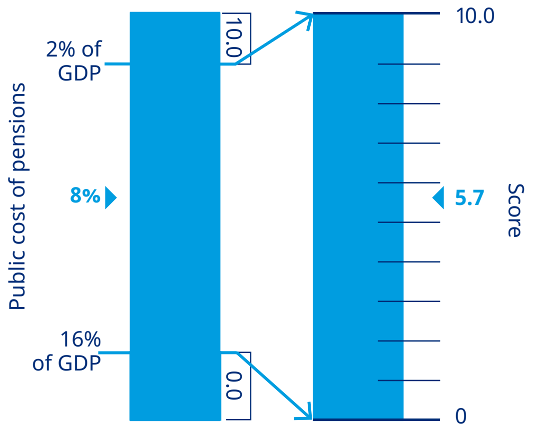
Figure 20. Calculating S6a — Adjusted government debt



The size of government pension payments varies considerably between different systems. For example, the public expenditure on pensions within the OECD in 2020–2023 varied from 1.3% in Korea to 15.4% in Italy. The projected 2060 figures range from 2.0% in Australia to 15.2% in Belgium, with an average OECD figure of 10.23%.[37]

A maximum score was achieved for systems with public pension costs of 2% of GDP or less (recognizing that some costs are desirable to alleviate poverty among the aged), with a 0 score for systems with costs of 16% of GDP or higher.

Figure 21. Calculating S6b — Public cost of pensions



Commentary

Significant government debt is likely to restrict the ability of future governments to support their older populations, either through pensions or through the provision of other services, such as healthcare and aged care. Higher interest rates are adding to this pressure. Hence, governments with lower levels of debt are in a stronger financial position to be able to sustain their current levels of pension and other payments into the future. In addition, public pension payments represent actual cash flows, which have a direct impact on a government's fiscal position.

Weighting

These two indicators have a total weighting of 10% in the sustainability sub-index, with a 5% weighting for each question.

Question S7

In respect of private pension arrangements, are older employees able to access part of their retirement savings or pension and continue working (for example, part time)?

If yes, can employees continue to contribute and accrue benefits at an appropriate rate?

Objective

A desirable feature of any retirement income system, particularly with aging populations, is to permit individuals to phase into retirement gradually by reducing their reliance on earned income while at the same time enabling them to access part of their accrued retirement benefits. Such individuals should also be able to continue to contribute or accrue benefits while working.

Calculation

The first question was assessed with a score of 2 for "yes" and 0 for "no." However, in many cases, it may depend on the particular pension fund's rules. In these cases, a score between 0 and 2 was given depending on the circumstances and practice. A maximum score was achieved where the answer was "yes" for the majority of older employees.

If the answer to the first question was "yes," an additional score between 0 and 2 was given to the second question depending on the ability of employees to continue to contribute and accrue benefits during this transition period to retirement.

Commentary

In most systems, employees are able — at least to some extent — to continue working at older ages while also accessing an income stream from their accumulated benefits as they continue to accrue future benefits.

Weighting

This indicator has a weighting of 5% in the sustainability sub-index because we do not consider it to be as critical as the previous indicators. The total weighting was split into 4% for the first question and 1% for the second question.

Question S8

What is the real economic growth rate averaged over seven years (namely, the past four years and projected for the next three years)?

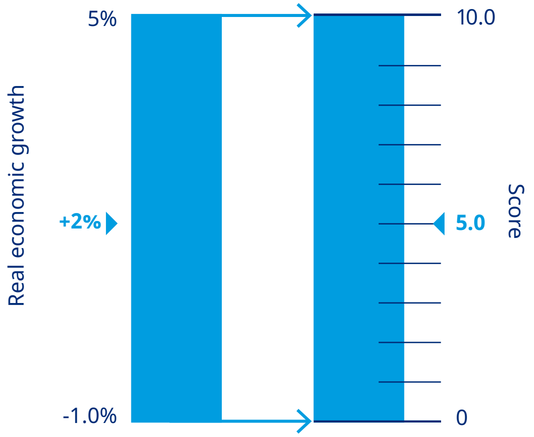
Objective

Adequate pension provision is a long-term issue, and significant real growth of the economy will make the system more sustainable through an improvement in the government's financial position, thereby improving the likelihood of social security payments continuing and permitting higher levels of savings in the private sector.

Calculation

The real economic growth rate, averaged over the past four years and the projected rates for the next three years, ranges from 0.54% in Germany to 5.5% in India. A maximum feasible score over the long term is considered to be 5% per annum. Therefore, real growth of 5% or more scores the maximum, whereas a rate of minus 1% or lower scores 0.

Figure 22. Calculating S8 — Real economic growth



Commentary

Long-term real economic growth means the country's GDP is growing faster than inflation. This result can have several benefits, including higher average incomes, lower unemployment, reduced government borrowing, higher levels of savings and, often, improved investment returns. Most of these outcomes lead to a stronger and more robust retirement income system, which, in turn, provides more sustainable pension benefits.

Weighting
This indicator has a weighting of 8% in the sustainability sub-index as stronger economic growth normally leads to improved sustainability.

Question S9

Is it a requirement for the pension plan's trustees/fiduciaries to consider environmental, social and governance (ESG) issues in developing their investment policies or strategies?

If not a requirement, is it encouraged by the relevant pension regulator?

Objective
It is critical that private pension plans provide sustainable investment returns over many decades. We have seen a growing awareness in many countries of the importance of ESG-related issues, so it is appropriate for plan trustees and fiduciaries to consider ESG factors when framing their investment strategies.

Calculation
This question was assessed on a three-point scale, with a score of 2 for "yes" to the first question, 1 if it is to some extent (including encouragement from the regulator) and 0 for "no," which includes no action from the regulator.

Commentary
In 13 of the 48 systems, it is a requirement for trustees or fiduciaries to consider ESG factors when developing their investment strategies.

In a further 23 systems, there is no requirement, but the regulator has encouraged this direction through public announcements or direct communication.

Weighting
This indicator has a 2% weighting in the sustainability sub-index because it represents an important signal in the development of long-term sustainable investment strategies.

Question S1

- Mercer and other contributor calculations for Botswana, Croatia, Kazakhstan, Saudi Arabia, Taiwan, the UAE and Uruguay
- The OECD's *Pensions at a Glance 2011: Retirement Income Systems in OECD and G20 Countries* for South Africa
- The OECD's *Pensions at a Glance: Latin America and the Caribbean 2014* for Argentina and Peru
- The OECD's *Pensions at a Glance Asia/Pacific 2022* for China, Hong Kong SAR, India, Indonesia, Malaysia, the Philippines, Singapore, Vietnam and Thailand
- The OECD's *Pensions at a Glance 2023: OECD and G20 Indicators, 2023,* for all other systems, although adjustments were needed when data were not available or comprehensive

Question S2

- Mercer and other contributor calculations for India, Malaysia, the Philippines, Saudi Arabia, Singapore, Taiwan, the UAE and Vietnam
- The OECD's *Pensions at a Glance 2011: Retirement Income Systems in OECD and G20 Countries* in relation to pension insurance contracts for Germany
- The OECD's *Pensions at a Glance 2023: OECD and G20 Indicators,* 2023, in relation to public pension reserves as a percentage of GDP
- The OECD's *StatExtract Database* (Dataset: Funded Pensions Indicators; Book reserve (non-autonomous), Pension funds (autonomous), Pension insurance contracts, Other), 2022 in relation to all retirement vehicles as a percentage of the relevant GDP
- Sovereign Wealth Fund Institute in relation to assets for future pension payments for Norway

Question S3

- Life expectancy (2024 and 2054), aged dependency (2054) and total fertility rate (2022–2026) data were from the United Nations' "World Population Prospects 2024, Online Edition."
- State pension ages were sourced from relevant Mercer consultants and other contributors.

Questions S5

- Mercer consultants and other contributors for China, Kazakhstan and the 65+ age group for Malaysia
- International Labour Organization 2024 for all other systems

Question S6

Government debt as percentage of GDP

- The International Monetary Fund's *World Economic Outlook — Database,* April 2024
- Sovereign Wealth Fund Institute

Public expenditure on pensions

- Mercer and other contributor calculations for Botswana, Kazakhstan, Taiwan, the UAE and Vietnam
- Standard & Poor's *Global Aging 2016: 58 Shades of Gray* for Colombia, Hong Kong SAR, Malaysia, Peru, the Philippines, Singapore, Thailand and Uruguay
- The OECD's *Pensions at a Glance 2019: OECD and G20 Indicators,* 2019, for Argentina, China, Iceland, India, Indonesia, Israel, Mexico, Saudi Arabia, South Africa and Türkiye
- The OECD's *Pensions at a Glance 2023: OECD and G20 Indicators, 2023,* for all other systems

Questions S8

- The International Monetary Fund's *World Economic Outlook — Database,* April 2024

Questions S4, S7 and S9

- Answers were sourced from relevant Mercer consultants and other contributors.

