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Time to walk the talk

Allianz Global Pension Report 2025

Allianz Research

Content

Executive Summary

Michaela Grimm
Senior Economist,
Demography & Social Protection
michaela.grimm@allianz.com

Arne Holzhausen
Head of Insurance, Wealth & ESG Research
arne.holzhausen@allianz.com

According to the latest UN forecasts, by2050, the number of people aged 65 and older is set to almost double from 857mn to 1578mn. With declining fertility rates slowing the growth of the working-age population, by mid-century, there will be 26 people aged 65 and older per 100 aged between 15 and 64, compared to 16 today. In this context, it is critical to ask whether public pension systems are prepared to cope with demographic change. On the one hand, their long-term financial sustainability needs to be guaranteed to avoid an overburdening of future younger generations. On the other, they need to be adequate and guarantee an increasing share of elderly people a decent living standard in old age to maintain their acceptance. Strictly pay-as-you go financed pension systems, in which the contributions of the workforce population are used to finance the pensions of current retirees, will not be able to meet both requirements in the long run. The challenge will be to find the right balance between ensuring the sustainability and the adequacy of pension systems at the same time and providing the necessary preconditions for supplementary capital-funded pension provision. Moreover, enabling older workers to stay in the labor market for longer will also be essential to keep the public pension systems in balance.

Since our last pension report two years ago, global pension systems have changed, but not always towards more sustainability and adequacy in the long run. The good news is that an increasing number of countries intends to adjust their retirement ages to the developments in further life expectancy in the long run. There have also been improvements in ensuring a more flexible transition from work to retirement to keep older workers in the labor market for longer, which have in some cases likely been accelerated by the increasingly noticeable shortage of skilled workers on the labor market. However, in some cases, pension reforms that had already been announced or adopted have been watered down or their implementation has been postponed. In some European countries, pay-as-you-go systems made a comeback as the inflow of refugees and migrants in recent years has dampened the pace of population aging. However, immigration will not be enough to protect pay-as-you-go financed pension systems in aging societies. In fact, relying on immigration may even backfire in the long run since the competition for skilled workers is set to increase as many of today's sender countries are faced with aging populations, too. Finally, some challenges remained unchanged, like the need to reduce the share of informal labor in emerging markets to create the necessary precondition for a broader coverage of their pension systems.

This year, the 71 countries in our Allianz Pension Index (API) recorded an average score of 3.7, which suggests that global pension systems need further reforms to balance sustainability and adequacy. The API is based on three sub-indices – starting points, sustainability and adequacy – and takes into account 40 parameters. Each parameter is rated on a scale of 1 to 7, with grade 1 signaling no need for reforms. The average score of 4.0 in the sub-index starting point signals medium reform pressure, while the average scores in sustainability (3.7) and adequacy (3.5) hint at the fact that politicians still chose decent pension levels over improving sustainability. Denmark has the best prepared pension system of all countries, with an overall score of 2.3, while the need for further pension reform is comparatively strongest in Sri Lanka, with a score of 5.0. However, there is no country that tops all three sub-indices. Of the ten countries where the pension systems are comparatively well prepared for demographic change in a broader sense, only Denmark and Sweden are among the ten countries with the least reform pressure in each sub-index.

The United Arab Emirates tops the starting points sub-index. This sub-index assesses the pace of demographic change, public indebtedness and general living standards, that is, the structural preconditions that any pension reform has to take into account. In this, the United Arab Emirates scored best with an average of 2.3, thanks to its comparatively young population, followed by Australia and Israel, which also scored well with high living standards, though the total averages of 2.6 and to 2.9 reflect the somewhat weaker rankings with respect to future financial leeway. Laos, Mauritius and Tunisia have the least favorable preconditions due to a combination of still comparatively low living standards and high budget deficits.

Indonesia, Denmark and Bulgaria are the best performers in the sustainability sub-index. This sub-index assesses how well a pension system is prepared to cushion the impact of demographic change. Supplementary capital-funded elements, incentives to postpone retirement, the introduction of demographic factors in the adjustment of retirement benefits and adapting the retirement age to developments in further life expectancy play a crucial role in improving a pension system's long term sustainability. Indonesia, Denmark and Bulgaria scored well with averages between 2.1 and 2.3 due to the increases in their retirement ages and the capital-funded elements in their pension systems. The sub-index signals a comparatively high and even very high need for further reforms with respect to sustainability for Bahrain, Malaysia and Sri Lanka, with scores between 5.0 and 5.5. Adapting retirement ages to changes in life expectancy could help to improve the sustainability of pension systems in the long run.

Finally, Denmark, Netherlands and New Zealand rank the best in the adequacy sub-index. This sub-index questions whether pension systems can provide an adequate standard of living in old age. Here, we include not only the benefit level and, most importantly, the coverage, but also if the necessary

preconditions for building up a sufficient capital bolster are in place and if labor markets are already adapted to the needs of an aging workforce population. The countries with the least need for further reforms in this respect are Denmark, Netherlands and New Zealand, with scores between 1.7 and 2.0. In all three countries supplementary capital-funded occupational and private pension provision is already a main element of respective pension system. In contrast, South Africa, Pakistan and Laos are the countries with the highest need for further reforms in this respect. However, like in many emerging markets, this is not owed to the structure of the pension system per se, but to its low coverage due to a high share of informal labor.

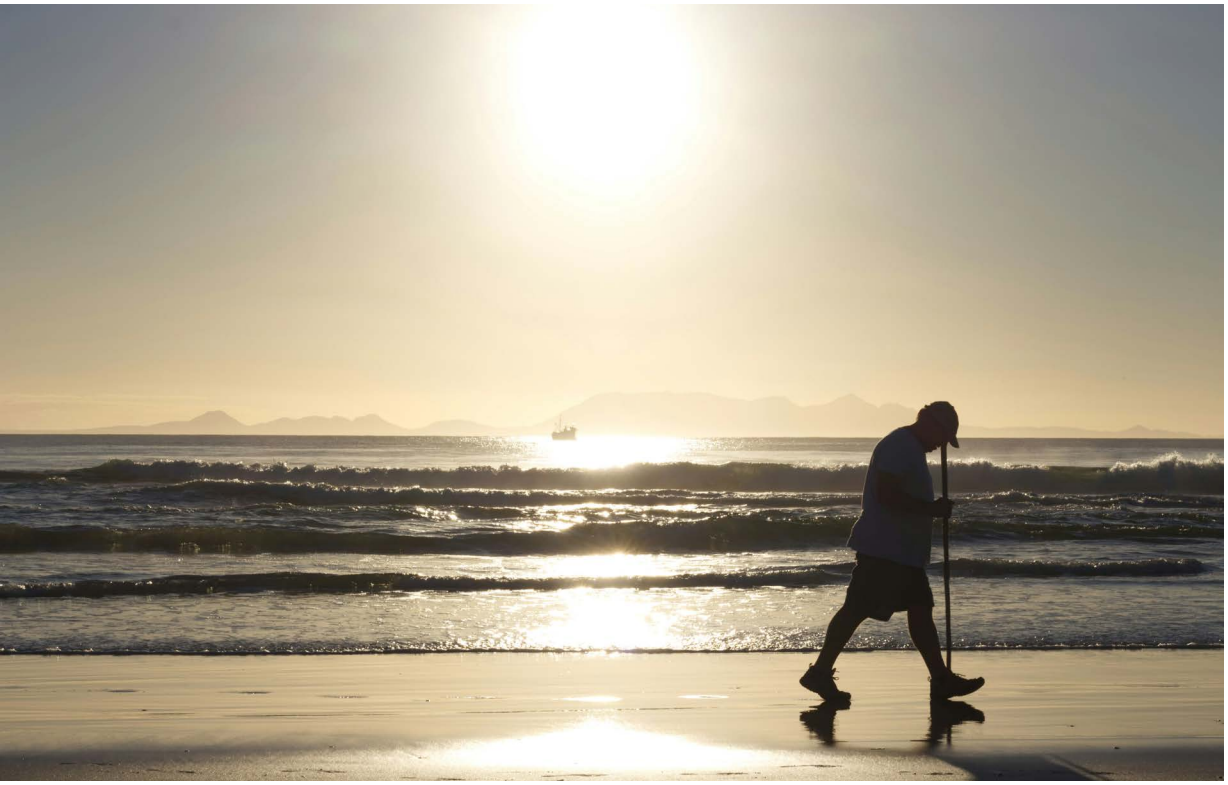
The "ideal" pension system blends pay-as-you-go systems with strong capital-funded pillars. Countries that combine the two are best prepared to weather demographic change and to master the balance between sustainability and adequacy in the long run. However, functioning labor markets are the necessary precondition for any successful pension reform, which means increasing the share of formal labor in emerging markets and adapting labor markets to the needs of an aging workforce in industrialized countries.

