International Labour Organization

ILO brief

Policy Brief

July 2022

Old-age pension models worldwide from an ILO perspective: What workers' organizations need to know

Key points

- Income security plays a key role in preventing poverty and vulnerability among older people and in achieving target 1.3 of the Sustainable Development Goals. To ensure that no older person is left behind, policy-makers and legislators should aim at building and maintaining comprehensive social protection systems based on the principle of universality (ILO 2021a, 168).
- The importance of old-age protection systems has been highlighted by the COVID-19 crisis, during which pensions and long-term benefits have proved essential to protect older people from the negative socio-economic consequences of the pandemic.
- To mitigate the impact of the COVID-19 crisis, governments around the world have undertaken unparalleled efforts to extend and strengthen social protection – among others, for older people, who were disproportionately affected by the crisis because of the lack of coverage and/or inadequate levels of protection.
- Despite significant progress in extending old-age pension coverage in developing countries, 22.5 per cent of people above retirement age worldwide still do not receive any such pension. Contributory pension schemes cover only 42.5 per cent of women and 49.6 per cent of men among the total population. Moreover, only one third of the working-age population (32.5 per cent) contribute to a pension scheme, and there are significant variations across regions and between rural and urban areas (ILO 2021a, 170).
- The Social Security (Minimum Standards) Convention, 1952 (No. 102), the Invalidity, Old-Age and Survivors' Benefits Convention (No. 128) and Recommendation (No. 131), 1967, and the Social Protection Floors Recommendation, 2012 (No. 202), provide an international reference framework setting out the range and levels of social security benefits that are necessary and adequate to ensure income maintenance, income security and access to healthcare in old age.
- International social security standards lay down general principles for the organization and management of social security systems which should be observed by all Member States when reforming or developing their systems, including the principles of universality, solidarity and collective financing, adequacy and predictability of benefits, responsibility of the State for the due provision of benefits and proper administration of social security systems, and non-discrimination, to name just a few.
- To achieve universal pension coverage at adequate benefit levels, countries need to establish and maintain public social security systems that are aligned with the ILO multi-pillar pension model, where Pillar 0 (the social protection (pension floor) and Pillar 1 (social insurance) are essential to prevent older people from falling into poverty while progressively achieving universal pension coverage and higher levels of protection. In many cases, these fundamental components are complemented by Pillar 2 (complementary schemes) and Pillar 3 (voluntary personal savings) for individuals with higher contributory capacity.

1 This policy brief draws on ILO, "The ILO Multi-Pillar pension model: Building Equitable and Sustainable Pension Systems", Social Protection for All Issue Brief, 2018.

- Furthermore, the good functioning and future sustainability of a pension scheme depend on the quality of its design, including the pension calculation mechanisms – whether the pension is based on risk pooling and benefits defined and guaranteed by legislation (defined benefit schemes), or on the proportionality between contributions and benefits (defined contribution schemes) – and, linked to this, whether the financial system is based on the provision of funds as needed for each year's benefit payments (pay-as-you-go financing) or on the advance accrual of assets which are invested in reserve funds (full or partial funding).
- Since the 1980s, a notable trend emerged whereby some countries redirected all or part of the social security contributions from pay-as-you-go and partially funded schemes to fully funded schemes, which were privately administered. However, most of these countries turned away from privatization after the 2008 global financial crisis. In this regard, the ILO supervisory bodies have generally observed that compulsory pension schemes based on the capitalization of individual savings managed by private pension funds were organized in disregard of the principles of solidarity, risk sharing and collective financing.
- In addition to reaching all older persons, pension systems should pursue – in line with ILO social security standards – the objective of ensuring an appropriate level of old-age benefits. The design of pension systems should reflect these objectives in accordance with the principles of adequacy and predictability of benefits. However, projections indicate that due to recent parametric reforms, even in countries with well-established pension schemes, the adequacy of benefit levels will diminish in the years to come, which has negative implications for compliance with ILO social security principles and standards.
- To build forward better with a human-centred approach in line with the priorities set out in the ILO Centenary Declaration for the Future of Work (2019), the Resolution and conclusions concerning the second recurrent discussion on social protection adopted by the International Labour Conference in June 2021 and the 2030 Agenda for Sustainable Development, it is important to ensure that the achievements recorded in the response to the COVID-19 crisis are sustained rather than dismantled in the future. These achievements should pave the way for a recovery that aims to implement universal social protection coverage, including coverage in old age, and leaves no one behind.
- Accordingly, this policy brief is intended to provide workers' representatives with the most relevant information about old-age pension models worldwide in relation to the ILO's approach to the development and reform of social security pensions for the elderly. This will enable them to participate actively in discussions on pension reform policies and their implementation at the national level.