09 The integrity sub-index

The integrity sub-index considers three broad areas of the pension system:

- Regulation and governance
- Protection and communication for members
- Operating costs

This sub-index asks a range of questions about the requirements that apply to funded pension plans that normally exist in the private sector. Well-operated and successful private-sector plans are critical because, without them, the government becomes the only provider, which is not a desirable or sustainable long-term outcome. Hence, such plans represent a crucial component of a well-governed and trusted pension system that has the long-term confidence of the community.

The systems with the highest values for the integrity sub-index are Finland (90.8) and Norway (88.3), with the lowest values for Argentina (42.3) and the Philippines (27.7). Better scores were achieved by the retirement income systems with well-developed private pension industries. Full details of the values relating to each indicator in the integrity sub-index are shown in Appendix 3.

Regulation and governance

Question R1

Do private-sector pension plans need regulatory approval or supervision to operate and/or provide benefits?

Is a private pension plan required to be a separate legal entity from the employer?

Objective

These questions are designed to assess the extent to which a private-sector pension plan is required to be a separate entity from any sponsoring employer (which usually entails holding assets separate from the employer) and is subject to some form of regulatory oversight.

Forty-two of the 48 systems obtained the maximum score, indicating the presence of the basic groundwork needed for a sound governance framework.

Calculation

We assessed each question in this section with a score of 2 for "yes" and 0 for "no." In cases in which the response was neither a clear "yes" nor a clear "no," the score is between 0 and 2 depending on the actual circumstances.

Weighting

The first question has a 2.5% weighting, and the second question has a 5% weighting, giving a total weighting of 7.5% in the integrity sub-index for these two questions.

Question R2

Are private-sector pension plans required to submit a report in a prescribed format to a pension regulator each year?

Does the pension regulator make industry data available from the submitted forms on a regular basis?

How actively does the pension regulator discharge its supervisory responsibilities, on a scale from 1 to 5?

The table in Figure 23 below was provided to assist in answering this question.

Figure 23. Supervisory responsibilities scaling system

Scale	Description	Examples of activity by the regulator
1	Inactive	Receives reports from plans but does not follow up
2	Occasionally active	Receives annual reports, follows up with questions but has limited communication with plans on a regular basis
3	Moderately active	Receives annual reports, follows up with questions and has regular communication with plans, including on-site visits
4	Consistently active	Obtains information on a regular basis from plans and has a focus on risk-based regulation; that is, there is a focus on plans with higher risks
5	Very active	Obtains information on a regular basis from plans and has a focus on risk-based regulation; in addition, the regulator often leads the industry with ideas and discussion papers and reacts to immediate issues

Has the government, a government department or the pensions regulator issued instructions or guidance relating to cybersecurity and related data breaches to pension plan fiduciaries/trustees or those administering pension plans?

Are pension plans or pension administrators required to report incidents of cyberattacks and the related data breaches to the pension regulator or the relevant government authority?

Objective

These questions are designed to assess the level of supervision and the involvement of the pension regulator within the industry.

Calculation

The first two and last two questions in this section were assessed with a score of 2 for "yes" and 0 for "no." In cases in which the response was neither a clear "yes" nor a clear "no," the score is between 0 and 2 depending on the actual circumstances.

The third question was assessed on a five-point scale as shown in Figure 23. It is important to note that this question did not assess the quality of the supervision — rather, it considered the activity of the regulator.

The last two questions highlight the growing importance of cyber risk, scams, and data breaches and the necessity for regulators and pension plans to work together on this matter.

The results highlight that the role of the pension regulator varies greatly around the world. Generally speaking, the pension regulator plays a stronger role in places where the pension industry has developed over many decades.

Weighting

The first question was given a 4% weighting, with the second and third questions being given a 2% weighting. The fourth and fifth questions were each given a 1% weighting, resulting in a total weighting of 10% in the integrity sub-index for these five questions.

Question R3

Where assets exist, are the private pension plan's trustees/fiduciaries required to prepare an investment policy?

Are the private pension plan's trustees/fiduciaries required to prepare a risk management policy?

Are the private pension plan's trustees/fiduciaries required to prepare a conflicts of interest policy?

Is the private pension plan's governing body required to have at least one member who is independent from the employer and the employees?

Is it a requirement for the pension plan to have an anti-bribery and corruption policy?

Is it a requirement for the pension plan to have a code of personal conduct (or equivalent) for its trustees/ fiduciaries, senior executives and employees?

Objective

These questions are designed to assess the regulatory requirements regarding the operations that may be required of private pension plans.

The first two questions relate to essential policies that should be developed by all those who oversee private pension plans.

The third question takes into account fiduciaries who may have roles in various entities, including the pension plan, the sponsoring employer, a provider (such as an investment house) or, indeed, another pension plan. Good governance practice means pension plans should have a clear policy to handle such situations.

The fourth question reflects the fact that it is no longer appropriate for the governance structure of pension schemes to be restricted or controlled by a particular entity. Good governance practice includes independent trustees or fiduciaries.

The final two questions relate to the behavior of fiduciaries, executives and employees of pension plans. To encourage the long-term confidence of society in private pension plans, the behavior of these individuals must be beyond reproach.

Calculation

The questions in this section were assessed with a score of 2 for "yes" and 0 for "no." In cases in which the response was neither a clear "yes" nor a clear "no," the score is between 0 and 2 depending on the actual circumstances.

Only Chile, Finland, Mexico, Peru, Saudi Arabia, the UAE and Uruguay received the maximum score of 10 for these questions. This indicates that there is still scope to improve governance requirements in many systems.

Weighting

Each question was given a weighting between 2% and 3%, resulting in a total of 15% in the integrity sub-index for these six questions.

Question R4

Do the private pension plan's trustees/fiduciaries have to satisfy any personal requirements set by the pension regulator?

Objective

This question is designed to assess the regulatory requirements regarding the experience and behavior of those responsible for the governance of private-sector pension plans.

Calculation

The question was assessed with a score of 2 for "yes" and 0 for "no." In cases in which the response was neither a clear "yes" nor a clear "no," the score is between 0 and 2 depending on the actual circumstances.

Thirty-five of the 48 systems received the maximum score, indicating that several systems could improve their requirements with regard to this question.

Weighting

This question was given a 2.5% weighting in the integrity sub-index.

Question R5

What is the capacity of the government to effectively formulate and implement sound policies and to promote private-sector development?

What respect do citizens and the state have for the institutions that govern economic and social interactions among them?

How free are the country's citizens to express their views? What is the likelihood of political instability or politically motivated violence?

Objective

These questions are designed to assess the integrity of the government that plays a critical role in the ongoing governance, legal framework, regulation, policy development and stability of the retirement income system.

Calculation
The World Bank publishes results from the Worldwide Governance Indicators project for more than 200 countries and territories for the following six dimensions of governance:

— Government effectiveness
— Regulatory quality
— Rule of law
— Control of corruption
— Voice and accountability
— Political stability and absence of violence/terrorism

From this publicly available source, each indicator provided a score for each country in the standard normal units, ranging from approximately -2.5 to +2.5. These six scores were summed and then increased by three to avoid any negative scores. The scores ranged from 0.0 for Mexico and Türkiye to 13.6 for Denmark out of a maximum score of 15.

Weighting
Each question was given a 5% weighting in the integrity sub-index, resulting in a total of 15% for these three questions.

Commentary on the total regulation and governance results
The scores ranged from 13.0 for Argentina to 47.8 for Finland out of a maximum of 50. Low scores for some systems are indicative of the fact that the relevant regulators have minimal requirements when compared to the more developed private pension systems.

Protection and communication for members

With the exception of Question P1, which deals with DB funding, each question in this section is assessed with a score of 2 for "yes" and 0 for "no." In cases in which the response was neither a clear "yes" nor a clear "no," the score is between 0 and 2 depending on the actual circumstances.

Question P1

For DB plans:
— **Are there minimum funding requirements?**
— **What is the period over which any deficit or shortfall is normally funded?**
— **Describe the major features of the funding requirements.**

Objective
These questions are designed to assess the level of funding required for DB plans. Funding levels are critical in securing DB members' future retirement benefits.

Calculation
For DB funding assessment, we considered both the extent of the funding requirement and the period over which any deficit must be rectified. The maximum score for DB was given in cases where funding requirements included regular actuarial involvement and the funding of any deficit or shortfall over a maximum period of four years.

Commentary
The requirements for funding DB plans vary considerably. There are, in effect, no requirements in some systems, whereas, in other cases, any deficit requires rectification within a specified period.