Table 1: Allianz Pension Index 2025

	API 2025	Basic Conditions	Living Standard	Finances and Demography	Sustainability	Preconditions	Finances	Adequacy	First Pillar	Other Pension Income
Denmark	2.3	3.2	2.7	3.5	2.3	2.4	2.1	2.0	2.0	2.0
Netherlands	2.6	3.0	2.4	3.3	3.3	2.8	4.1	1.7	1.3	2.1
Sweden	2.6	2.9	2.3	3.4	2.9	3.1	2.7	2.2	2.0	2.3
Japan	2.7	3.7	2.5	4.4	2.4	2.2	2.7	2.4	2.7	2.1
New Zealand	2.8	3.6	3.1	3.9	3.3	4.4	1.6	2.0	2.0	2.0
Israel	3.0	2.9	2.4	3.1	3.0	4.0	1.6	2.9	2.7	3.2
Australia	3.2	2.6	2.1	3.0	3.5	4.1	2.7	3.1	3.6	2.6
United Kingdom	3.2	3.4	3.4	3.4	3.5	2.8	4.7	2.7	2.9	2.5
Norway	3.2	3.2	2.2	3.9	4.0	4.5	3.3	2.5	2.2	2.8
United States	3.2	3.1	3.1	3.1	3.4	3.9	2.8	3.1	3.0	3.2
Bulgaria	3.3	4.4	5.0	4.0	2.3	2.0	2.7	3.6	3.5	3.8
Belgium	3.3	3.9	2.9	4.5	3.4	3.2	3.6	2.8	3.3	2.4
Taiwan	3.3	4.7	3.8	5.4	3.3	4.0	2.2	2.5	2.2	2.8
Germany	3.3	3.8	3.5	4.0	3.6	3.9	3.1	2.7	2.6	2.7
Portugal	3.3	4.4	3.9	4.8	3.0	2.5	3.8	3.0	2.4	3.7
Canada	3.3	3.0	2.8	3.1	4.1	5.0	2.8	2.8	3.1	2.4
Italy	3.4	4.3	3.0	5.3	3.3	2.4	4.7	2.9	2.6	3.2
Czech Republic	3.4	3.9	3.9	3.9	2.9	1.7	4.7	3.6	3.0	4.1
France	3.4	3.5	2.7	4.0	3.7	3.6	3.9	3.0	3.0	3.1
Luxembourg	3.4	3.7	2.0	4.9	4.4	4.6	4.2	2.3	1.3	3.2
Switzerland	3.4	3.3	1.8	4.3	4.2	4.8	3.3	2.8	2.7	2.9
Finland	3.4	3.8	3.2	4.2	3.6	3.4	3.8	3.1	3.0	3.2
Korea	3.4	4.2	2.4	5.3	3.2	3.8	2.3	3.3	3.5	3.1
Greece	3.5	4.7	3.9	5.3	2.9	2.2	3.8	3.4	2.5	4.3
Estonia	3.5	4.1	3.9	4.3	2.9	2.6	3.3	3.7	3.8	3.7
Kazakhstan	3.5	4.1	5.3	3.3	3.6	3.8	3.3	3.2	1.8	4.6
Slovakia	3.5	4.6	4.3	4.8	3.4	2.9	4.3	3.0	2.6	3.4
Indonesia	3.5	4.3	5.8	3.3	2.1	1.6	2.7	4.6	4.7	4.5
Cyprus	3.6	4.5	3.2	5.3	3.1	2.3	4.2	3.6	3.2	4.0
Malta	3.6	4.1	2.7	5.0	4.3	4.4	4.1	2.6	2.6	2.6
Singapore	3.6	3.2	1.8	4.1	4.4	4.4	4.4	2.9	3.0	2.8
Austria	3.6	4.1	3.0	4.9	4.1	4.0	4.2	2.8	2.1	3.4
China	3.6	4.5	4.7	4.4	3.8	3.8	3.8	2.9	2.4	3.3
Latvia	3.6	4.6	4.7	4.5	3.6	4.1	2.7	3.1	2.9	3.4
Lithuania	3.6	4.5	4.7	4.4	3.2	3.6	2.6	3.5	3.3	3.7
Turkey	3.6	4.1	4.6	3.8	3.0	2.2	4.1	4.0	3.2	4.7
Hong Kong	3.7	3.6	1.9	4.8	4.3	5.2	2.9	3.1	3.3	2.9
Ireland	3.7	3.5	2.6	4.2	4.3	4.8	3.6	3.2	2.7	3.7
Spain	3.8	4.2	2.8	5.1	4.4	4.1	4.9	2.9	2.7	3.1
Egypt	3.8	4.6	6.3	3.5	2.6	1.7	3.9	4.5	4.3	4.8
Mexico	3.8	4.4	5.4	3.7	3.0	3.9	1.7	4.2	3.5	4.9
Romania	3.8	4.3	4.6	4.0	3.4	2.4	4.8	4.1	3.9	4.2
Mauritius	3.8	5.2	5.4	5.0	3.9	5.1	2.2	3.1	3.5	2.7
Hungary	3.9	3.9	4.4	3.6	4.0	4.2	3.5	3.7	2.8	4.6
Croatia	3.9	4.7	4.5	4.9	3.5	4.0	2.7	3.9	3.7	4.2
Qatar	3.9	3.0	2.2	3.5	4.0	4.0	3.9	4.3	4.6	4.0
Philippines	3.9	4.3	6.0	3.1	3.7	3.9	3.3	4.1	3.9	4.3
Saudi Arabia	4.0	3.8	3.4	4.0	3.5	3.1	4.1	4.5	4.5	4.5
Slovenia	4.1	4.6	3.8	5.2	4.6	4.6	4.7	3.2	3.3	3.2
Kenya	4.1	4.4	6.8	2.8	3.4	3.8	2.8	4.6	5.2	4.0
Peru	4.1	4.0	4.8	3.5	3.5	4.4	2.2	4.7	4.5	4.9
Vietnam	4.1	4.3	5.6	3.5	3.9	3.6	4.2	4.2	4.1	4.3
United Arab Emirates	4.1	2.3	2.4	2.2	4.7	5.0	4.3	4.5	4.7	4.2
Argentina	4.1	4.1	4.5	3.9	4.4	3.7	5.4	3.9	3.4	4.4
Cambodia	4.1	4.1	6.2	2.6	3.6	4.4	2.4	4.7	4.5	4.9
Thailand	4.1	4.4	4.6	4.3	4.0	5.2	2.1	4.2	4.2	4.1
Kuwait	4.2	3.6	3.1	3.9	4.4	5.2	3.2	4.2	4.0	4.5
Pakistan	4.2	4.0	6.8	2.0	3.4	3.8	2.6	5.1	5.4	4.9
Brazil	4.2	4.6	4.8	4.4	4.6	3.9	5.7	3.6	2.7	4.6
Colombia	4.2	4.1	4.3	4.0	4.5	4.9	3.8	4.1	3.6	4.5
South Africa	4.3	4.0	5.6	3.0	3.9	4.6	2.7	4.9	5.4	4.3
Tunisia	4.3	4.9	5.3	4.7	4.7	5.7	3.2	3.6	2.8	4.4
Chile	4.3	4.1	3.9	4.2	4.2	5.2	2.8	4.5	4.6	4.5
Nigeria	4.3	3.6	6.0	1.4	4.5	5.2	3.4	4.6	4.8	4.3
Bahrain	4.5	4.4	3.6	5.0	5.0	5.4	4.4	4.0	4.0	3.9
Poland	4.5	4.4	4.2	4.5	4.9	6.1	3.2	4.2	3.9	4.4
Morocco	4.5	4.4	5.4	3.7	4.4	5.0	3.6	4.7	4.5	4.9
India	4.5	4.4	6.4	3.0	4.9	5.2	4.5	4.2	4.3	4.1
Laos	4.6	5.0	6.0	3.9	3.8	4.6	2.7	5.2	5.4	5.1
Malaysia	4.7	4.3	4.7	4.0	5.4	6.0	4.5	4.1	4.8	3.4
Sri Lanka	5.0	4.4	5.6	3.7	5.5	6.2	4.5	4.8	4.8	4.9

1 = no need for reforms — 7 = high reform pressure

Source: Allianz Research



The demographic challenge persists

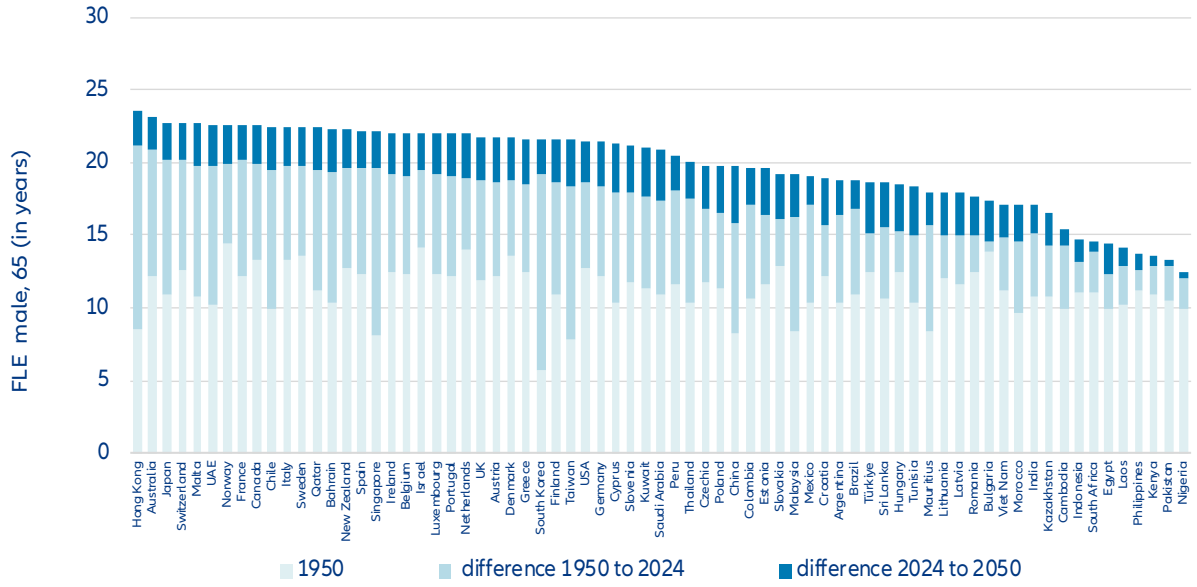
According to the latest UN forecasts, within the next 25 years, the number of people aged 65 and older is set to almost double from 857mn today to 1578mn in 2050. With declining fertility rates slowing down the growth of the working-age population, by mid-century, there will be 26 people aged 65 and older per 100 aged between 15 and 64, compared to 16 today[1].

In the 71 countries covered in our report, which account for 75% of the global population[2], the fertility rate spans from 0.7 children per woman in Hong Kong to 4.4 in Nigeria. Both countries are also the lower and upper boundaries with respect to life expectancy, with the average life expectancy at birth ranging from 54.6 years in Nigeria to 85.6 years in Hong Kong. And while the average 65 year old in Hong Kong can expect to celebrate his 86th birthday, the average further life expectancy of his peer in Nigeria is merely 12.0 years. The range is even wider in the case of women, from 12.3 years in Nigeria to 25.3 years in Hong Kong.

There are also marked differences with respect to the development and level of countries' old-age-dependency ratios (OADR). This is because of the marked differences in the development in fertility rates, which in many industrialized countries dropped below the so-called reproduction level of 2.1 children per woman decades ago, as well as in further life expectancy, which is expected to increase in the covered countries by an average 2.6 years in the case of men and by 2.2 years in the case of women until 2050 (Figures 1 and 2).

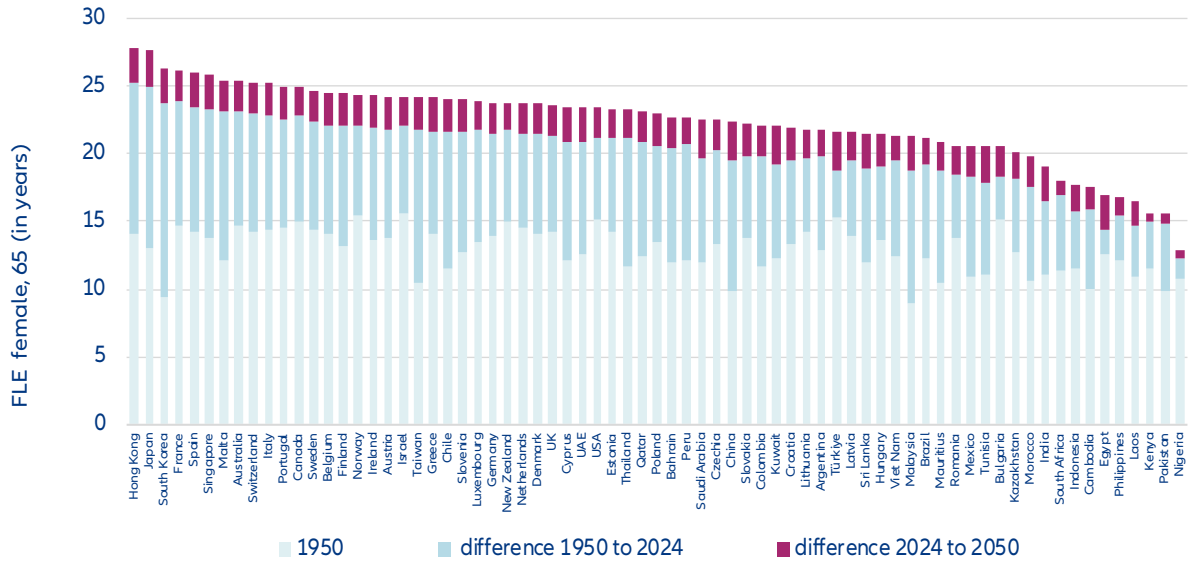
[1] At the regional and country levels, there are marked differences due to varying developments in fertility rates and life expectancy.
[2] Source of all population statistics is United Nations, Department of Economic and Social Affairs, Population Division (2024): World Population Prospects 2024, online edition.