1. Introduction

Through their various components, old-age pension schemes should achieve the multiple objectives of preventing poverty in old age, providing income-smoothing over the life cycle and securing an adequate standard of living for people after retirement, in line with ILO social security standards and the United Nations Sustainable Development Goals (SDGs), particularly SDG target 1.3. To ensure income security for older people, public pension schemes need to be placed at the heart of any social security system and they should operate through a combination of rights-based mechanisms (ILO 2021a, 167).

The critical role of old-age protection systems has been highlighted by the COVID-19 crisis, during which old-age pensions and other long-term benefits have proved essential to protect older people from the negative socioeconomic consequences of the pandemic. Governments around the world have undertaken unparalleled efforts to extend social protection to, among others, vulnerable groups such as older people, who were disproportionately affected because of the lack of coverage and/or inadequate levels of protection. According to data from the ILO Social Protection Monitor,[2] 1,721 social protection measures were adopted by 209 countries worldwide between February 2020 and February 2022. However, considerable coverage gaps and inequalities persist in pension systems. Contributory schemes cover only 42.5 per cent of women and 49.6 per cent of men among the total population. Moreover, only one third of the working-age population (32.5 per cent) contribute to a pension scheme, and there are significant variations across regions and between urban and rural areas (ILO 2021a, 170). These existing gaps and inequalities in legal and effective coverage further confirm the urgency of building and maintaining universal social protection systems that are responsive to shocks and able to adapt to different needs and circumstances.

Countries have a wide array of choices when it comes to designing a pension scheme and, likewise, great flexibility in policy implementation, as provided for by relevant ILO social security standards. In particular, the Social Security (Minimum Standards) Convention, 1952 (No. 102), offers a range of options and flexibility clauses making it possible to attain the goal of universal coverage gradually and in step with national economic development while establishing the core principles of social security administration and financing (ILO 2019, ILO 2021e). Similarly, the Social Protection Floors Recommendation, 2012 (No. 202), which complements Convention No. 102, calls for contributory and non-contributory pension schemes, based on a set of core principles, to be combined in an optimal way to protect the entire population.

The urgency of establishing universal, comprehensive, sustainable and adequate social protection systems placed under the overall and primary responsibility of the State through strong social dialogue was reaffirmed by the ILO constituents in the Resolution and conclusions concerning the second recurrent discussion on social protection adopted by the International Labour Conference at its 109th Session in June 2021 (ILO 2021b). Member States committed themselves to leveraging inclusive social dialogue in all its forms by involving the social partners in the design, implementation, monitoring and evaluation of social protection policies and strategies, and in the governance of national social security systems and funds, where existing.

This policy brief is intended to provide workers' representatives with the most relevant information about pension models and reforms, together with examples of good practices, as a basis for enabling them to actively participate in discussions on pension reform policies and their implementation at the national level. Workers' organizations are not passive bystanders, but agents of change that can develop new pathways for a recovery from the COVID-19 crisis and promote the establishment of adequate and sustainable pension schemes for all.

Accordingly, this brief first recaps the ILO's approach to the development and reform of social security pensions, focusing on the ILO social security standards and principles that are relevant to the design, organization and management of pension schemes. This is followed by a discussion of the financing methods for pension schemes in relation to the ILO standards and principles. The brief presents the lessons learned from pension privatization and the reversal of such reforms in various countries and highlights some key issues regarding the adequacy of benefit levels. Finally, it proposes a number of options for pension policy reforms that are not usually at the center of debates yet are worth exploring from the perspective of workers.

2 See the ILO Social Protection Monitor dashboard, https://www.social-protection.org/gimi/ShowWiki.action?id=3426.

2. What are the relevant ILO social security standards when it comes to building and maintaining sustainable and universal pension systems?

The Social Security (Minimum Standards) Convention, 1952 (No. 102), the Invalidity, Old-Age and Survivors' Benefits Convention (No. 128) and Recommendation (No. 131), 1967, and the Social Protection Floors Recommendation, 2012 (No. 202), provide an international reference framework setting out the range and levels of social security benefits that are necessary and adequate to ensure the replacement of lost earnings, income security and access to healthcare, including in old age.[3] The extension of coverage to all older persons is an underlying objective of these standards, the aim being to achieve universality of protection, as explicitly stated in Recommendation No. 202 (ILO 2021a, 87, box 4.2).