Weighting
The funding of a member's retirement benefit in a private-sector pension plan represents a basic protection of the member's accrued benefits, and this indicator is therefore given a 5% weighting in the integrity sub-index.

Question P2

Are there any limits on the level of in-house assets held by a private-sector pension plan? If yes, what are they?

Objective
An essential characteristic of a sound retirement income system is that a member's accrued retirement benefit is independent of their employer and therefore not subject to the financial position of the employer.

Commentary
Most systems have a restriction on the level of in-house assets held by an employer-sponsored pension plan. These restrictions are often set at 5%–10% of the plan's assets. A maximum score was given in cases where in-house assets are restricted to 5%. There are no restrictions in Argentina, Indonesia, Italy, Japan, the Philippines, Taiwan and Vietnam.

Weighting
This requirement represents an important way of protecting the member's accrued benefits and is given a 5% weighting in the integrity sub-index.

Question P3

Are the members' accrued benefits provided with any protection or reimbursement from an act of fraud or mismanagement within the pension plan?

In the case of employer insolvency (or bankruptcy):
- **Do any unpaid employer contributions receive priority over payments to other creditors?**
- **Are members' accrued benefits protected against claims of creditors?**

Objective

Members of pension plans face many risks over the long term. These questions consider what protection, if any, the members receive in the case of fraud, mismanagement or employer insolvency. In the latter case, the employer may not be able to pay any outstanding contributions.

Commentary

The answers to these questions vary considerably. In some cases, there are some restricted arrangements in place to support the member, whereas, in the UK (for example), a fraud compensation scheme exists. Eleven of the 48 systems received full marks for these questions thereby suggesting there is possible improvement in providing protection to members in many systems.

Weighting

Although these issues are very important when such incidents occur, experience in most systems suggests it is not a common event or that its financial effect is relatively minor. Hence, each question is given the weighting of 2.5% in the integrity sub-index, resulting in a total of 5% for these two questions.

Question P4

When joining the pension plan, are new members required to receive information about the pension plan?

Objective

It's important that members receive information when joining a pension plan, including a description of the benefits and the risks they may face, particularly with the global growth of DC plans.

Commentary

All systems except India (for some DB plans), the Philippines and Thailand require that information be provided directly to members when they join the plan.

Weighting

The weighting for this question is 5% in the integrity sub-index.

Question P5

Are plan members required to have access to an annual report about the plan, for example, on the plan's website? Is the plan's annual report required to be publicly available?

Is the annual report or other public document required to show:

- **The allocation of the plan's assets to major asset classes?**
- **The major investments of the plan?**
- **All investments of the plan?**

Are pension plans required to grant members access to information about their plan's investment strategy, for example, on the plan's website?

Are plans required to provide information to members on the plan's investment performance?

Objective

Regular disclosure to pension plan members about the progress and investments of their accrued retirement benefits represents a fundamental obligation of all pension plans.

Annual reports present the opportunity for pension plans to communicate with their members, highlighting plan information and contemporary issues that may need to be considered by members.

As DC arrangements become more prevalent, it is becoming more important for members to receive regular information about the investments of the plan.

Commentary

There is considerable variety in the responses, with only four systems (Chile, Israel, Mexico and New Zealand) scoring full marks for these questions. This suggests there is room for improvement in the level of member disclosure in many systems.

Weighting

Each of the four topics was given a 2.5% weighting in the integrity sub-index, resulting in a total of 10%.

Question P6

Are plan members required to receive an annual statement of their accrued benefits in the plan?

Is this annual statement to individual members required to show any projection of the member's possible retirement income (or pension)?

Is this annual statement provided to members of defined contribution or accumulation plans required to show any costs or fees debited from their individual accounts?

Objective

Although an annual report and investment information about the pension plan is valuable, most members are more interested in their personal entitlements. The first question therefore ascertains whether the provision of such information is a requirement, while the second question considers whether this requirement includes any projections about the member's future retirement income. The third question relates to any requirement concerning the disclosure of costs.

Commentary

The majority of systems have a requirement concerning annual personal statements, with 18 systems requiring some form of income projection. As account balances increase and individuals take on greater responsibility for their retirement benefits, the provision of this type of information will become increasingly important to members.

Full disclosure of fees charged is required to be shown in annual personal statements in 30 systems.

Weighting

The first question was given a 4% weighting in the integrity sub-index, whereas the second and third questions were given a 2% and 1.5% weighting, respectively. This resulted in a total of 7.5% for these three questions.

Question P7

Do plan members have access to a complaints tribunal that is independent from the pension plan?

Objective

A common way to provide some protection to individuals who receive benefits from a contract with a financial services organization (such as a bank or insurance company) is to provide them with access to an independent complaints tribunal or ombudsman.

As the provision of retirement benefits can represent an individual's most important financial asset, there is good reason for such a provision to exist with regard to private pension plans.

Commentary

Thirty-two systems have a complaints arrangement that is independent from both the provider and the regulator, whereas nine other systems have a range of processes that can be used for this purpose.

Weighting

Although this indicator is not as important as funding or communication to members, it represents a desirable feature as it provides all members with access to an independent body should any disputes arise. It was given a 2.5% weighting in the integrity sub-index.

Commentary on the total protection and communication results

The scores ranged from 5.0 for the Philippines to 40.0 for Chile out of a maximum of 40. The very low score for the Philippines is primarily caused by its system having virtually no requirements in terms of communicating with pension plan members.

Costs

Question C1

Approximately what percentage of total private pension assets in your system is held in various types of pension plans?

Approximately what percentage of total pension assets in your system is held by the largest pension funds/providers?

Objective

Economist Luis Viceira notes that costs are one of the most important determinants of the long-run efficiency of a pension system, commenting that:

> **"Unfortunately, there is very little transparency about the overall costs of running most pension systems or the total direct and indirect fees that they charge to participants and sponsors."**[38]

This is generally correct. The huge variety of pension systems around the world — with a great diversity of retail, wholesale and employer-sponsored arrangements — means some administrative or investment costs are clearly identified, whereas others are borne indirectly or directly by providers, employer sponsors or third parties. Comparisons are therefore very difficult.

Yet, in the final analysis, many costs will be borne by members and thereby affect the provision of their retirement income. We have therefore used two proxies for this indicator.

The first question represents an attempt to ascertain the proportions in each pension industry that are employer-sponsored plans, not-for-profit plans or retail funds, which may be employer based or individual contracts. Each type of plan is likely to have a different cost structure, which, in turn, influences the overall cost structure of the industry.

The second question highlights the fact that economies of scale matter. That is, as funds increase in size, their costs per member are likely to reduce, and some (or all) of these benefits will be passed on to members. The number of pension plans or providers considered for this question ranged from three to 30 depending on the country's population.

Calculation

For the first question, each type of plan was given a weight ranging from 1 for individual retail or insurance contracts to 10 for a centralized fund. These scores were then weighted by the actual characteristics of each pension system.

For the second question, we considered the size of the assets held by the largest providers or pension plans. A score of 1 was given when these assets were less than 10% of all pension assets, rising to a maximum score of 5 when these assets represented more than 75% of all pension assets.

Weighting

Each question was given a 5% weighting in the integrity sub-index, resulting in a total of 10% for these two questions.

Commentary on the costs results

The scores for these two indicators ranged from 4.5 for the US to 10 for Kazakhstan, Malaysia, Saudi Arabia, the UAE and Vietnam. The high scores for these five systems are not surprising as each system has a central fund that should provide administrative savings. In addition, larger funds have the opportunity to add value through a broader range of investment opportunities.

We recognize that there is a tension between a system with a single fund (or relatively few funds) that should be able to keep costs down and a competitive system in which individuals have greater choice and freedom. The ideal system should encourage competition and flexibility to suit members' needs while at the same time encouraging economies of scale to minimize costs and improve benefits.

Sources of data for the integrity sub-index

As the integrity sub-index is primarily based on the operations of the private-sector pension industry, answers to all but one of the questions were sourced from relevant Mercer consultants and other contributors in each country. The exception is Question R5, which used Worldwide Governance Indicators from The World Bank.

Notes, references and appendices

Notes

1 World Economic Forum. *Platform Advisory Process 2022–23,* 2022.

2 OECD. *OECD Pensions Outlook 2022,* 2022.

3 OECD. *Pensions at a Glance 2023: OECD and G20 Indicators,* 2023.

4 Van Popta B, Steenbeek O. "Transition to a New Pension Contract in the Netherlands: Lessons From Abroad," *Netspar Occasional Paper 3/21,* 2021.

5 World Economic Forum. *We'll Live to 100 — How Can We Afford It?,* May 2017.

6 Several countries have moved in this direction in recent years. Nevertheless, very few are linking the future pension age to the likely ongoing increases in life expectancy.

7 *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth (English),* Washington, DC: World Bank Group, 1994.