Figure 1: Developments in further life expectancy, male (in years)



Sources: UN Population Division (2024), Allianz Research

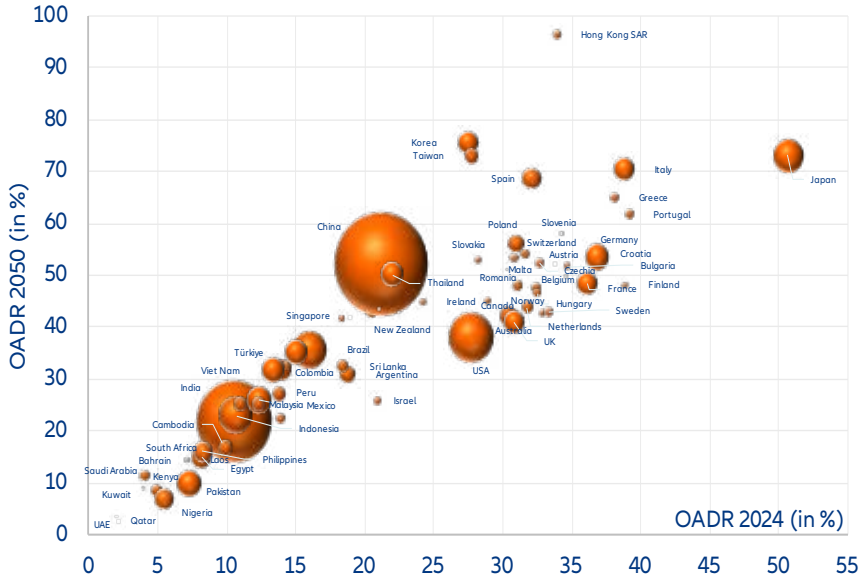
Figure 2: Developments in further life expectancy, female (in years)



Sources: UN Population Division (2024), Allianz Research

The future development of the OADR, which gives the number of people in retirement age per 100 persons in working age[3], varies markedly from country to country. In most industrialized countries, the overall level of the OADR is a cause for concern, while in many emerging markets it is the rapid pace of aging. The most rapidly aging countries are Hong Kong, South Korea, Taiwan and Saudi Arabia. In these countries, the OADR is set to almost treble within the next 25 years. However, while in Saudi Arabia this means an increase from 4% to 11%, it will climb to 96% in Hong Kong and above 70% in Taiwan and South Korea. In China, where the number of people aged 65 and older is set to increase from 208mn today to 390mn, the OADR is set to increase from 21% to 52% (Figure 3).

Figure 3: OADR developments* (in percent)



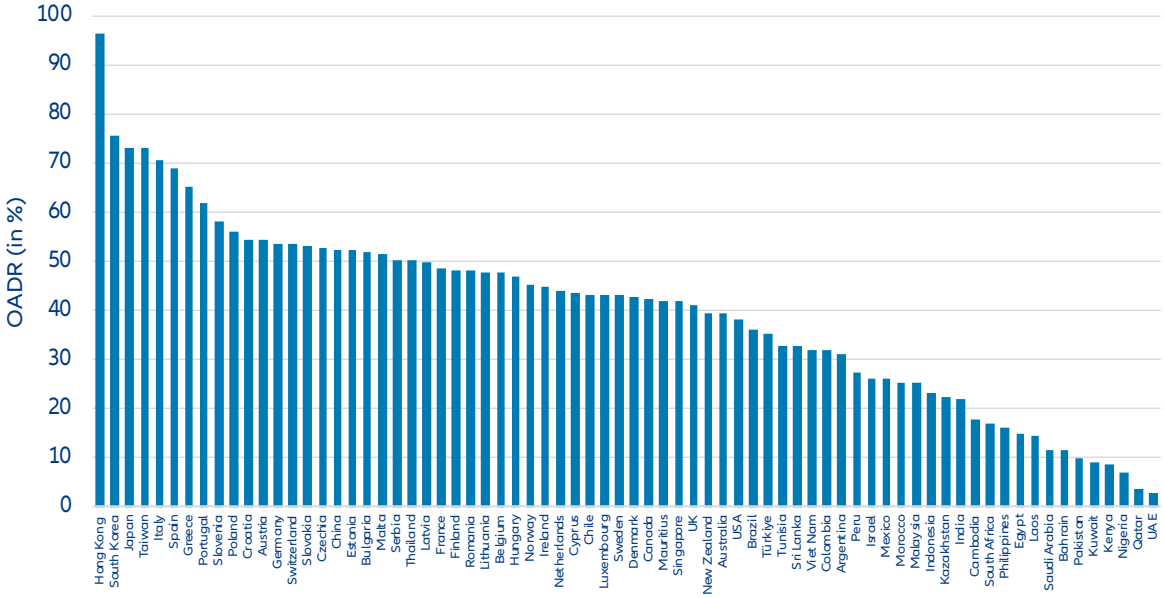
*The size of the bubble reflects the number of people aged 65 and older in 2050.
Sources: UN Population Division (2024), Allianz Research

Nevertheless, the top 20 oldest countries in the world in 2050 will be dominated by member countries of the EU: In Italy, Spain, Greece and Portugal, the OADRs are set to increase above 60%, while in today's biggest EU economy, Germany, this ratio is expected to reach 54%. Nigeria, Kenya and Pakistan will have the youngest populations due to still-high fertility rates and comparatively low life expectancies (Figure 4).

At the bottom of this ranking are the gulf states Qatar and the United Arab Emirates. Like many Western countries, they have profited from a constant inflow of immigrants and stepped up their efforts to attract skilled workers from abroad to cushion the decline in their workforce populations, which also helps to bolster the financing of their pension systems. However, besides ignoring the fact that the young and skilled migrants of today will be the pensioners of tomorrow, migration flows have proved to be rather volatile in the past. With the competition for skilled immigrants set to increase in the future, and many of today's sender countries also going to face aging populations, too, a constant inflow of skilled labor migrants should not be taken for granted. If net migration was zero, the OADR in Kuwait would reach 50% by mid-century and the ratios would be markedly above 70% in Italy and Spain, and closer to 60% in Germany (Figure 5).

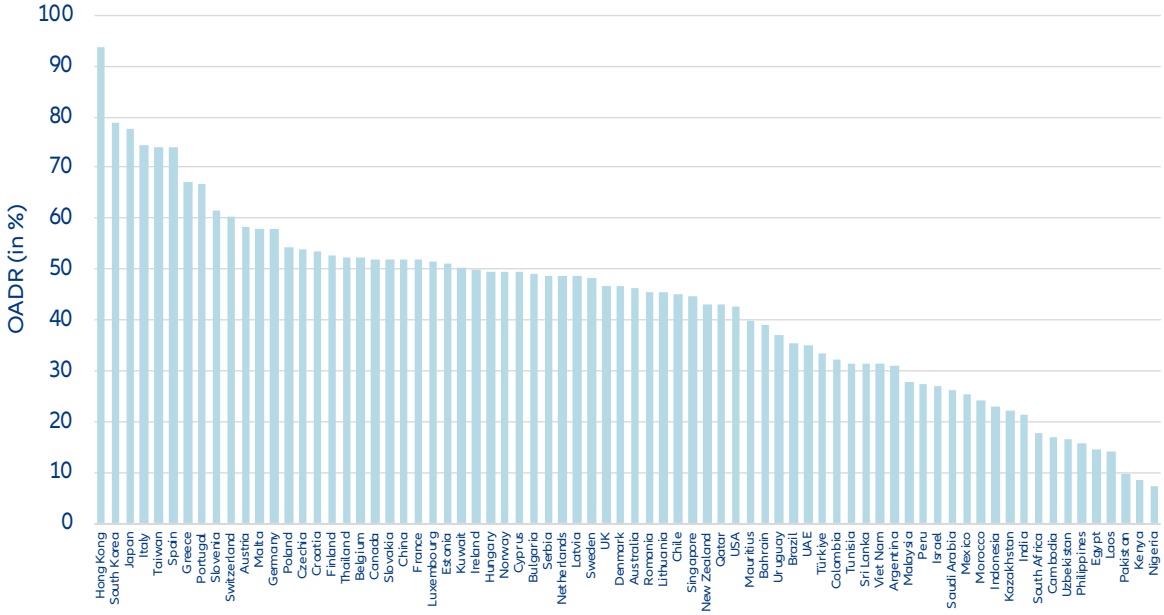
[3] In order to compare the shifts in the age structure in the countries, we refer to the age groups 65 and older and 15 to 64. At this point we do not take into account that future increases in retirement age dampen the growth dynamic of the old-age-dependency ratio. We also abstract from the fact that in most industrialized countries the average age when entering the labor market is higher than 15, which diminishes the working-age population.

Figure 4: OADR, by country, 2050 (medium fertility variant, in percent)



Source: UN Population Division (2024)

Figure 5: OADR, by country, 2050 (zero net migration variant, in percent)

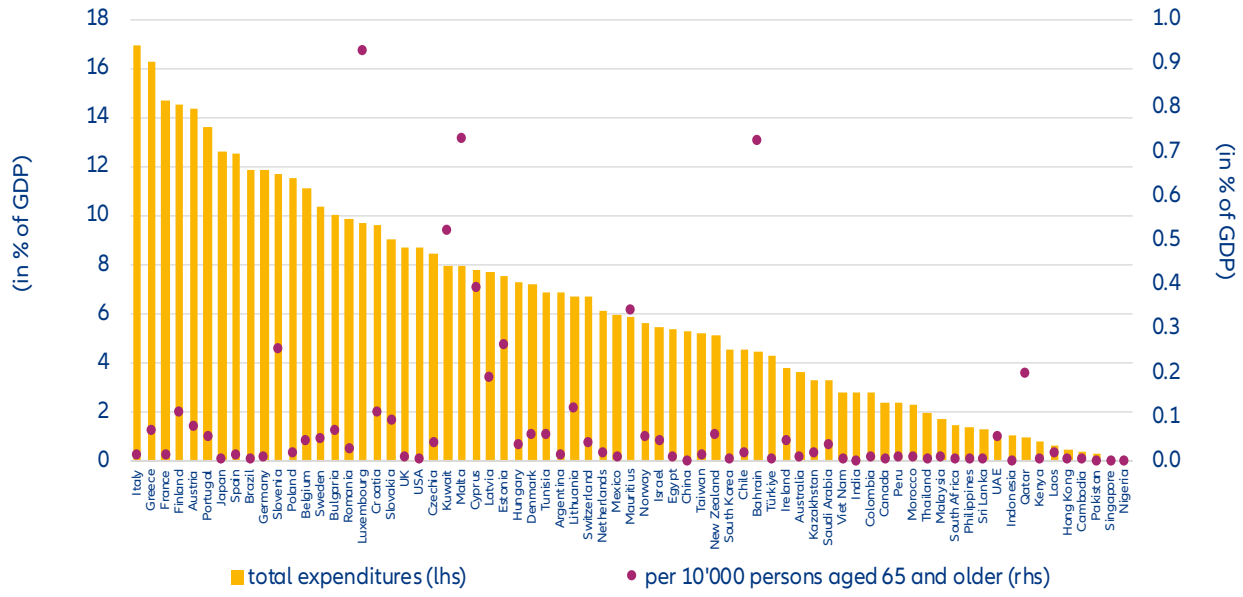


Source: UN Population Division (2024)

Against this backdrop, the return of the pay-as-you-go financed pension systems in some countries, which has been spurred by the inflow of immigrants that has dampened the increase of the OADRs, seems rather questionable. These roll-backs did not necessarily imply cutting back already implemented instruments and reforms of the pay-as-you-go-systems, which were aimed at improving their long-term sustainability, but rather smoothing them. In Germany, for example, the outgoing government promised to keep the benefit level stable in the long run and ruled out further retirement age increases, while in Italy the automatic adjustment of the retirement age to developments in life expectancy is being discussed. This gives the impression that despite demographic change, the pay-as-you-go financed system will guarantee a decent standard of living in the long run, without mentioning the costs, especially for future generations.

However, in many countries with mostly pay-as-you-go financed pension systems, public spending for old-age already amounts to more than 10% of GDP. In Italy and Greece, these expenditures correspond to more than 16% of GDP. In countries such as Hong Kong and Singapore, where pension systems are capital-funded, state expenditure for old-age is close to zero. However, at the bottom of this list are Cambodia, Nigeria and Pakistan, also countries with low coverage of pension systems and young populations. When the number of those aged 65 years and older living in the countries is taken into account, the Gulf states, Luxembourg and Malta are among the most generous countries with respect to old-age spending. However, an explanation for these comparatively high per capita shares could be pension payments to migrant workers who acquired entitlements to pension benefits during their active working lives in these countries and left after retiring (Figure 6).