3. What are the ILO principles for the organization and management of pension schemes?

The Social Security (Minimum Standards) Convention, 1952 (No. 102), the Invalidity, Old-Age and Survivors' Benefits Convention, 1967 (No. 128), and the Social Protection Floors Recommendation, 2012 (No. 202), adopted by an overwhelming majority of ILO constituents, also lay down general principles for the organization and management of social security systems which should be observed by all Member States when reforming or developing their social security systems. These principles are as follows (ILO 2018):

- **General responsibility of the State:** The State must accept general responsibility for ensuring that benefits are effectively delivered to beneficiaries, that the legal social security framework is adequate, that the institution is administered properly, and that actuarial studies are carried out periodically, and whenever adjustments are made that may affect the future income and expenditure of the scheme. This principle is the overarching one, transcending the implementation of all the other principles.
- **Universality:** Social security is a human right, and everyone is entitled to it, so coverage of pension schemes should aim to protect all members of society. This is clearly stated in the ILO Constitution and in several UN instruments, such as the Universal Declaration of Human Rights. Recommendation No. 202 is an instrument aimed

ILO social security standards provide a comprehensive framework for the establishment, development and maintenance of comprehensive old-age pension systems at national levels:

- **Conventions Nos 102 and 128 and Recommendation No. 131** provide for the payment of pensions in old age, at guaranteed levels, upon completion of a qualifying period, and for their regular adjustment to maintain pensioners' purchasing power. However, it is worth noting that Convention No. 128 and Recommendation No. 131 set higher levels of protection than Convention No. 102 in terms of the population covered and the level of benefits. Conventions Nos 102 and 128 envisage the provision of income security for people who have reached pensionable age through earnings-related contributory pensions (guaranteeing minimum benefit levels or replacement rates corresponding to a prescribed proportion of an individual's past earnings) and/or non-contributory pensions, which can be either universal or means-tested. The guaranteed minimum level for a non-contributory pension should be a prescribed proportion of the average earnings of a typical unskilled worker, but the "total of the benefit and other means […] shall be sufficient to maintain the family of the beneficiary in health and decency" (Convention No. 102, Art. 67(c) and Convention No. 128, Art. 28(c)).
- **Recommendation No. 202** rounds off this framework by calling for basic income security to be guaranteed to all people in old age, prioritizing those in need and those not covered by existing pension schemes. This would act as a safeguard against poverty, vulnerability and social exclusion in old age for people not covered by contributory pension schemes.
- ILO social security standards thus provide a comprehensive framework for the establishment, development and maintenance of old-age pension systems at the national level.

Source: ILO (2017).

3 For more detailed information on the main requirements in Convention Nos. 102 and 128 and Recommendation Nos. 131and 202 see Annex I on Minimum requirements in ILO social security standards.

at generating a strategy for building universal social protection systems.

- **Social solidarity and collective financing:** Pension schemes should be solidarity-based, providing greater protection to those who need it most and requiring lower contributions from those who have less. Therefore:
  - Pensions should be financed collectively by way of either contributions or taxation, or a combination of the two, such that the risks are shared by the members of the community.
  - Workers should not be contributing more than half of the total of the financial resources allocated to their protection, while the remaining part should be derived from general employer contributions or government revenues.
  - The financing of pensions should also be designed in a manner that excludes solutions which would prove unduly onerous for persons of modest means.
- **Predictability of benefits defined by law:** Pensions should be established by legal provision and provide the security that the pension to be received is calculated on a formula that depends on the contributory wage and the number of contributions made, giving the beneficiary the confidence of knowing what pension he or she will receive, known as a defined benefit, and not depending on parameters outside the control of the insured person.
- **Adequacy of pensions:** Pension must be adequate both in amount and in the way they are delivered. The amount of the pension must be sufficient and guarantee at least life in dignity and/or replace previous earnings up to a level prescribed by law. Pensions must be delivered on time, be provided to the beneficiary for the duration of the contingency (until death) and be accessible.
- **Non-discrimination:** Pension schemes must be equitable, must not discriminate on the basis of sex, type of employment or nationality, and must respond to the needs of persons requiring special treatment. In particular, pension schemes need to be designed and implemented in a gender sensitive and responsive manner, taking into account discrimination faced by women in labour markets due to, among other things, their reproductive and caring roles.
- **Transparency in management:** Pension schemes must always observe sound administrative and financial management.
- **Social partners' participation:** The representatives of the persons protected as well as of employers should participate in the management and decision-making of social security schemes.
- **Financial, fiscal and economic sustainability with due regard to social justice and equity:** Pension schemes must be sustainable in the short, medium and long term. Sustainability should be analysed financially, economically and fiscally with due regard to social justice and equity. Policies should seek to achieve solidarity in financing and strike an optimal balance between the responsibilities and interests among those who finance and benefit from social security schemes.