8 The World Bank. *The World Bank Pension Conceptual Framework,* 2008.

9 Kim S. "Role of the Private Pension Programs" in Lee H et al: *International Comparison of Pension Systems,* New York: Springer, 2022, pp. 415–428.

10 International Labour Organization. *The ILO Multi-Pillar Pension Model: Building Equitable and Sustainable Pension Systems,* 2018.

11 OECD. *Pensions at a Glance 2017: OECD and G20 Indicators,* 2017.

12 Centre of Excellence in Population Ageing Research, *Retirement Income in Australia: Part I — Overview,* CEPAR Research Brief, November 2018.

13 The World Bank. "Pensions," updated April 3, 2023.

14 The appendices provide the scores for all indicators in each sub-index so that readers may calculate the effects of changing the weights used for each sub-index or the sensitivity of changing the weights within each sub-index.

15 OECD. *Pensions at a Glance* 2023, p. 16.

16 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.

17 OECD. *Pensions at a Glance* 2023, p. 228.

18 OECD. *Pensions at a Glance* 2023, p. 228.

19 It should be noted that, in this context, the provision of retirement benefits from the prescribed ages is quite different from the availability of some benefits at earlier ages in some pension systems.

20 Canada has occupational pension plans that are predominantly DB and individual registered retirement savings plans (RRSPs).

21 American Academy of Actuaries, Institute and Faculty of Actuaries and Actuaries Institute Australia. *The Challenge of Longevity Risk: Making Retirement Income Last a Lifetime,* 2015.

22 Barrons. "Nobel Prize-Winning Economist on How to Solve the 'Nastiest, Hardest Problem' in Retirement," 2019, available at https://www.barrons.com/articles/william-sharpe-how-to-secure-lasting-retirement-income-51573837934.

23 World Bank. *Pensions Overview.*

24 OECD. *Pensions Outlook 2012,* 2012.

25 OECD. *Pensions Outlook 2012,* 2012.

26 OECD. *Pensions at a Glance 2017: OECD and G20 Indicators,* 2017.

27 Private pension plans include both DB and DC plans and may pay lump- sum or pension benefits. They also include plans for public-sector and military employees.

28 Rocha R and Vittas D. "Designing the Payout Phase of Pension Systems," *Policy Research Working Paper No. 5289,* Washington, DC: The World Bank, 2010.

29 OECD. "The OECD Roadmap for the Good Design of Defined Contribution Pension Plans," *OECD Working Party on Private Pensions,* June 2012.

30 Hinz R et al. *Evaluating the Financial Performance of Pension Funds,* Washington, DC: The World Bank, 2010.

31 OECD. *Pension Markets in Focus 2020,* 2020.

32 This question does not include contributions arising from statutory minimum levels of funding for DB plans because these plans do not represent mandatory arrangements.

33 Amaglobeli D et al. *The Future of Saving: The Role of Pension System Design in an Aging World,* Washington, DC: The International Monetary Fund, 2019.

34 World Bank. "Pensions Overview: Pensions & Aging," April 3, 2023.

35 This reduction does not include sovereign wealth funds that have been set aside for future pension payments because these have been included in Question S2.

36 OECD. *Pension Markets in Focus 2020,* 2020.

37 OECD. *Pensions at a Glance 2023: OECD and G20 Indicators,* 2023.

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Appendix 1. Score for each system for each indicator in the adequacy sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
A1	What is the basic (or targeted) state pension, as a percentage of the average wage, that a single aged person will receive? How is the basic (or targeted) state pension increased or adjusted over time (for example, prices or wages or by some other means)? Are these increases or adjustments made on a regular basis? If yes, how often?	20.0%	9.7	9.9	8.1	9.7	0.6	9.7	9.0	7.6	0.9	0.0	1.3	10.0	7.7	9.5	7.3	3.6	10.0	0.0	0.0	8.3	9.7	6.5	6.3	0.6
A2	What is the net pension replacement rate for a range of income earners?	25.0%	10.0	4.8	10.0	10.0	0.0	10.0	5.7	5.6	10.0	10.0	9.1	10.0	9.0	10.0	8.2	4.1	7.8	1.1	1.4	7.3	5.5	10.0	4.3	6.5
A3	What is the net household saving rate? What is the net household debt-to-GDP ratio?	10.0%	8.1	2.3	5.6	6.4	5.2	6.7	2.9	6.7	6.3	4.9	6.2	4.3	3.2	6.4	6.4	3.5	5.0	6.1	8.2	6.9	7.9	4.6	4.2	4.4
A4	Are voluntary member contributions to a funded pension plan made by a full time median-income earner treated more favorably than similar savings in a bank account? This positive treatment could be received through the tax system, with a government co-contribution or with a similar arrangement. Is the investment income earned by the pension plan exempt from tax in the preretirement and/or postretirement periods?	5.0%	4.0	7.8	6.0	8.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	5.5	7.8	10.0	10.0	10.0	10.0	10.0	7.0	10.0	10.0	5.5	10.0	10.0

Appendix 1. Score for each system for each indicator in the adequacy sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
A1	What is the basic (or targeted) state pension, as a percentage of the average wage, that a single aged person will receive? How is the basic (or targeted) state pension increased or adjusted over time (for example, prices or wages or by some other means)? Are these increases or adjustments made on a regular basis? If yes, how often?	20.0%	1.3	0.0	5.7	10.0	9.7	9.8	0.9	0.0	3.2	7.7	0.0	7.6	0.6	8.9	8.8	7.5	0.0	0.0	2.2	7.2	8.4	10.0	5.1	0.0
A2	What is the net pension replacement rate for a range of income earners?	25.0%	3.9	3.9	9.2	10.0	6.2	8.0	7.4	10.0	3.3	10.0	9.2	7.5	0.0	10.0	9.3	5.5	2.0	6.0	10.0	10.0	8.0	9.3	8.0	9.2
A3	What is the net household saving rate? What is the net household debt-to-GDP ratio?	10.0%	4.8	4.3	9.4	3.4	2.3	2.4	7.9	6.5	5.5	5.1	9.1	8.1	4.6	5.4	5.4	4.8	6.6	3.5	6.8	3.5	5.1	8.6	5.0	5.5
A4	Are voluntary member contributions to a funded pension plan made by a full time median-income earner treated more favorably than similar savings in a bank account? This positive treatment could be received through the tax system, with a government co-contribution or with a similar arrangement. Is the investment income earned by the pension plan exempt from tax in the preretirement and/or postretirement periods?	5.0%	10.0	10.0	7.8	10.0	4.0	8.0	10.0	3.0	10.0	7.8	8.0	10.0	10.0	10.0	3.5	10.0	7.0	10.0	4.5	8.0	10.0	7.0	10.0	4.0

Appendix 1. Score for each system for each indicator in the adequacy sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
A5	Is there a minimum access age to receive benefits from private pension plans (except in the cases of death, invalidity or significant financial hardship)? If so, what is the current age?	10.0%	0.0	10.0	0.0	10.0	5.0	0.0	3.3	10.0	8.3	9.7	6.7	10.0	10.0	10.0	10.0	10.0	10.0	0.0	6.7	6.7	6.7	0.0	5.0	3.3
A6	Is it a requirement to take part or all of the retirement benefit as an annuity or income stream? If yes, is it a requirement that this annuity or income stream be for life? If it is a requirement to take an annuity or income stream, are some lump-sum benefits also available? If it is not a requirement to take an annuity or income stream, are there any incentives or rules that encourage the provision of income streams? Are the annuities or income streams priced or designed as unisex annuities (that is, the same benefit for males and females)? Are reverse mortgages (or home equity release schemes) available to your retirees (either from the government or the private sector)?	10.0%	1.0	4.0	6.0	2.0	8.0	5.0	8.0	4.0	3.0	7.0	9.0	8.0	8.0	7.0	10.0	3.0	7.5	7.0	6.0	5.5	6.0	6.0	3.0	4.0

Appendix 1. Score for each system for each indicator in the adequacy sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
			Score for each system																							
A5	Is there a minimum access age to receive benefits from private pension plans (except in the cases of death, invalidity or significant financial hardship)? If so, what is the current age?	10.0%	0.0	6.7	6.7	6.7	8.3	10.0	1.7	0.0	10.0	10.0	7.0	6.7	0.0	10.0	6.7	9.3	10.0	6.7	0.0	6.7	6.7	10.0	6.3	9.0
A6	Is it a requirement to take part or all of the retirement benefit as an annuity or income stream? If yes, is it a requirement that this annuity or income stream be for life? If it is a requirement to take an annuity or income stream, are some lump-sum benefits also available? If it is not a requirement to take an annuity or income stream, are there any incentives or rules that encourage the provision of income streams? Are the annuities or income streams priced or designed as unisex annuities (that is, the same benefit for males and females)? Are reverse mortgages (or home equity release schemes) available to your retirees (either from the government or the private sector)?	10.0%	4.5	3.0	6.0	9.0	2.0	5.0	3.0	1.0	6.0	8.5	7.0	9.0	7.0	3.0	6.0	2.5	3.0	7.0	2.5	7.0	4.0	7.0	3.5	6.0