Figure 6: Old-age expenditure (in percent of GDP)

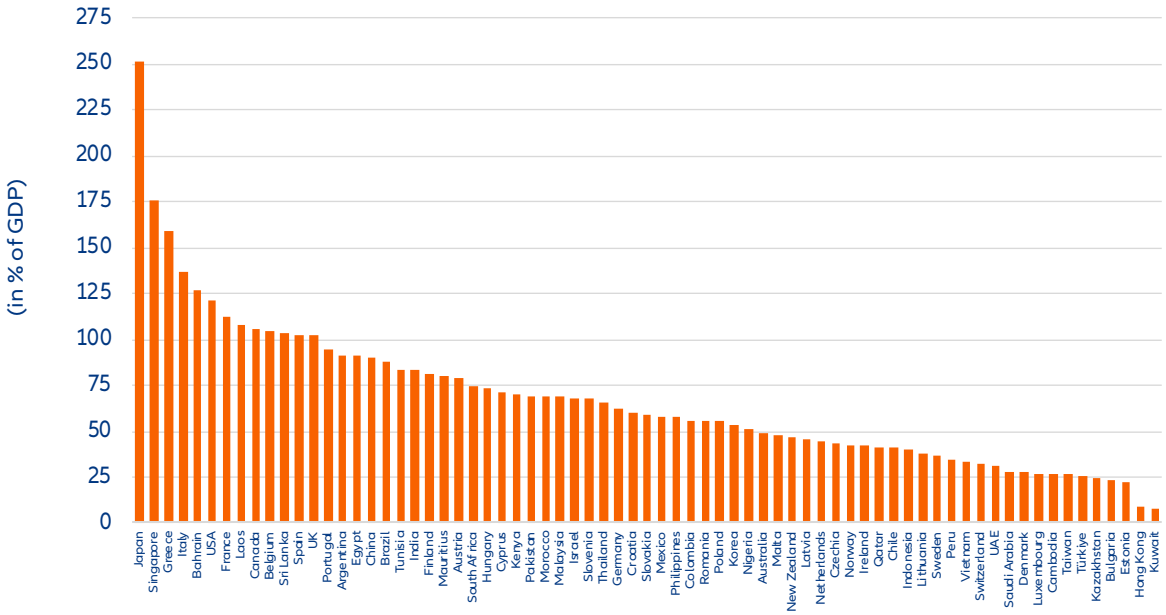


Sources: ILO, IMF, UN Population Division (2024), Allianz Research

It is of course a question of political and societal consensus how much a society is willing to spend on its older population. But the option to finance future pension system deficits out of the state budget seems rather limited due to already strained state budgets. This holds especially true for countries like Japan, Greece, Italy or Spain, where today's gross budget deficit is already above 100% of GDP, while their societies will be among the oldest worldwide in the long run (Figure 7).

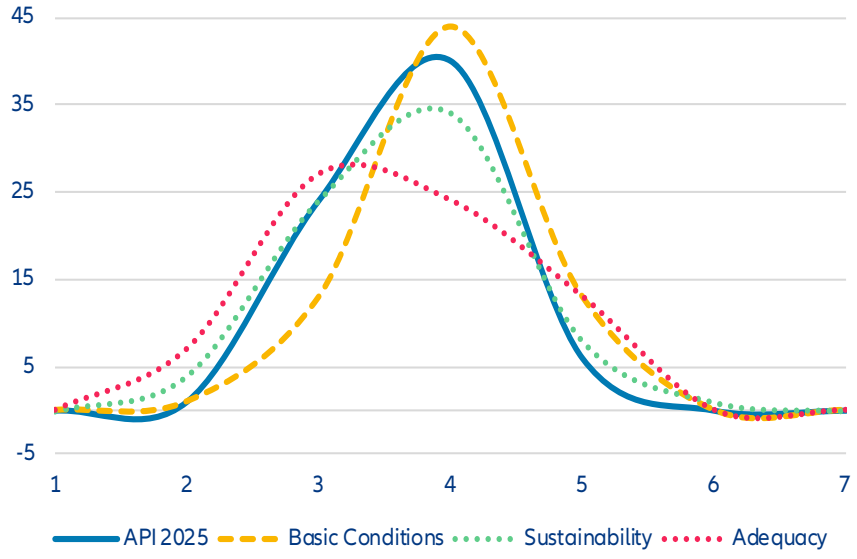
If we take all these factors, including overall living standards, into account, given the pace of demographic change, the API signals for 57 out of the 71 countries a medium or even high need for further pension system reforms in the first sub-index. This is a higher number than in the other two sub-indices (Figure 8). Tunisia, Laos and Mauritius have the highest needs for further reforms due to a combination of still comparatively low living standards and high budget deficits. The United Arab Emirates, Australia and Israel have the lowest need for reforms.

Figure 7: Gross budget deficit, 2024 (in percent of GDP)



Sources: IMF

Figure 8: Distribution of the API results



Source: Allianz Research

How to boost the long-term sustainability of pension systems

There are several options to increase the long-term sustainability of the public pension systems, including increasing contribution rates, prolonging the minimum contribution period necessary to claim an early or full pension, early retirement deductions and rewards for postponing retirement, a built-in demographic factor in the pension formula to adjust benefit levels in line with the development of the average further life expectancy, raising the retirement age, the introduction of capital-funded elements in the first pillar, and, last but not least lowering the overall pension benefit level. However, the implementation of some of these measures can have unwanted side effects.

For example, raising contribution rates not only increases the financial burden on contribution payers but it can also make the country less attractive for labor migrants. Any increase also implies higher labor costs, which might diminish companies' international competitiveness. It could also trigger a flight into the informal labor market to avoid contributions, especially if the expected future pension payouts are considered incommensurate with contributions made. The average contribution rate in the analyzed countries stands at 18%, with the rates in 28 of the countries being above 20%. While there is no agreed upon upper limit of contribution rates, the already relatively high level in many countries leaves only limited leeway for further increases.

Introducing or prolonging the minimum contribution period necessary to claim an early or full pension could also help to increase the financial sustainability of the pension system by preventing contributors from dropping out of the formal labor market too early. Currently, the minimum contribution period in most countries is around 15 years. Some countries, including Bulgaria, China, France and New Zealand, will gradually increase the minimum contribution periods. However, this can be a double-edged sword, especially in emerging markets, where large parts of the population are not able to fulfil the minimum contribution period requirements due to the high share of informal labor. Hence, they are often left with lump-sum payments at retirement, which are not sufficient to guarantee a decent living standard in old age and leaves them depending on tax-financed social welfare. However, with the start of working careers deferred by longer education periods or due to high youth unemployment, and an increasing share of the population with broken work histories or jobs in the so-called gig economy, fulfilling these requirements might become difficult for a rising share of the population in industrialized countries, too. New technologies, especially automation and digitalization, could spur this development further.

Introducing early retirement deductions and rewards for postponing retirement, as well as a built-in demographic factor in the pension formula to adjust benefit levels in line with the development of the average further life expectancy, can also help to dampen the increase of the pension expenditures in the long run and to keep older workers in the labor market for longer. In fact, in 56 of the countries that we cover in our index, at least one of these incentives to dampen the impact of the demographic development is already in place. Half of the countries have introduced pension deductions in case of early retirement, which lower the lifelong pension payouts, and more than a third of them have added demographic factors in their pension calculation and adjustment formulas.

The least popular of all measures is raising the retirement age. Further increases are strictly ruled out in many countries, despite the fact that the retirement ages do not reflect the developments in further life expectancy since they were often introduced in the 1950s. In the 71 countries, that we covered in this report the further life expectancy of a 65-year-old man has increased by 5.8 years on average between 1950 and 2024, and that of a 65-year-old woman by 7.2 years. The current statutory retirement age for men ranges between 50 years in Nigeria and 67 years in Australia, Denmark, Greece, Israel, Italy, the Netherlands and Norway, and that for women between 50 years in Kuwait, Nigeria and Sri Lanka and 67 years in Australia, Denmark, Greece, Italy, the Netherlands and Norway. In 23 countries, the retirement age of women is still lower than that of men, despite the fact that women have a higher life expectancy. In 30 countries, the retirement age is set to rise until 2050, though the planned increases will probably not compensate for the expected increases in life expectancy. Only in 15 countries is the retirement age already automatically adjusted, or will be, to the development of life expectancy on a regular basis to keep the relation of time spent in retirement to the duration of working life stable.

However, given the discussions about the increase of the mandatory retirement age, the introduction of a reference age or an age corridor combined with greater flexibility to combine work and pension income could be a solution to increase the effective retirement age. In the US and Canada, for example, there is no longer a mandatory retirement age but a reference age at which the preconditions for receiving a state pension or the full capital-funded pension are fulfilled. A further measure to increase the acceptance of automatic adjustments to the developments in life expectancy would be the allowance of retirement age reductions in years when the further life expectancy declines like during the Covid-19 pandemic. This was for example the case in Portugal, while in Italy, for example, adjustments in the case of decreases in life expectancy are ruled out.

Supplementing the public pension system by a capital-funded element is a further measure to cushion the pension system against demographic change. However, the crucial question is how the pension fund is going to be financed. This would imply either additional contributions, i.e. a higher contribution rate, or higher tax subsidies for the public pension system, if cuts in the benefit level due to missing contribution payments are to be avoided. Of the 71 countries, 17 have public pension reserve funds[4], with their assets reaching from 0.4% of GDP in Spain to 46% in South Korea.

[4] These are Spain, Mexico, Poland, Chile, Switzerland, Norway, France, Australia, the US, Portugal, Israel, New Zealand, Canada, Sweden, Finland, Luxembourg, Japan and South Korea, see OECD (2024): Global pension statistics.

A further measure is the lowering of the public pension system's benefit level. However, this measure has its limits since a benefit level that is perceived as too low is an incentive to avoid paying pension contributions. Furthermore, it needs to be accompanied by the introduction of capital-funded occupational and private pension pillars to guarantee a decent living standard in old age. However, like in the case of increases in the retirement age, the labor market is key to the success of these reforms.

The countries that combine these elements most successfully are Indonesia, Denmark and Bulgaria. For these three countries, the API signals only low reform needs with respect to the sustainability of pension systems. In contrast, pension systems in Malaysia, Bahrain and Sri Lanka are facing medium reform pressure in this respect, which stems mainly from the comparatively low retirement ages in these countries.

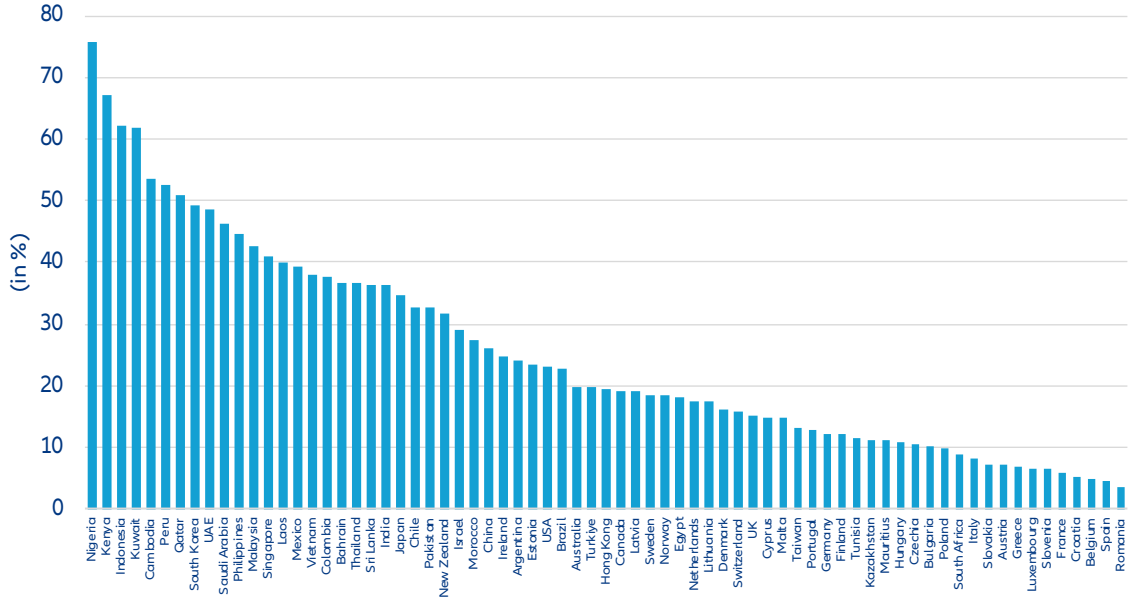
Labor markets are the key for successful pension reforms

Functioning labor markets are critical for the acceptance and success of pension reforms. This implies the formalization of labor markets in emerging markets as well as the adaptation of labor markets to the needs of an aging workforce population and the fight against agism.