The ILO tripartite constituents should design and manage their national pension schemes in accordance with the abovelisted worldwide agreed social security principles with a view to progressively achieving universal pension coverage. Implementation of these principles is key to ensuring decent and at the same time financially viable social security benefits in the long term.

4. The ILO pension model and international experiences

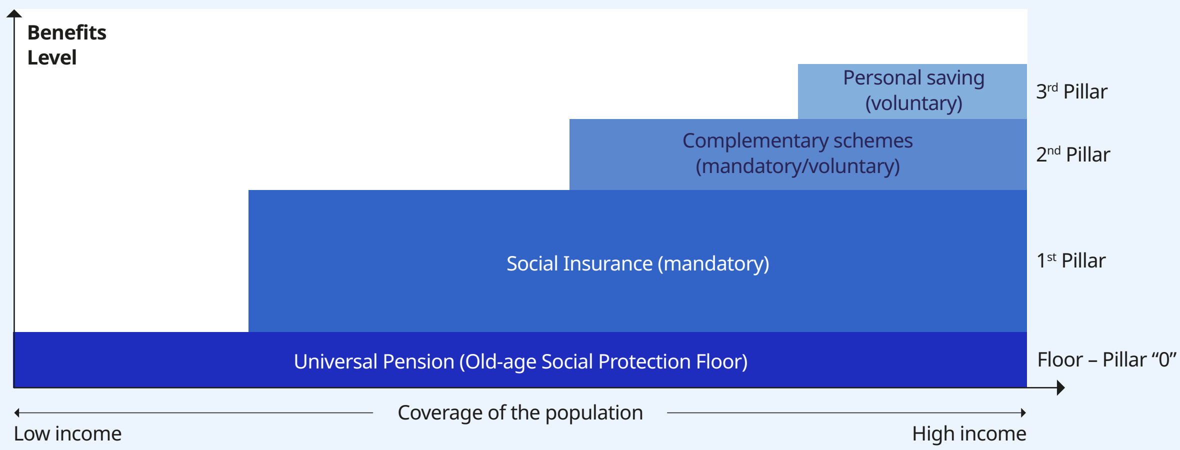
To achieve universal pension coverage at adequate benefit levels, countries need to establish and maintain public social security systems that combine contributory social insurance schemes with non-contributory schemes, complemented in many cases by voluntary old-age pension schemes for those with higher incomes.

4.1 The ILO pension model

Each such set of social protection instruments plays one or more functions in relation to fulfilling the whole range of objectives of a national pension system. This concept is illustrated by the ILO multi-pillar pension model, which is based on four distinct pillars (ILO 2018) in line with Convention No. 102 and Recommendation No. 202 (see figure 1).

- Pillar 0 – the pension floor: The aim of this pillar is to establish a social protection floor for older people. This pillar is usually provided through a non-contributory pension scheme and is financed from the general budget. Universality of pension coverage can be achieved through a universal non-contributory scheme or by a combination of social insurance and a means-tested or pension-tested non-contributory pension scheme. Regardless of the specific design of Pillar 0, it should guarantee a minimum level of income, with adequate benefit levels, for a life in health and decency.
- Pillar 1 – the social insurance pillar: This pillar follows the typical design of social security pension systems, defined benefit and mandatory affiliation, financed through

▶ Figure 1. The ILO pension model[7]



employer and worker contributions with a certain degree of Government participation through general revenue either in case of a deficit or through participation in the financing. Its objective is to provide higher levels of pension benefits so that people can maintain their standard of living after retirement where possible. It should provide at least a minimum replacement rate of 40 per cent of former insured income to a person who has reached the age of 65 and has 30 years of contributions or employment, as well as a reduced pension for those who have contributed for at least 15 years. The implementation of successive parametric reforms is required to ensure this pillar's sustainability.[4]

- Pillar 2 – the voluntary or mandatory complementary pillar: Not all countries need to have this pillar. The complementary contributory component can be either voluntary or mandatory, employment-based occupational or non-occupational, and involve either defined benefits or defined contributions. Usually financed through employers' and workers' contributions and privately managed, the aim of this pillar is to supplement the pension benefits under the previous two pillars.
- Pillar 3 – the voluntary personal savings pillar: This pillar is also complementary. It consists of a set of voluntary private pension schemes for those with the means to set aside additional money as savings, in some cases with voluntary contributions from employers, and is generally managed by private pension administrators under full market competition and government regulation.