Appendix 1. Score for each system for each indicator in the adequacy sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
A7	Upon resignation from employment, is a plan member normally entitled to the full vesting of their accrued benefit? After resignation, is the value of the member's accrued benefit normally maintained (either by inflation-linked indexation or through market-related investment returns)? Can a member's benefit entitlements normally be transferred to another private pension plan on the member's resignation from an employer?	5.0%	2.0	10.0	7.0	10.0	9.0	9.0	8.0	10.0	8.0	10.0	10.0	10.0	10.0	10.0	9.0	10.0	8.0	10.0	9.0	9.0	10.0	10.0	7.0	10.0
A8	Upon a couple's divorce or separation, are the individuals' accrued pension assets normally taken into account in the overall division of assets?	3.0%	0.0	10.0	0.0	10.0	10.0	0.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	5.0	10.0	0.0	5.0	5.0	0.0	7.5	10.0	10.0	10.0	0.0
A9	What is the level of home ownership in the country?	5.0%	7.0	6.6	4.9	7.4	2.6	7.6	7.0	6.4	10.0	2.7	10.0	5.2	5.9	5.3	3.1	4.3	7.6	9.5	9.3	7.1	6.1	7.4	5.9	10.0
A10	What is the proportion of total pension assets in the whole industry (that is, including both the public and private sectors) invested in growth assets?	5.0%	3.2	10.0	7.9	5.6	10.0	2.1	10.0	9.0	4.2	10.0	7.3	10.0	10.0	4.4	9.3	10.0	10.0	2.2	1.3	9.0	10.0	6.1	10.0	0.3

Appendix 1. Score for each system for each indicator in the adequacy sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
A7	Upon resignation from employment, is a plan member normally entitled to the full vesting of their accrued benefit? After resignation, is the value of the member's accrued benefit normally maintained (either by inflation-linked indexation or through market-related investment returns)? Can a member's benefit entitlements normally be transferred to another private pension plan on the member's resignation from an employer?	5.0%	8.0	10.0	10.0	10.0	10.0	10.0	9.0	0.0	10.0	9.0	4.0	10.0	10.0	9.0	10.0	10.0	10.0	6.0	2.0	9.0	10.0	10.0	5.0	6.0
A8	Upon a couple's divorce or separation, are the individuals' accrued pension assets normally taken into account in the overall division of assets?	3.0%	5.0	4.0	5.0	10.0	10.0	0.0	10.0	0.0	10.0	5.0	0.0	10.0	10.0	5.0	2.5	10.0	10.0	10.0	0.0	0.0	10.0	0.0	10.0	10.0
A9	What is the level of home ownership in the country?	5.0%	5.9	8.1	6.0	7.1	4.5	8.0	7.9	6.3	9.1	8.3	5.7	10.0	7.1	7.9	6.4	2.3	9.2	7.5	5.2	10.0	6.4	4.9	6.5	9.7
A10	What is the proportion of total pension assets in the whole industry (that is, including both the public and private sectors) invested in growth assets?	5.0%	8.9	10.0	7.2	10.0	10.0	10.0	10.0	8.2	10.0	10.0	10.0	6.7	10.0	9.6	10.0	10.0	10.0	5.9	7.6	10.0	10.0	4.7	10.0	0.0

Appendix 1. Score for each system for each indicator in the adequacy sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system: Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia
A11	Is it a requirement that an individual continue to receive additional retirement benefits in the pension system when they receive income due to invalidity or a disability? These income benefits could be from the public pension scheme or a private-sector pension plan. Is it a requirement that an individual continue to receive additional retirement benefits in the pension system when they receive income during paid parental leave? These income payments could be from the government or the employer. Is it a requirement that an individual continue to receive additional retirement benefits in the pension system while out of the paid workforce caring for young children?	2.0%	0.0	0.0	7.5	1.3	7.5	0.0	0.0	2.5	7.5	5.0	5.0
	Adequacy sub-index	**40%**	**61.5**	**68.4**	**67.2**	**81.8**	**39.7**	**70.4**	**67.0**	**71.2**	**65.2**	**63.9**	**66.8**

	Question	Question weight	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
A11	(as above)	2.0%	6.3	5.0	5.0	5.0	2.5	3.8	5.0	2.5	0.0	5.0	10.0	10.0	7.5
	Adequacy sub-index	**40%**	**84.0**	**77.0**	**84.8**	**81.1**	**51.5**	**82.0**	**34.2**	**38.1**	**73.6**	**75.7**	**68.2**	**57.1**	**45.8**

Appendix 1. Score for each system for each indicator in the adequacy sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																						
			Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
A11	Is it a requirement that an individual continue to receive additional retirement benefits in the pension system when they receive income due to invalidity or a disability? These income benefits could be from the public pension scheme or a private-sector pension plan. Is it a requirement that an individual continue to receive additional retirement benefits in the pension system when they receive income during paid parental leave? These income payments could be from the government or the employer. Is it a requirement that an individual continue to receive additional retirement benefits in the pension system while out of the paid workforce caring for young children?	2.0%	5.0	2.5	2.5	3.8	0.0	10.0	5.0	2.5	2.5	2.5	5.0	5.0	1.3	10.0	2.5	7.5	2.5	2.5	0.0	10.0	10.0	10.0	0.0	2.5
	Adequacy sub-index	**40%**	**40.5**	**44.5**	**73.8**	**86.3**	**64.8**	**77.2**	**55.3**	**41.7**	**59.2**	**83.4**	**61.1**	**79.8**	**34.7**	**82.9**	**75.2**	**66.0**	**46.2**	**50.2**	**48.3**	**77.1**	**75.7**	**84.0**	**63.9**	**56.8**

Appendix 2. Score for each system for each indicator in the sustainability sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
S1	What proportion of the working age population are members of retirement savings plans?	20.0%	0.8	9.8	1.2	6.4	1.1	0.0	6.9	10.0	5.2	6.2	8.5	10.0	10.0	8.6	5.8	10.0	10.0	1.9	0.2	5.6	10.0	1.5	8.2	9.7
S2	What is the level of pension assets, expressed as a percentage of GDP, held in private pension arrangements, public pension reserve funds, protected book reserves and pension insurance contracts?	15.0%	1.2	9.1	0.7	3.5	4.4	2.2	10.0	6.6	0.5	2.2	2.8	10.0	7.0	1.4	2.0	4.3	10.0	1.7	0.6	2.5	6.3	1.6	5.9	1.3
S3	What is the life expectancy at the current state pension age? What is the projected life expectancy at the expected state pension age in 2054 (that is, in 30 years' time)? What is the projected old-age dependency ratio in 2054? What is the estimated total fertility rate (TFR) for 2022–2026?	20.0%	5.9	5.7	3.9	5.1	10.0	6.3	4.5	4.3	1.3	5.3	5.6	6.6	5.0	4.0	5.4	1.6	6.2	6.7	8.7	5.5	7.6	4.3	2.3	9.0
S4	What is the level of mandatory contributions that are set aside for future retirement benefits (that is, funded), expressed as a percentage of the annual wage for a full-time median-income earner? This may include mandatory employer and/or employee contributions paid into funded public benefits (that is, social security) and/or retirement benefits from the private sector.	10.0%	0.0	9.6	0.0	0.0	0.0	0.0	6.9	9.6	4.0	9.6	4.2	10.0	3.8	0.0	0.0	8.3	10.0	2.6	3.6	0.0	10.0	1.5	0.0	9.6
S5	What is the labor force participation rate for those aged 55–64? What is the labor force participation rate for those aged 65+?	10.0%	6.2	6.8	4.3	4.2	7.5	3.6	6.6	6.6	2.5	5.9	3.1	8.1	8.1	4.6	7.9	4.6	9.5	4.9	8.2	6.9	8.0	4.4	9.7	4.6