The resentment against increases in retirement age is often caused by the fact that older workers are still confronted with age discrimination. They are still at a much higher risk of being unemployed for longer than their younger peers, which implies that a higher retirement age is equated with longer unemployment before retirement and thus a lower pension level. In fact, labor markets and workplaces still need to be adapted to the needs of an aging workforce, which includes designing them ergonomically or even simple measures like installing brighter lightning and reducing noise, for example. But it needs also measures that are less easy to implement such as changing work routines by re-arranging workflows, working hours and shifts and offering more flexible working hours and remote work.

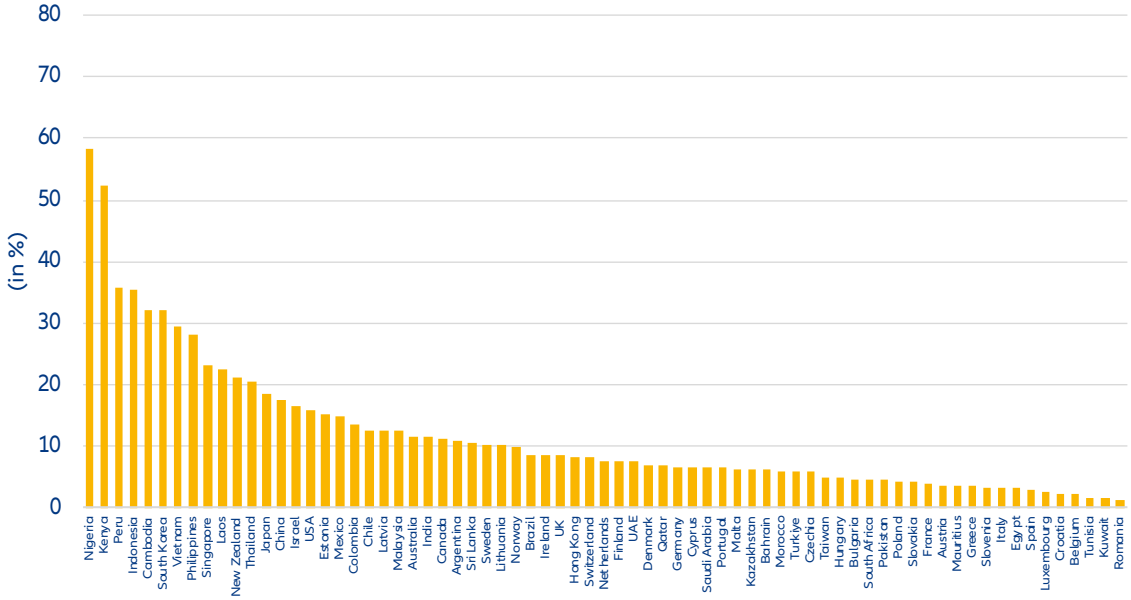
In most industrialized countries, the share of people aged 65 and older who are still active on the labor market is still rather low. The exceptions are Japan, Singapore and South Korea, where the activity rates of men range between 30% and 51%. Japan, New Zealand, Singapore and South Korea also stand out with respect to female labor force participation in higher ages: Between 19% and 32% of the women aged 65 and older in these countries are still active on the labor market. These differences point on the one hand to the weak integration of older workers into the labor market and on the other to the need to stay active on the labor market in emerging markets due to low pension benefit levels (Figure 9 and 10).

Figure 9: Labor force activity rates in the age group 65 and older, males (in percent)



Source: ILO

Figure 10: Labor force activity rates in the age group 65 and older, females (in percent)

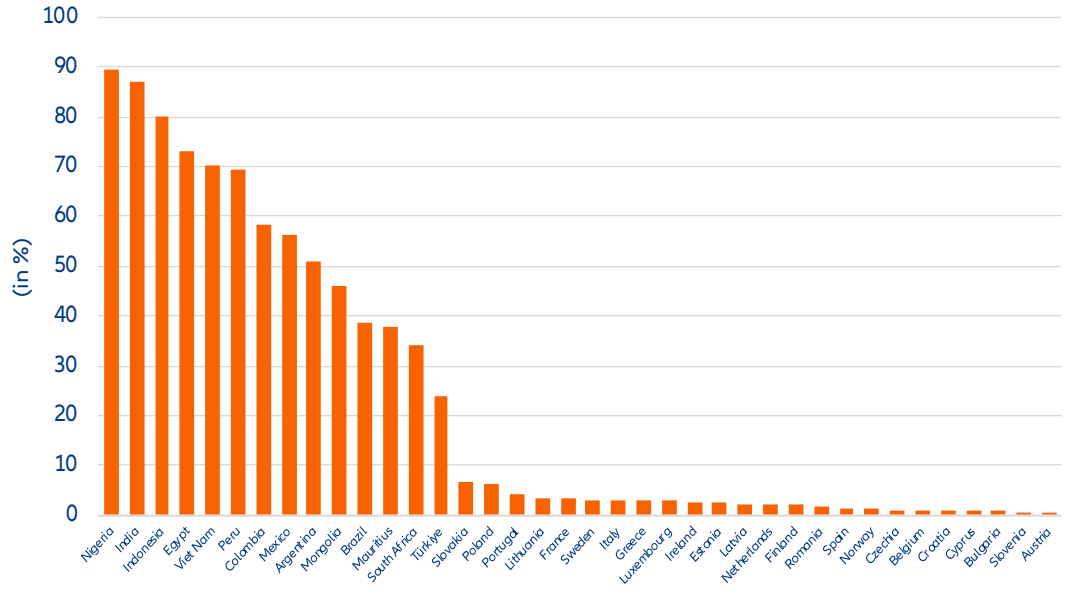


Source: ILO

To keep the workforce healthier for longer, health-management offers will also become more important, to help to prevent age related diseases or at least shift their onset in higher ages. However, such offers could also be a means to address the unfolding obesity epidemic, which threatens to shift the onset of chronic diseases into younger ages, thus not only reducing productivity gains but increasing the risk for early retirement. The introduction of a legal framework that gives the older workers a right to stay in the labor force for longer, as well as retirement age corridors and pension reforms that facilitate a flexible transition from work to retirement, like in Estonia where a pensioner can take out half of his/her pension or halt pension payments altogether once a month,[5] could also help to keep older workers in the workforce for longer. The prospect of not going to be pushed into early retirement or longer periods of unemployment before reaching a higher retirement age and being able to prevent or at least cushion the income losses due to decreases in benefit levels, also helps to increase the acceptance of pension reforms.

In emerging markets, it is the high share of informal labor that prevents the successful introduction or reforms of the pension systems. In the countries that we covered in our report, the share of informal employment among men ranged from 0.6% in Austria to 87.2% in India and 89.9% in Nigeria (Figure 11).

Figure 11: Share of informal employment in total employment, male (in percent)



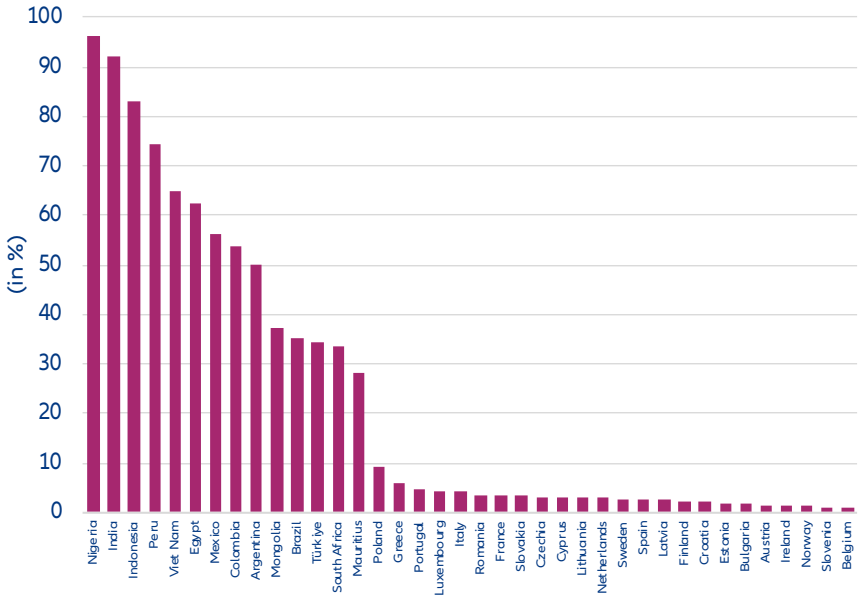
Source: ILO

[5] See Ministry of Finance of Estonia (2023): 2024 Ageing Report. Estonia - country fiche, p. 8.

In all countries, the share of women who are in informal employment is higher than among men, since it is still the women who drop out of the workforce for years or work part-time to care for children or older family members. In Nigeria and India, more than 90% of employed women work in the informal sector, compared to only 1.1% in Belgium (Figure 12).

As a consequence, women find it even harder than their male peers to fulfil the necessary minimum requirements to be eligible for a contributory public pension, which include earnings above a certain minimum contribution assessment limit or long enough minimum contribution periods to claim a pension in old age. Furthermore, a low degree of formalization of the labor market also implies only limited access to and coverage by occupational pension schemes.

Figure 12: Share of informal employment in total employment, female (in percent)



Source: ILO

The adequacy of pension systems needs to be guaranteed, too

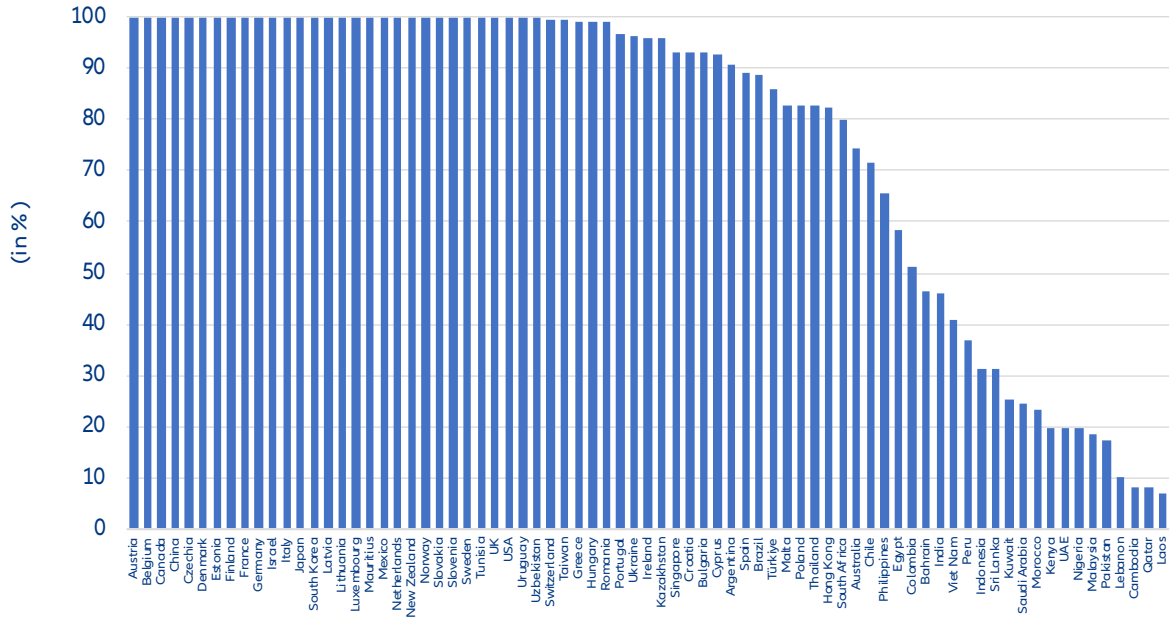
The main purpose of a pension system is to protect against the risk of longevity and old-age poverty and to ensure a decent living standard in old age. Therefore, when reforming or building up pension systems, politicians must not only consider their long-term sustainability but also their adequacy. Where pay-as-you-go financed public pension systems are not supposed to or are no longer able to provide a decent living standard but rather a basic income, supplementary tax-privileged or state-subsidized occupational and private capital-funded pension schemes and pension products need to be available.