Given that a one-size-fits-all model does not exist, most countries have tended to secure the future sustainability and universality of their pension systems by introducing multi-tiered pension schemes comprising both contributory and non-contributory components, in which the former guarantee adequate levels of income replacement while the latter help to provide basic income security for older people (ILO 2021a, 185).

However, it should be noted that while Pillars 0 and 1 are essential components of any pension system seeking to prevent older people from falling into poverty while progressively realizing universal pension coverage and higher levels of protection, Pillars 2 and 3 are generally complementary for those with higher earnings. International experience has shown that defined contribution pension schemes based on individual accounts, such as those often applied under Pillars 2 and 3, entail many risks – macroeconomic, financial and demographic – for individuals and do not observe in most cases the principles enshrined in ILO social security standards. Therefore, the ILO's policy is that such schemes, while they may be adopted by countries to complement social security pensions established under Pillars 0 and 1, should in no way attempt to replace the latter.

4 See ILO 2018.

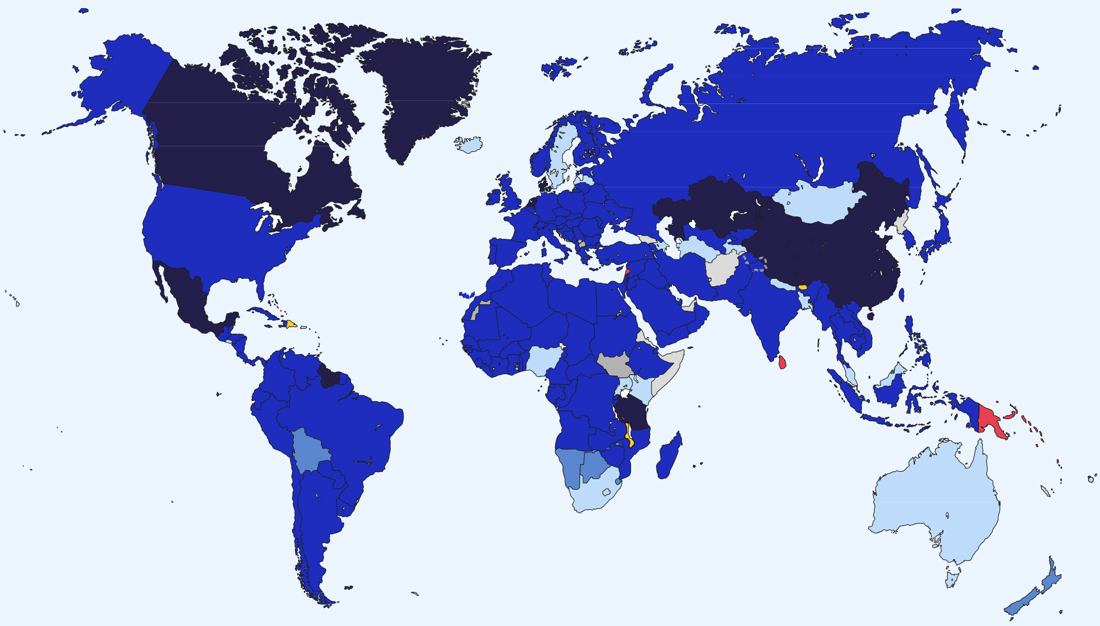
4.2 International experiences: extension of pension coverage through universal social pensions or a mix of contributory and non-contributory provision

As shown in figure 2, the vast majority of countries provide old-age pensions in the form of periodic cash benefits (pensions) through at least one scheme, and often through a combination of different types of contributory and non-contributory schemes (ILO 2021a).