Appendix 2. Score for each system for each indicator in the sustainability sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
S1	What proportion of the working age population are members of retirement savings plans?	20.0%	7.0	2.7	10.0	10.0	10.0	8.5	0.3	6.2	9.7	0.6	7.3	8.4	1.3	2.1	10.0	9.8	10.0	5.0	1.0	4.5	5.8	6.2	5.7	1.5
S2	What is the level of pension assets, expressed as a percentage of GDP, held in private pension arrangements, public pension reserve funds, protected book reserves and pension insurance contracts?	15.0%	6.0	5.5	1.8	9.5	4.1	6.4	1.1	0.7	0.8	2.5	2.7	6.7	6.3	1.1	8.8	9.7	2.2	0.8	0.3	1.2	6.9	2.4	9.4	0.9
S3	What is the life expectancy at the current state pension age? What is the projected life expectancy at the expected state pension age in 2054 (that is, in 30 years' time)? What is the projected old-age dependency ratio in 2054? What is the estimated total fertility rate (TFR) for 2022–2026?	20.0%	2.1	3.6	8.0	6.3	5.5	5.4	7.2	8.6	3.7	5.1	5.5	3.6	8.9	3.7	5.3	3.9	1.0	2.8	6.9	2.8	6.4	5.1	6.5	6.3
S4	What is the level of mandatory contributions that are set aside for future retirement benefits (that is, funded), expressed as a percentage of the annual wage for a full-time median-income earner? This may include mandatory employer and/or employee contributions paid into funded public benefits (that is, social security) and/or retirement benefits from the private sector.	10.0%	3.8	10.0	7.0	10.0	4.2	1.7	8.3	10.0	2.4	0.0	9.0	10.0	0.0	0.0	5.7	8.3	5.0	5.8	0.0	5.6	6.7	4.2	1.6	0.0
S5	What is the labor force participation rate for those aged 55–64? What is the labor force participation rate for those aged 65+?	10.0%	8.5	3.3	5.3	8.1	9.7	7.9	9.6	7.5	4.2	6.8	4.3	8.6	2.7	5.7	8.9	8.3	2.2	7.5	0.8	6.6	6.2	6.1	6.4	8.2

Appendix 2. Score for each system for each indicator in the sustainability sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
S6	What is the level of adjusted government debt (being the gross public debt reduced by the size of any sovereign wealth funds that are not set aside for future pension liabilities), expressed as a percentage of GDP? What is the level of public expenditure on pensions expressed as a percentage of GDP, averaged over the latest available figure and the projected figure for 2050?	10.0%	4.6	8.3	3.2	2.3	9.4	4.0	4.5	8.2	5.8	7.7	5.0	6.7	3.5	2.0	4.5	8.8	7.3	7.2	8.7	7.1	6.6	0.7	2.4	9.2
S7	In respect of private pension arrangements, are older employees able to access part of their retirement savings or pension and continue working (for example, part time)? If yes, can employees continue to contribute and accrue benefits at an appropriate rate?	5.0%	0.0	10.0	0.0	0.0	0.0	5.0	8.0	6.0	8.0	4.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	9.0	6.0	10.0	0.0	4.0	8.0
S8	What is the real economic growth rate averaged over seven years (namely the last four years and projected for the next three years)?	8.0%	4.3	5.2	2.9	4.0	7.5	4.9	4.2	5.1	9.1	6.0	7.1	5.0	2.9	3.1	2.6	3.5	5.7	10.0	8.1	9.9	8.0	3.1	2.6	6.6
S9	Is it a requirement for the pension plan's trustees/fiduciaries to consider environmental, social and governance (ESG) issues in developing their investment policies or strategies? If not a requirement, is it encouraged by the relevant pension regulator?	2.0%	0.0	5.0	5.0	10.0	2.5	5.0	2.5	5.0	2.5	5.0	10.0	2.5	5.0	10.0	5.0	10.0	2.5	0.0	0.0	10.0	10.0	10.0	5.0	5.0
	Sustainability sub-index	**35.0%**	**29.4**	**79.5**	**22.0**	**40.1**	**52.0**	**31.0**	**63.8**	**70.9**	**37.8**	**57.4**	**57.4**	**82.6**	**64.2**	**43.4**	**45.8**	**61.1**	**84.3**	**44.9**	**50.4**	**52.8**	**82.6**	**25.1**	**47.1**	**73.1**

Appendix 2. Score for each system for each indicator in the sustainability sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
			Score for each system																							
S6	What is the level of adjusted government debt (being the gross public debt reduced by the size of any sovereign wealth funds that are not set aside for future pension liabilities), expressed as a percentage of GDP? What is the level of public expenditure on pensions expressed as a percentage of GDP, averaged over the latest available figure and the projected figure for 2050?	10.0%	7.9	7.4	8.1	6.3	7.0	6.4	8.6	8.0	5.2	3.1	7.7	10.0	7.3	2.7	6.9	6.4	8.2	6.3	7.5	9.0	4.5	5.4	4.6	8.1
S7	In respect of private pension arrangements, are older employees able to access part of their retirement savings or pension and continue working (for example, part time)? If yes, can employees continue to contribute and accrue benefits at an appropriate rate?	5.0%	0.0	10.0	0.0	10.0	5.0	9.0	0.0	0.0	0.0	10.0	4.0	10.0	8.0	10.0	10.0	6.0	10.0	8.0	0.0	0.0	10.0	0.0	6.0	0.0
S8	What is the real economic growth rate averaged over seven years (namely the last four years and projected for the next three years)?	8.0%	5.1	7.2	4.1	4.2	4.7	4.4	4.6	8.3	6.5	4.6	6.6	5.9	2.8	3.9	4.3	4.3	7.0	3.7	9.5	7.0	3.2	4.6	5.2	10.0
S9	Is it a requirement for the pension plan's trustees/fiduciaries to consider environmental, social and governance (ESG) issues in developing their investment policies or strategies? If not a requirement, is it encouraged by the relevant pension regulator?	2.0%	5.0	10.0	5.0	10.0	2.5	10.0	0.0	2.5	0.0	5.0	0.0	10.0	10.0	5.0	0.0	0.0	2.5	2.5	0.0	0.0	10.0	5.0	0.0	0.0
	Sustainability sub-index	**40%**	**52.4**	**54.6**	**63.4**	**81.7**	**64.9**	**63.6**	**46.9**	**63.4**	**45.2**	**34.6**	**58.0**	**74.3**	**48.0**	**30.7**	**73.7**	**71.4**	**51.9**	**43.8**	**32.2**	**43.3**	**61.5**	**46.6**	**58.4**	**41.3**

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
R1	Do private-sector pension plans need regulatory approval or supervision to operate and/or provide benefits? Is a private pension plan required to be a separate legal entity from the employer?	7.5%	0.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	6.7	10.0
R2	Are private-sector pension plans required to submit a written report in a prescribed format to a pensions regulator each year? Does the pension regulator make industry data available from the submitted forms on a regular basis? How actively does the pension regulator (or protector) discharge its supervisory responsibilities? Has the government, a government department, or the pension regulator issued instructions or guidance relating to cybersecurity and related data breaches to pension plan fiduciaries/ trustees or those administering pension plans? Are pension plans or pension administrators required to report incidents of cyberattacks and the related data breaches to the pension regulator or the relevant government authority?	10.0%	0.4	10.0	4.6	9.6	9.6	9.6	9.5	10.0	9.6	8.6	9.6	8.0	9.6	8.6	9.0	10.0	10.0	6.6	7.6	7.5	10.0	9.6	9.2	9.6

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

			Score for each system																							
	Question	Question weight	Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
R1	Do private-sector pension plans need regulatory approval or supervision to operate and/or provide benefits? Is a private pension plan required to be a separate legal entity from the employer?	7.5%	10.0	10.0	6.7	10.0	10.0	10.0	10.0	0.0	8.3	10.0	10.0	10.0	10.0	10.0	8.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
R2	Are private-sector pension plans required to submit a written report in a prescribed format to a pensions regulator each year? Does the pension regulator make industry data available from the submitted forms on a regular basis? How actively does the pension regulator (or protector) discharge its supervisory responsibilities? Has the government, a government department, or the pension regulator issued instructions or guidance relating to cybersecurity and related data breaches to pension plan fiduciaries/trustees or those administering pension plans? Are pension plans or pension administrators required to report incidents of cyberattacks and the related data breaches to the pension regulator or the relevant government authority?	10.0%	5.2	6.6	7.8	9.6	9.6	9.6	3.6	2.4	8.6	10.0	5.6	7.6	9.6	9.0	9.6	8.7	7.6	9.2	9.0	9.6	10.0	9.5	7.8	8.6

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
R3	Where assets exist, are the private pension plan's trustees/fiduciaries required to prepare an investment policy? Are the private pension plan's trustees/fiduciaries required to prepare a risk management policy? Are the private pension plan's trustees/fiduciaries required to prepare a conflict-of-interest policy? Is the private pension plan's governing body required to have at least one member who is independent from the employer and the employees? Is it a requirement for the pension plan to have an anti-bribery-and-corruption policy? Is it a requirement for the pension plan to have a code of personal conduct (or equivalent) for its trustees/fiduciaries, senior executives and employees?	15.0%	5.7	7.3	8.0	8.7	8.7	6.0	7.2	10.0	7.3	9.2	7.8	4.8	10.0	9.2	6.3	9.0	5.7	5.0	6.5	6.5	8.7	9.3	4.3	9.7
R4	Do the private pension plan's trustees/fiduciaries have to satisfy any personal requirements set by the pension regulator?	2.5%	10.0	10.0	0.0	10.0	10.0	10.0	5.0	5.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	0.0	10.0	10.0	10.0	10.0	0.0	10.0