Hence, the adequacy of the pensions systems can be assessed by comparing the coverage and the benefit levels of public pension pillars, the opportunities for supplementary capital-funded pension provision, i.e. whether occupational pension schemes and private pension saving products are available, the access to financial services – a prerequisite for private, capital-funded pension provision – and the integration of older workers in the labor market.

The most crucial factor with respect to the adequacy of a pension system is its coverage, since even a pension benefit level of 100% does not prevent poverty in old age if the pension system does not cover anyone in retirement age. Data from the International Labor Organization still show marked differences between industrialized countries and emerging markets in this respect. In most industrialized countries, 100% of the population in retirement age is covered by the pension system – the exceptions are Malta, Hong Kong and Australia, where this level was between 70% and 80%. However, despite

marked progress in recent years, in many emerging markets, still less than 50% of those in retirement age receive a pension. This also applies to 17 of the countries included in our analysis. The coverage ratio in this group ranges between 46% in India and merely 7% in Laos (Figure 13).

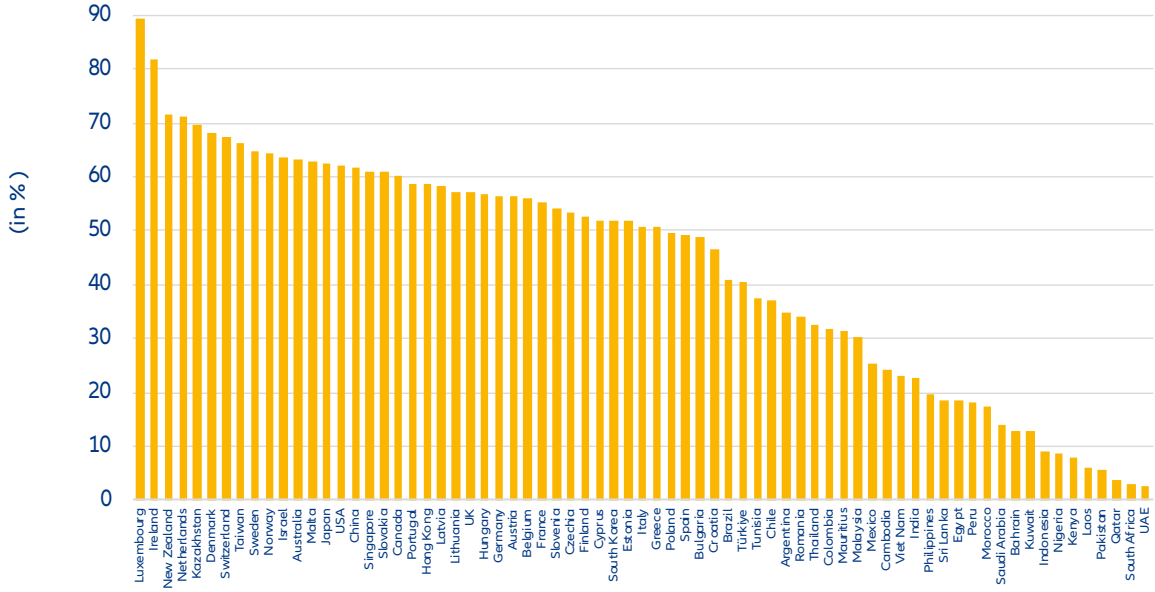
Figure 13: Beneficiaries receiving an old-age pension



Source: ILO

The improvement is owed to the fact that many countries have in the meantime introduced a minimum contributory or an often means-tested, non-contributory pension. The introduction of a minimum pension is an incentive to contribute to the pension system. However, the amount of the minimum pension has to be reasonably above the social non-contributory welfare pension, otherwise workers and employees who can expect only the minimum pension have no incentive to provide for old-age on their own and might choose to drop out of the formal labor market to avoid paying pension contributions, thus increasing their current (often small) net incomes. The latter might especially be the case in emerging markets, where only 10% to 40% of the working age population are covered by the pension system, compared to between 50% and 70% in industrialized countries (Figure 14).

Figure 14: Active contributors in working age



Source: ILO

Therefore, there are concerns that without comprehensive reforms, the share of older people who are eligible to a contributory public pension in these countries could remain comparatively low. Increasing pension contribution rates, minimum contribution periods and retirement ages could certainly help to improve the sustainability of pension systems in these countries in the long run, but might be counterproductive with respect to their coverage. An increasing share of the population might see themselves unable to meet the preconditions to be eligible to draw a public pension in old-age due to broken employment records, part-time work or income below the minimum contribution threshold, and could therefore decide to drop out of the formal labor market to avoid paying pension contributions.

Against this backdrop, the comparison of pension systems' benefit levels is only one part of the picture. The average gross benefit ratio in the public pension systems of the analyzed countries stands at 53%, with the ratios ranging between 8% in South Africa and 88% in Brazil. Germany ranks midfield with 43.9%. However, the ILO points out that due to pension reforms, the benefit levels in some European member states threaten to drop below the recommended minimum level of 40% to 45% of prior earnings after 30 years of contribution[6], which increases the urgency for strengthening the supplementary, capital-funded pillars as well.

In most countries, tax-subsidized voluntary occupational pension schemes are in place. However, if the capital-funded pillars are supposed to provide a higher share of retirement income, regulations should be in place to prevent a preliminary withdrawal of the retirement assets on the one hand and foster the investment in annuities on the other to cover against longevity risk. In light of the developments during the Covid-19 pandemic, when the governments of Chile and Peru allowed withdrawals from pension fund accounts, which left many low- and lower-middle income households in Peru without any old-age provision, the government of Peru will no longer allow premature withdrawals or lump sum payouts, for example. Reforms in Malaysia, where different sub-accounts were introduced to separate the funds according to their future purpose, point in the same direction. Opt-out options could also bear the risk of creating insufficient financial means in old age in industrialized countries, like in the UK, for example. Although the participation rate in occupational pension schemes has increased markedly, many workers chose to opt out during the pandemic and the following months due to high inflation rates. Estimates suggest that 60% to 80% of savers are currently not saving enough for retirement.

[6] See ILO (2024): World Social Protection Report 2024–26, p. 180.

In countries with limited access to occupational pension schemes, and in the context of needing to strengthen capital-funded pension pillars, access to financial services and financial literacy are all the more important. In both emerging markets and many industrialized countries it is necessary to improve the knowledge about basic concepts such as the meaning of compound interest and about the risks and opportunities associated with different asset classes. This holds especially true against the backdrop of interest rates expected to remain below past levels in the long run, which poses a major challenge for younger generations who are faced with the question of how to accumulate sufficient capital to be able to maintain the accustomed living standard in old age. Especially in today's industrialized economies, the younger generation will find it hard to reach the same level of financial wealth as the generations before (see box: Pension savings gap).

Pension Savings Gap (PSG)

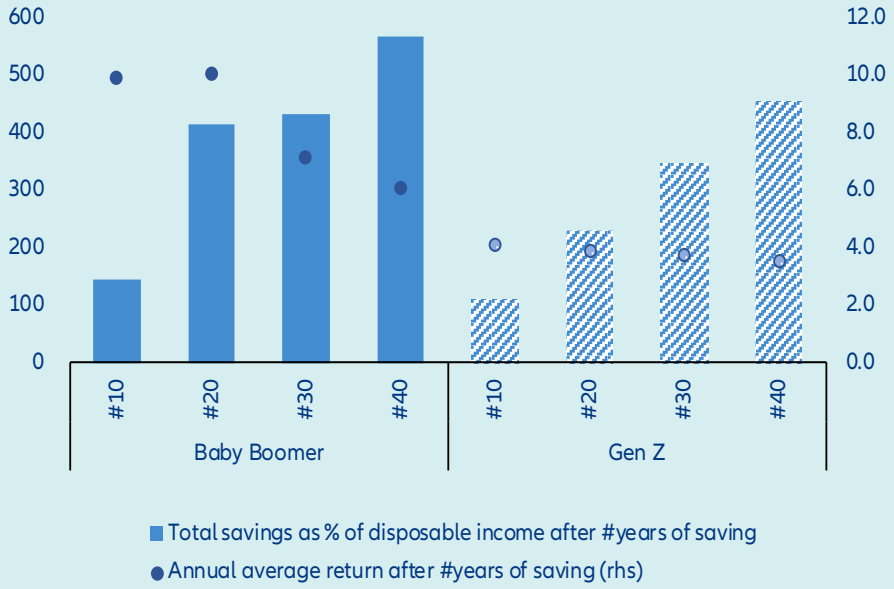
The PSG is usually measured as the difference between the present value of annual retirement income for an adequate standard of living in old age and the current pension assets plus the present value of future contributions to the public PAYG system. An income for an adequate standard of living in old age is equated with a replacement rate of 70%. According to GFIA (2023), the PSG calculated in this way amounts to around USD 51trn; this can be translated into the need for additional retirement savings of USD1trn per year for the next 40 years.

We would like to propose an alternative method for calculating the PSG for two conceptual reasons. Firstly, although the setting of a replacement rate of 70% follows a widely acknowledged recommendation of the OECD, most pensioners might be unable to understand it as it refers to lifetime income and is therefore likely to be unknown to most of those affected. Secondly, we believe that the narrow focus on pension assets is problematic as all financial assets can be used to secure living standards in old age. Of course, it makes a difference whether assets are held in the form of an annuity, which guarantees a regular income stream for life and thus covers the longevity risk, or in the form of bank deposits. But the crucial point is that this is not a savings gap per se, but a product or structuring gap. The solution lies not in additional savings, but in the redeployment of existing savings.

These two points can be addressed by taking into account all financial assets and deriving the adequacy of retirement income from a very common rule of thumb, i.e. the comparison with the previous generation: In order to achieve the desired living standard in retirement, future generations should (at least) own as much financial assets as the current one. This is more likely to reflect the reality of life as in almost all circumstances the comparison with one's parents is the decisive parameter by which prosperity, (social) advancement or decline is determined. In concrete terms, this means that the Baby Boomers who are now retiring are the benchmark for future generations. This also seems justified because the current generation of pensioners is generally considered to be (on average) well provided for and the Baby Boomers in particular are considered to be the richest generation ever.

The ideal-typical Baby Boomer in the Eurozone enters retirement with financial assets worth 567% of their latest disposable income. Gen Z will very likely not be as wealthy as the rather beneficial capital market environment of the last decades won't last forever – this generation will have to navigate more choppy waters. Therefore, under realistic assumptions – setting the nominal annual return for the portfolio at 3.5%, with a savings rate of 10% – the average member of Gen Z might accumulate financial assets to the tune of 455% of disposable income over his or her working life (Figure 15).