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
R3	Where assets exist, are the private pension plan's trustees/fiduciaries required to prepare an investment policy? Are the private pension plan's trustees/fiduciaries required to prepare a risk management policy? Are the private pension plan's trustees/fiduciaries required to prepare a conflict-of-interest policy? Is the private pension plan's governing body required to have at least one member who is independent from the employer and the employees? Is it a requirement for the pension plan to have an anti-bribery-and-corruption policy? Is it a requirement for the pension plan to have a code of personal conduct (or equivalent) for its trustees/fiduciaries, senior executives and employees?	15.0%	6.3	8.7	10.0	9.3	3.3	8.5	10.0	5.0	4.2	9.3	10.0	8.3	8.7	8.7	4.7	7.3	7.0	5.3	7.0	10.0	7.8	10.0	0.8	7.3
R4	Do the private pension plan's trustees/fiduciaries have to satisfy any personal requirements set by the pension regulator?	2.5%	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	0.0	10.0

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
			Score for each system																							
R5	What is the government's capacity to effectively formulate and implement sound policies and to promote private sector development? What respect do citizens and the state have for the institutions that govern economic and social interactions among them? How free are the country's citizens to express their views? What is the likelihood of political instability or politically motivated violence?	15.0%	1.1	8.0	7.2	6.8	4.5	0.8	7.8	4.9	0.7	1.3	3.9	9.1	8.8	6.2	7.5	6.2	7.9	1.7	1.8	7.8	4.4	4.2	7.5	0.7
P1	For defined benefit plans, are there minimum funding requirements? What is the period over which any deficit or shortfall is normally required to be funded? Describe the major features of the funding requirements.	5.0%	10.0	10.0	5.0	10.0	10.0	8.0	8.0	10.0	10.0	0.0	10.0	10.0	10.0	10.0	6.0	10.0	10.0	6.0	10.0	10.0	10.0	10.0	8.0	10.0
P2	Are there any limits on the level of in-house assets held by a private-sector pension plan? If yes, what are they?	5.0%	0.0	10.0	5.0	10.0	10.0	7.5	8.8	10.0	7.5	7.5	5.0	10.0	10.0	10.0	8.8	7.5	7.5	8.8	0.0	10.0	10.0	0.0	0.0	10.0
P3	Are the members' accrued benefits provided with any protection or reimbursement from an act of fraud or mismanagement within the pension plan? In the case of employer insolvency (or bankruptcy), do any unpaid employer contributions receive priority over payments to other creditors? In the case of employer insolvency (or bankruptcy), are members' accrued benefits protected against claims of creditors?	5.0%	0.0	7.5	5.0	10.0	10.0	2.5	5.0	10.0	5.0	10.0	7.5	3.8	10.0	5.0	7.5	10.0	10.0	10.0	5.0	5.0	5.0	5.0	6.3	10.0

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
R5	What is the government's capacity to effectively formulate and implement sound policies and to promote private sector development? What respect do citizens and the state have for the institutions that govern economic and social interactions among them? How free are the country's citizens to express their views? What is the likelihood of political instability or politically motivated violence?	15.0%	5.9	3.7	-0.1	8.1	8.7	8.6	0.7	0.9	4.0	5.8	1.9	8.4	1.6	5.0	8.3	8.8	6.7	1.3	-0.2	4.6	7.1	6.2	6.0	0.7
P1	For defined benefit plans, are there minimum funding requirements? What is the period over which any deficit or shortfall is normally required to be funded? Describe the major features of the funding requirements.	5.0%	10.0	10.0	0.0	10.0	10.0	10.0	0.0	0.0	10.0	10.0	2.0	10.0	10.0	10.0	7.0	10.0	10.0	0.0	10.0	2.0	8.0	10.0	6.0	10.0
P2	Are there any limits on the level of in-house assets held by a private-sector pension plan? If yes, what are they?	5.0%	10.0	10.0	7.5	10.0	10.0	10.0	8.8	0.0	10.0	10.0	10.0	7.5	8.8	10.0	10.0	10.0	0.0	5.0	10.0	10.0	10.0	7.5	5.0	0.0
P3	Are the members' accrued benefits provided with any protection or reimbursement from an act of fraud or mismanagement within the pension plan? In the case of employer insolvency (or bankruptcy), do any unpaid employer contributions receive priority over payments to other creditors? In the case of employer insolvency (or bankruptcy), are members' accrued benefits protected against claims of creditors?	5.0%	5.0	7.5	2.5	2.5	5.0	5.0	7.5	5.0	7.5	2.5	5.0	10.0	5.0	0.0	2.5	7.5	2.5	2.5	7.5	10.0	7.5	0.0	5.0	7.5

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
P4	When joining the pension plan, are new members required to receive information about the plan?	5.0%	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
P5	Are plan members required to have access to an annual report about the plan; for example, on the plan's website? Is the plan's annual report required to be publicly available? Is the annual report or other public document required to show: i. The allocation of the plan's assets to major asset classes? ii. The major investments of the plan? iii. All investments of the plan? Are pension plans required to grant members access to information about their plan's investment strategy, for example, on the plan's website? Are pension plans required to provide information to members on the plan's investment performance?	10.0%	6.3	9.5	9.0	7.8	6.3	9.5	8.3	10.0	7.8	8.9	9.5	5.0	7.0	3.8	6.0	9.5	9.5	4.8	9.0	8.8	10.0	9.0	8.8	8.5
P6	Are plan members required to receive an annual statement of their accrued benefits in the plan? Is this annual statement to individual members required to show a projection of the member's possible retirement income (or pension)? Is this annual statement provided to members of defined contribution or accumulation plans required to show any costs or fees debited from their individual account?	7.5%	2.7	7.3	10.0	10.0	10.0	6.7	7.3	10.0	5.3	7.3	10.0	7.3	8.0	6.0	10.0	7.3	8.0	4.7	7.3	10.0	10.0	10.0	2.7	7.3

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
P4	When joining the pension plan, are new members required to receive information about the plan?	5.0%	10.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	2.5	10.0	10.0	10.0	10.0	10.0	10.0
P5	Are plan members required to have access to an annual report about the plan; for example, on the plan's website? Is the plan's annual report required to be publicly available? Is the annual report or other public document required to show: i. The allocation of the plan's assets to major asset classes? ii. The major investments of the plan? iii. All investments of the plan? Are pension plans required to grant members access to information about their plan's investment strategy, for example, on the plan's website? Are pension plans required to provide information to members on the plan's investment performance?	10.0%	2.8	9.5	10.0	9.0	10.0	8.3	9.4	0.0	9.5	8.5	6.0	7.8	8.4	8.5	6.3	4.8	9.0	8.3	9.0	1.3	7.3	5.0	7.8	9.5
P6	Are plan members required to receive an annual statement of their accrued benefits in the plan? Is this annual statement to individual members required to show a projection of the member's possible retirement income (or pension)? Is this annual statement provided to members of defined contribution or accumulation plans required to show any costs or fees debited from their individual account?	7.5%	9.0	5.3	7.3	8.0	10.0	10.0	5.3	0.0	5.3	10.0	0.0	5.3	7.3	7.3	10.0	8.0	0.0	6.3	7.3	5.3	7.3	7.3	7.3	7.3

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Score for each system																							
			Argentina	Australia	Austria	Belgium	Botswana	Brazil	Canada	Chile	China	Colombia	Croatia	Denmark	Finland	France	Germany	Hong Kong SAR	Iceland	India	Indonesia	Ireland	Israel	Italy	Japan	Kazakhstan
P7	Do plan members have access to a complaints tribunal that is independent from the pension plan?	2.5%	10.0	10.0	10.0	10.0	10.0	10.0	7.5	10.0	0.0	10.0	10.0	10.0	10.0	5.0	7.5	10.0	10.0	5.0	10.0	10.0	10.0	5.0	0.0	5.0
C1	What percentage of total pension assets is held in various types of pension plans? Approximately what percentage of total pension assets is held by the largest N pension funds/providers? (Where N is based on the population of the country/system)	10.0%	8.5	6.9	8.9	6.9	9.6	6.4	5.0	5.5	9.5	5.9	8.8	7.6	7.4	7.1	5.4	8.5	7.3	9.8	9.7	5.3	7.0	7.1	7.3	10.0
	Integrity sub-index	**25.0%**	**42.3**	**86.1**	**75.2**	**87.4**	**85.2**	**67.3**	**77.1**	**86.5**	**69.1**	**69.5**	**81.7**	**76.3**	**90.8**	**75.7**	**75.3**	**87.5**	**84.4**	**58.4**	**69.3**	**80.5**	**84.1**	**77.2**	**62.1**	**80.4**

Appendix 3. Score for each system for each indicator in the integrity sub-index

Each question is scored for each system with a minimum score of 0 and a maximum score of 10.