Figure 15: The older the better



Sources: Eurostat, Allianz Global Wealth Report 2024

To close the gap to his or her parents, the savings rate should climb to 12.5%, requiring on average EUR1,990 of additional savings per year over the next 40 years. If this is taken as a (conservative) recommendation for the entire working population, the annual PSG in the Eurozone alone would amount to EUR350bn. This compares to fresh savings of EUR610bn in 2023. Effectively, the working population in the Eurozone should increase its savings by at least 50%. Half of this increase has to come from higher savings efforts, the other half will come (automatically) from rising incomes.

Of course, these estimates have to be taken with a pinch of salt – and are subject to the underlying assumptions. For example, if we would assume the annual nominal rate of return to be 50bps higher at 4.0% – be it because of better capital market outcomes (e.g. AI-driven productivity growth) or be it of a more risk-oriented portfolio mix (i.e. higher equity share) – the Eurozone PSG would roughly be reduced by a quarter to EUR270bn or EUR1,530 per year and capita (savings rate at 11.8%).

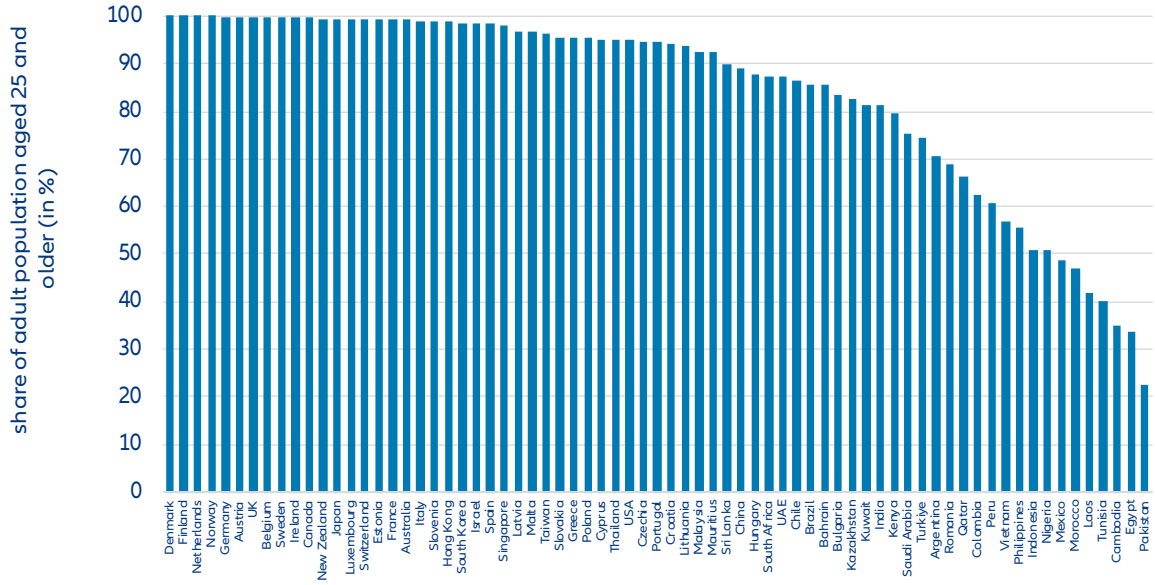
On the other hand, capital market returns and savings efforts are not the only determinants of the PSG. It also depends on the assumption that retirement income from the first pillar, the state pension system, remains stable in relative terms. But this is unlikely. Although absolute pension cuts can be ruled out with certainty for political reasons, pension increases are likely to lag behind general wage increases for cost reasons, i.e. they will decline relatively: the replacement rate of the state pension will very likely fall over the coming years. This means that a bigger savings pot will be needed to secure the desired living standard. How much bigger? A decline of the replacement rate by 1pp requires that the average savings rate goes up by 40bps. Additional annual average savings should reach EUR2,280 per capita in the Eurozone or EUR400bn in total. In other words, every reduction of the replacement rate by 1pp requires savings to be increased by 14%.

All these additional savings are not impossible. Slightly higher savings rates should not kill the economy, and the additional funds – if invested in the European capital markets – would be more than welcome to finance the green transition. But it is no walk in the park either. Gen Z will need to be more diligent and farsighted than their parents and grandparents when it comes to securing their living standards in retirement.

Though there has been progress in this respect, and in most of the covered countries more than 80% of the population aged 25 and older has access to financial services, there are still some countries lagging behind. In Egypt and Mexico, for example, the share of the adult population with access to financial services is still less than 50% (Figure 16).

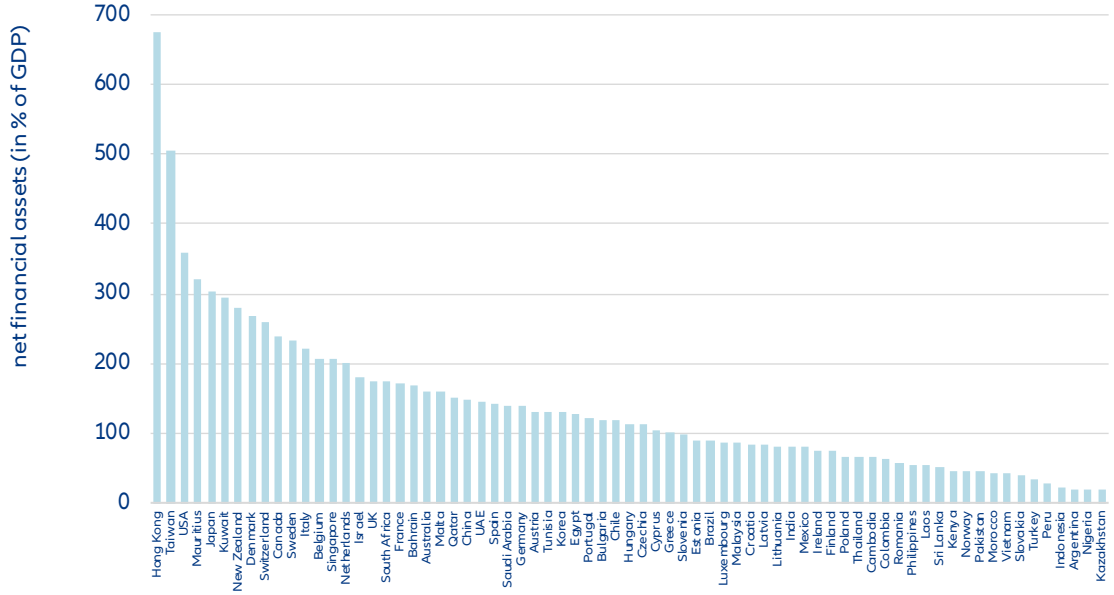
The sophistication of the financial system and the structure of pension systems are reflected in the financial wealth of private households. The net financial assets of private households in percentage of GDP range between less than 20% in Kazakhstan to more than 500% in Taiwan and Hong Kong (Figure 17).

Figure 16: Access to financial services



Source: World Bank

Figure 17: Private households' net financial assets (in percent of GDP)



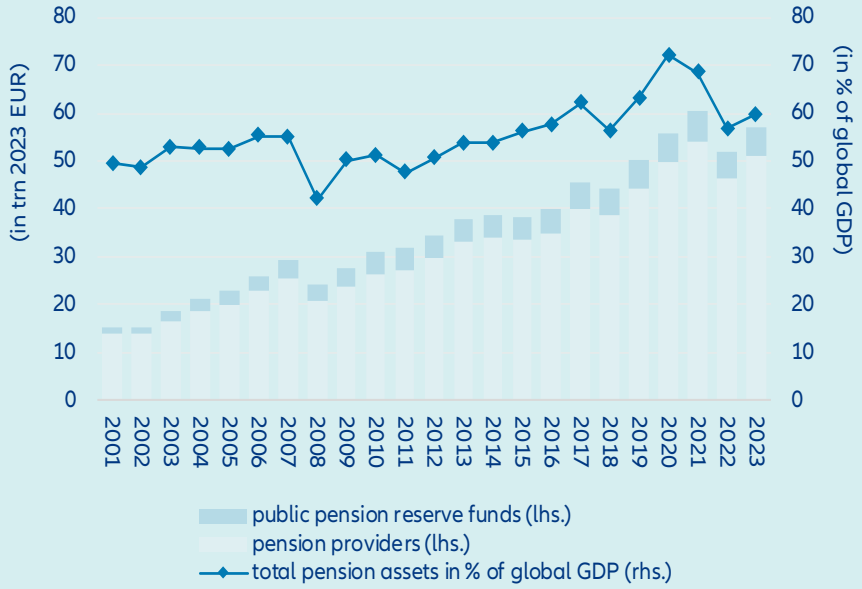
Sources: Allianz Global Wealth Report, Credit Suisse, national central banks and financial supervisory authorities

The countries with the highest financial assets are characterized by strong capital-funded pension pillars. With the increasing need for capital-funded pension provision, the role of private pension providers will become more important. At the end of 2023, their retirement assets amounted to 60% of global GDP. Hence institutional investors are set to play a more important role in developing efficient capital markets and – in case the regulation allows – in financing infrastructure and climate adaption projects (see Box: The role of pension providers).

The role of pension providers

Retirement assets of pension providers and public reserve funds in the OECD have more than trebled since the start of the century. At the end of 2023, they amounted to the equivalent of around EUR57.2trn, which corresponded to 60% of the global GDP (Figure 18).

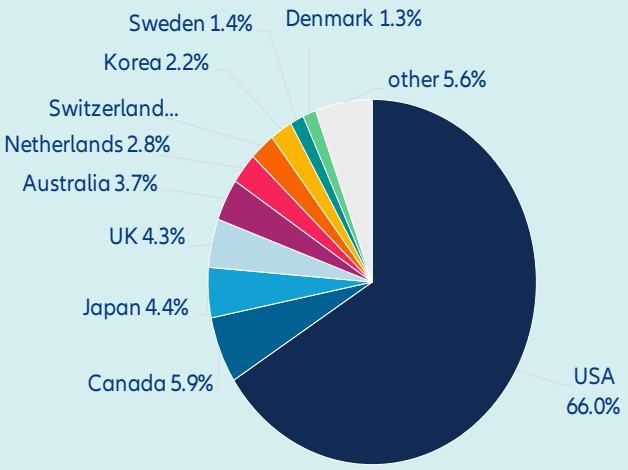
Figure 18: Development of assets earmarked for retirement in OECD countries



Sources: OECD, IMF, Allianz Research

However, the retirement assets are unevenly distributed: In the top 10 countries (US, Canada, Japan, UK, Australia, Netherlands, Switzerland, South Korea, Sweden and Denmark) they added up to EUR54.0trn, with the US being the dominant country. Due to the relevance of capital-funded pension provision, pension assets in the US amounted to EUR37.7trn, which corresponded to two-thirds of the total retirement assets in 2023 (Figure 19).

Figure 19: Split of retirement assets in the OECD, by country

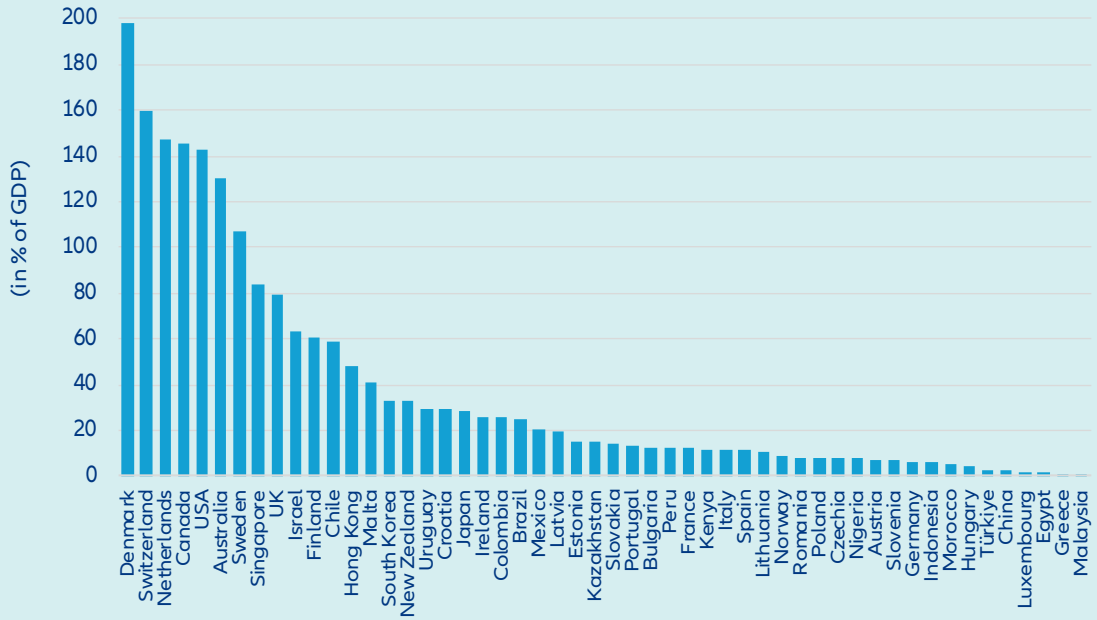


Sources: OECD, Allianz Research

In recent years, many emerging markets have started to strengthen or establish capital-funded pension pillars, too. However, the Covid-19 pandemic was in some of these markets a major setback for occupational and private pension provision as governments allowed withdrawals of pension fund assets since these were often the only savings. Prominent examples are Chile and Peru, where many savers from low-income groups were left without any retirement savings after the pandemic and pension fund levels are still below pre-Covid levels.

Hence, the amount of retirement assets managed by pension providers reflects not only the strength and weight of the capital-funded occupational and private pension pillars, but also how well the social security system cushions the risks during working life. In percent of GDP, Denmark reported the highest share with assets earmarked for retirement at pension providers equaling 198% of the country's GDP in 2023. Second was Switzerland where they corresponded to 160%, followed by the Netherlands with 147%. In Canada, the US, Australia and Sweden, the assets were also higher than the respective GDP. In the other countries they corresponded to between 0.3% of GDP in Malaysia and 83% of GDP in Singapore (Figure 20).

Figure 20: Assets earmarked for retirement with pension providers, 2023 (in % of GDP)



Source: OECD

However, a necessary precondition for promoting capital-funded occupational and private pension provision is the existence or establishment of efficient and stable financial institutions and capital markets. Therefore, especially in emerging markets, introducing or strengthening capital-funded pension provision could also be a boost for the development of the financial system since governments would need to provide the regulatory framework to guarantee the long-term stability of institutional investors like life insurance companies and pension funds. In turn, an increasing number of institutional investors could contribute to the development of national capital markets, by improving the capital market depth and liquidity.

Furthermore, in case the regulation allows for it and the respective legal and regulatory framework is in place, institutional investors could also play a crucial role in financing infrastructure projects, including measures to mitigate and adapt to climate change, and fostering innovation by investing in start-up companies and new technologies. The latter in particular could help to increase the average long-term yield, since critics of a stronger engagement of pension funds in public-private partnerships often point to the low return of infrastructure projects. However, not only with a view on the risk structure but also with respect of the aim of capital-funded pension provision, i.e. to guarantee a decent pension level in old age, there is room for discussion about how much higher than inflation and nominal wage growth the return of capital-funded pension provision should be.

All factors taken into account, this sub-index indicates, with an average score of 3.5, a slightly weaker reform pressure than with respect to sustainability (3.7), reflecting the fact that politicians tend to favor (generous) pension levels over sustainability. The countries with the least need for further reforms with respect to the adequacy of their pension system respect are Denmark, the Netherlands and New Zealand, where supplementary capital-funded occupational and private pension provision is already a main element of the pension systems. The countries with the highest need for further reforms in respect to their pension system's adequacy are South Africa, Pakistan and Laos. However, like in many emerging markets, this is not owed to the structure of the pension system per se, but to its low coverage due to a high share of informal labor.

Nevertheless, it is time to walk the talk. Especially given the time future generations will need to build up a decent old-age provision to cushion future declines in pension benefit levels, it is almost negligent to cling to the illusion that immigration could be the remedy for unsustainable pension systems and to postpone the introduction of already agreed-on reforms. The sooner the necessary preconditions are provided, the more time private households have to build up retirement savings.

Appendix I: Methodology of the Allianz Pension Index (API)

The Allianz Pension Index (API) consists of three pillars, which are differently weighted (see respective weightings in brackets)

- Basic Conditions (20%)
- Sustainability (40%)
- Adequacy (40%)

These three pillars are based on five categories and eleven sub-categories taking into account in total 40 parameters. Each parameter value is rated on a scale of 1 to 7, with 1 being the best grade. The bands defining each parameter's grade are chosen in a way that the grading results of all markets are normal distributed. This implies a relative judgement. By adding up all weighted subtotals, the API assigns each market a grade between 1 and 7, thus providing a comprehensive view of the sustainability and adequacy of the pension system of a respective market compared to other markets.

The pillars in detail

The pillar **Basic Conditions** takes into account the living standards as well as the financial and demographic starting points which are two major exogenous factors determining the framework and effecting the need for further pension reforms:

- The living standards (40%)
  The living standard is mainly determined by the overall prosperity level (50%), the access to health services (30%) and the level of progress (20%) of a society.
- Finances and Demographics (60%)
  The financial leeway (40%) and the demographic change (60%) determine the need for pension reforms.

General government gross debt and nominal GDP data are extracted from the IMF World Economic Outlook database, source of the public spending for old age data is mainly the International Labor Organization supplemented with data from national statistical offices and public pension insurance providers and PricewaterhouseCoopers. All population data is derived from the UN World Population Prospects database and the main data source to determine the living standards are the World Bank World Development Indicators.

The pillar **Sustainability** assesses, if there are built-in mechanisms that cushion the pension system against the impacts of demographic change, based on the categories

- Preconditions (60%)
  The category Preconditions is split into the sub-categories Retirement age (80%), in order to assess if adopted increases of the retirement age are high enough to compensate for the expected improvements in further life expectancy, and Minimum contribution period (20%).
- Finances (40%)
  This category consists of the sub-categories Financing (70%) and Pension Formula (30%).

Data sources are the European Commission, the OECD, Axco Life and Benefits reports, and the respective national social security administrations and providers.

The pillar **Adequacy** is based on two categories First Pillar and Other Pension income, which are also split up in further sub-categories:

- First Pillar (50%)
  This category takes into account the Coverage (70%) and the Benefit level (30%) of the pension system.
- Other pension income (50%)
  This category is based on the sub-categories Second Pillar (20%), Financial Assets (70%) and Gainful Employment (10%).

The indicator is based on publicly available information of national social security administrations, ministries of finance and ministries of social affairs as well as on including publications of the European Commission, OECD, ILO, UN, Axco, and World Bank.

Allianz Pension Index (API)

Basic Conditions	20%	Living Standards	40%	Prosperity	50%	GDP p.c.	LE at birth		
						50%	50%		
				Health	30%	Health exp. OOPs	HALE	Share of population reaching age of 65 (male)	Share of population reaching age of 65 (women)
						35%	35%	15%	15%
				Progress	20%	Urbanization	Internet users	Employment in Agriculture	
						40%	40%	20%	
		Finances and Demography	60%	Financial Leeway	40%	Budget Deficit	Public Spending for Old Age		
						30%	70%		
				Demographic change	60%	OADR 2020	OADR 2050	Change 2020-2050	
						10%	40%	50%	
Sustainability	40%	Preconditions	60%	Retirement Age (Men)	40%	MC/TSiR (2020)	MC/TSiR (2050)	Change MC/TSiR (2020 - 2050)	
						10%	40%	50%	
				Retirement Age (Women)	40%	MC/TSiR (2020)	MC/TSiR (2050)	Change MC/TSiR (2020 - 2050)	
						10%	40%	50%	
				Minimum Contribution Period	20%	(MCP) Men	MCP (Women)		
						50%	50%		
		Finances	40%	Financing	70%	Financing Method	Contribution rates		
						25%	75%		
				Pension Formula	30%	Early Retirement Deductions	Demographic Factor?		
						50%	50%		
Adequacy	40%	First Pillar	50%	Coverage	70%	Coverage 65+	Legal coverage (working age population)	Effective coverage (working age population)	Obligation?
						30%	0%	60%	10%
				Benefits	30%	Gross Benefit Ratio	Minimum Pension		
						80%	20%		
		Other Pension Income	50%	Second Pillar	20%	Financing Method	Obligation?		
						80%	20%		
				Financial Assets	70%	Access to Financial Services	Old-age as Savings Motive	Private HH Net Financial Assets	Gini Coefficient
						30%	10%	30%	30%
				Gainful Employment	10%	Activity ratio 65+ (M)	Activity Ratio 65+ (W)		
						50%	50%		

Source: Allianz Research

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Our
team

Chief Investment Officer & Chief Economist Allianz SE

Ludovic Subran
ludovic.subran@allianz.com

Head of Economic Research Allianz Trade

Ana Boata
ana.boata@allianz-trade.com

Head of Insurance, Wealth & ESG Research Allianz SE

Arne Holzhausen
arne.holzhausen@allianz.com

Macroeconomic Research

Lluis Dalmau
Economist for Africa & Middle East
lluis.dalmau@allianz-trade.com

Maxime Darmet Cucchiarini
Senior Economist for UK, US & France
maxime.darmet@allianz-trade.com

Jasmin Gröschl
Senior Economist for Europe
jasmin.groeschl@allianz.com

Françoise Huang
Senior Economist for Asia Pacific
francoise.huang@allianz-trade.com

Maddalena Martini
Senior Economist for Italy, Greece & Benelux
maddalena.martini@allianz.com

Luca Moneta
Senior Economist for Emerging Markets
luca.moneta@allianz-trade.com

Corporate Research

Ano Kuhanathan
Head of Corporate Research
ano.kuhanathan@allianz-trade.com

Guillaume Dejean
Senior Sector Advisor
guillaume.dejean@allianz-trade.com

Maria Latorre
Sector Advisor, B2B
maria.latorre@allianz-trade.com

Maxime Lemerle
Lead Advisor, Insolvency Research
maxime.lemerle@allianz-trade.com

Sivagaminathan Sivasubramanian
ESG and Data Analyst
sivagaminathan.sivasubramanian@allianz-trade.com

Capital Markets Research

Jordi Basco Carrera
Lead Investment Strategist
jordi.basco_carrera@allianz.com

Bjoern Griesbach
Senior Investment Strategist & Eurozone Economist
bjoern.griesbach@allianz.com

Yao Lu
Investment Strategist
yao.lu@allianz.com

Insurance, Wealth and ESG Research

Michaela Grimm
Senior Economist, Demography & Social Protection
michaela.grimm@allianz.com

Patrick Hoffmann
Economist, ESG & AI
patrick.hoffmann@allianz.com

Hazem Krichene
Senior Economist, Climate
hazem.krichene@allianz.com

Patricia Pelayo-Romero
Senior Economist, Insurance & ESG
patricia.pelayo-romero@allianz.com

Kathrin Stoffel
Economist, Insurance & Wealth
kathrin.stoffel@allianz.com

Markus Zimmer
Senior Economist, ESG
markus.zimmer@allianz.com

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Director of Publications
Ludovic Subran, Chief Investment Officer & Chief Economist
Allianz Research
Phone +49 89 3800 7859

Allianz Group Economic Research
https://www.allianz.com/en/economic_research
http://www.allianz-trade.com/economic-research
Königinstraße 28 | 80802 Munich | Germany
allianz.research@allianz.com

@allianz

allianz

Allianz Trade Economic Research
http://www.allianz-trade.com/economic-research
1 Place des Saisons | 92048 Paris-La-Défense Cedex | France

@allianz-trade

allianz-trade

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