	Question	Question weight	Korea	Malaysia	Mexico	Netherlands	New Zealand	Norway	Peru	Philippines	Poland	Portugal	Saudi Arabia	Singapore	South Africa	Spain	Sweden	Switzerland	Taiwan	Thailand	Türkiye	UAE	UK	Uruguay	USA	Vietnam
			Score for each system																							
P7	Do plan members have access to a complaints tribunal that is independent from the pension plan?	2.5%	10.0	0.0	10.0	10.0	10.0	10.0	10.0	10.0	5.0	10.0	0.0	5.0	10.0	10.0	0.0	10.0	0.0	10.0	10.0	10.0	10.0	10.0	5.0	0.0
C1	What percentage of total pension assets is held in various types of pension plans? Approximately what percentage of total pension assets is held by the largest N pension funds/providers? (Where N is based on the population of the country/system)	10.0%	8.7	10.0	9.0	7.3	5.0	7.3	6.1	9.0	7.5	8.3	10.0	9.6	7.5	6.6	8.6	5.5	9.9	8.6	5.9	10.0	5.2	5.5	4.5	10.0
	Integrity sub-index	**25.0%**	**70.5**	**77.4**	**67.1**	**86.8**	**80.2**	**88.3**	**64.7**	**27.7**	**69.4**	**85.7**	**62.9**	**83.0**	**75.7**	**77.6**	**73.6**	**80.4**	**68.2**	**58.2**	**70.8**	**75.3**	**79.3**	**76.1**	**57.5**	**69.3**

Appendix 4. Historical performance

System	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Argentina	na	na	na	na	na	na	na	37.7	38.8	39.2	39.5	42.5	41.5	43.3	42.3	45.5
Australia	74.0	72.9	75.0	75.7	77.8	79.9	79.6	77.9	77.1	72.6	75.3	74.2	75.0	76.8	77.3	76.7
Austria	na	na	na	na	na	52.8	52.2	51.7	53.1	54.0	53.9	52.1	53.0	55.0	52.5	53.4
Belgium	na	na	na	na	na	na	na	na	na	na	na	63.4	64.5	67.9	68.6	68.6
Botswana	na	na	na	na	na	na	na	na	na	na	na	na	na	na	54.5	55.4
Brazil	na	59.8	58.4	56.7	52.8	52.4	53.2	55.1	54.8	56.5	55.9	54.5	54.7	55.8	55.7	55.8
Canada	73.2	69.9	69.1	69.2	67.9	69.1	70.0	66.4	66.8	68.0	69.2	69.3	69.8	70.6	70.2	68.4
Chile	59.6	59.9	64.9	63.3	66.4	68.2	69.1	66.4	67.3	69.3	68.7	67.0	67.0	68.3	69.9	74.9
China	48.0	40.3	42.5	45.4	47.1	49.0	48.0	45.2	46.5	46.2	48.7	47.3	55.1	54.5	55.3	56.5
Colombia	na	na	na	na	na	na	na	na	61.7	62.6	58.4	58.5	58.4	63.2	61.9	63.0
Croatia	na	na	na	na	na	na	na	na	na	na	na	na	na	na	62.3	67.2
Denmark	na	na	na	82.9	80.2	82.4	81.7	80.5	78.9	80.2	80.3	81.4	82.0	82.0	81.3	81.6
Finland	na	na	na	na	na	74.3	73.0	72.9	72.3	74.5	73.6	72.9	73.3	77.2	76.6	75.9
France	na	54.6	54.4	54.7	53.5	57.7	57.4	56.4	59.6	60.7	60.2	60.0	60.5	63.2	62.0	68.0
Germany	48.2	54.0	54.2	55.3	58.5	62.2	62.0	59.0	63.5	66.8	66.1	67.3	67.9	67.9	66.8	67.3
Hong Kong SAR	na	na	na	na	na	na	na	na	na	56.0	61.9	61.1	61.8	64.7	64.0	63.9
Iceland	na	na	na	na	na	na	na	na	na	na	na	na	84.2	84.7	84.8	83.4
India	na	na	43.4	42.4	43.3	43.5	40.3	43.4	44.9	44.6	45.8	45.7	43.3	44.4	45.9	44.0
Indonesia	na	na	na	na	42.0	45.3	48.2	48.3	49.9	53.1	52.2	51.4	50.4	49.2	51.8	50.2
Ireland	na	na	na	na	na	62.2	63.1	62.0	65.8	66.8	67.3	65.0	68.3	70.0	70.2	68.1
Israel	na	na	na	na	na	na	na	na	na	na	na	74.7	77.1	79.8	80.8	80.2
Italy	na	na	na	na	na	49.6	50.9	49.5	50.8	52.8	52.2	51.9	53.4	55.7	56.3	55.4
Japan	41.5	42.9	43.9	44.4	44.4	44.4	44.1	43.2	43.5	48.2	48.3	48.5	49.8	54.5	56.3	54.9
Kazakhstan	na	na	na	na	na	na	na	na	na	na	na	na	na	na	64.9	64.0

Appendix 4. Historical performance

System	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Korea	na	na	na	44.7	43.8	43.6	43.8	46.0	47.1	47.3	49.8	50.5	48.3	51.1	51.2	52.2
Malaysia	na	na	na	na	na	na	na	55.7	57.7	58.5	60.6	60.1	59.6	63.1	56.0	56.3
Mexico	na	na	na	na	50.1	49.4	52.1	44.3	45.1	45.3	45.3	44.7	49.0	56.1	55.1	68.5
Netherlands	76.1	78.3	77.9	78.9	78.3	79.2	80.5	80.1	78.8	80.3	81.0	82.6	83.5	84.6	85.0	84.8
New Zealand	na	na	na	na	na	na	na	na	67.9	68.5	70.1	68.3	67.4	68.8	68.3	68.7
Norway	na	na	na	na	na	na	na	na	74.7	71.5	71.2	71.2	75.2	75.3	74.4	75.2
Peru	na	na	na	na	na	na	na	na	na	62.4	58.5	57.2	55.0	55.8	55.5	54.7
Philippines	na	na	na	na	na	na	na	na	na	na	43.7	43.0	42.7	42.0	45.2	45.8
Poland	na	na	58.6	58.2	57.9	56.4	56.2	54.4	55.1	54.3	57.4	54.7	55.2	57.5	57.6	56.8
Portugal	na	na	na	na	na	na	na	na	na	na	na	na	na	62.8	67.4	66.9
Saudi Arabia	na	na	na	na	na	na	na	na	na	58.9	57.1	57.5	58.1	59.2	59.5	60.5
Singapore	57.0	59.6	56.7	54.8	66.5	65.9	64.7	67.0	69.4	70.4	70.8	71.2	70.7	74.1	76.3	78.7
South Africa	na	na	na	na	na	54.0	53.4	48.6	48.9	52.7	52.6	53.2	53.6	54.7	54.0	49.6
Spain	na	na	na	na	na	na	na	na	na	54.4	54.7	57.7	58.6	61.8	61.6	63.3
Sweden	73.5	74.5	73.4	73.4	72.6	73.4	74.2	71.4	72.0	72.5	72.3	71.2	72.9	74.6	74.0	74.3
Switzerland	na	75.3	72.7	73.3	73.9	73.9	74.2	68.6	67.6	67.6	66.7	67.0	70.0	72.3	72.0	71.5
Taiwan	na	na	na	na	na	na	na	na	na	na	na	na	51.8	52.9	53.6	53.7
Thailand	na	na	na	na	na	na	na	na	na	na	39.4	40.8	40.6	41.7	46.4	50.0
Türkiye	na	na	na	na	na	na	na	na	na	na	42.2	42.7	45.8	45.3	46.3	48.3
UAE	na	na	na	na	na	na	na	na	na	na	na	na	59.6	61.8	62.5	64.8
UK	63.9	63.7	66.0	64.8	65.4	67.6	65.0	60.1	61.4	62.5	64.4	64.9	71.6	73.7	73.0	71.6
Uruguay	na	na	na	na	na	na	na	na	na	na	na	na	60.7	71.5	68.9	68.9
USA	59.8	57.3	58.1	59.0	58.2	57.9	56.3	56.4	57.8	58.8	60.6	60.3	61.4	63.9	63.0	60.4
Vietnam	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	54.5
Number of systems	**11**	**14**	**16**	**18**	**20**	**25**	**25**	**27**	**30**	**34**	**37**	**39**	**43**	**44**	**47**	**48**

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