A combination of contributory and non-contributory schemes is the most prevalent form of organization of pension systems in the world, appearing in 106 (54 per cent) out of the 195 countries for which data are available. In 70 countries (36 per cent of the total), contributory schemes are the only mechanism providing old-age pensions – in most cases (67 countries) operating under a public social insurance scheme and covering mainly employees and self-employed workers, with the consequence that informal economy workers are often left out of these schemes. In 14 countries, however, pensions are provided exclusively through non-contributory schemes. Of these, the majority (eight countries) provide universal coverage (ILO 2021a, 167–168). In a few countries, schemes do not offer pensions, but they do provide lump-sum benefits through provident funds or similar programmes. These are however not considered as adequate protection in old age by ILO social security standards, which require a periodical payment to be made throughout the contingency, i.e. until death.

As illustrated by the following examples, many countries have made significant progress towards universal pension coverage through universal social pensions or a mix of contributory and non-contributory provision (ILO 2021a, 174, box 4.24).

▶ **Figure 2. Old-age protection (pensions) anchored in law, by type of scheme, 2020 or latest available year**



- ▶ Social insurance and non-contributory universal (14 countries)
- ▶ Social insurance only (67 countries) or with other non-contributory scheme (72 countries)
- ▶ Non-contributory universal scheme only (8 countries) or with other contributory scheme (7 countries)
- ▶ Non-contributory scheme only (6 countries) or with other contributory scheme (13 countries)
- ▶ Other contributory scheme only (3 countries)
- ▶ Lump sum (5 countries)
- ▶ No data

With the introduction in 2007 of "Renta Dignidad", a non-contributory old-age pension, the **Plurinational State of Bolivia** achieved universal coverage. The scheme reaches close to 100 per cent of the population over the age of 60 years, providing benefit levels at around US$54 per month for each recipient without a contributory pension and around US$47 per month for each beneficiary of the contributory pension scheme.

Cabo Verde made great strides towards a universal pension system through the creation of the National Centre of Social Pensions and the Mutual Health Fund in 2006. Managed by the National Centre, non-contributory pensions, in combination with the contributory scheme, cover about 84.8 per cent of the population above pensionable age, and provide benefits of around US$54 per month (20 per cent above the national poverty line). Pensioners also benefit from the Mutual Health Fund's subsidizing of the purchase of medicines from private pharmacies and from its provision of a funeral allowance.

In **Namibia**, the Basic Social Grant guarantees to all residents over 60 years of age a monthly allowance of 1,100 Namibian dollars (approximately US$78), lifting beneficiaries, who often share the allowance with their extended family, well above the poverty line. While there are some problems with reaching people in remote areas, total coverage is estimated to be over 90 per cent.

In **South Africa**, an income-tested scheme, the Older Person's Grant, provides a monthly payment of 1,500 South African rand (US$112) and 1,520 rand (US$114) for people aged 60–75 years and above 75 years, respectively. Grants are paid to citizens, permanent residents and refugees with legal status. In some areas of the country the scheme reaches 100 per cent coverage, and on the whole, it is estimated to have brought the Gini coefficient (a measure of income inequality) down from 0.77 (without grants) to 0.60 (with grants).

In **Trinidad and Tobago**, a contributory retirement pension administered by the National Insurance Board and a non-contributory Senior Citizens' Pension (SCP) provide income security for older people. The SCP is a monthly grant of up to 3,500 Trinidad and Tobago dollars (US$520) paid to residents aged 65 years or above. With 90,800 citizens receiving the SCP in September 2016, it is estimated that the combination of the contributory retirement pension and the SCP achieves universal coverage of older people in the country.

On the island of **Zanzibar (United Republic of Tanzania)**, where informality rates are high, the Universal Pension Scheme provides all residents over the age of 70 with a monthly pension of 20,000 Tanzanian shillings (US$9). Introduced in April 2016 (by May of that year, 86 per cent of the eligible population had received a pension), the scheme is fully financed by the Government. While the benefit level is not sufficient to lift older people out of poverty on its own, it was a reasonable first step towards achieving universal coverage.

Sources: National Institute of Social Security (Cabo Verde), 2019; ILOSTAT; Pensions and Insurance Supervision and Oversight Authority (Plurinational State of Bolivia), *Boletín Estadístico*, December 2020.

5. Classification of pension schemes

The good functioning and future sustainability of a pension scheme depend to a large extent on the quality of its design, which normally includes the definition of the benefit profile, pension formula, contribution rates and qualification requirements, but also on implementation arrangements and governance (ILO 2018). Hereby, the financing mechanism of a pension scheme plays a central role in determining the level of benefits. There are three types of pension financing mechanisms:

- **Defined benefit schemes**
- **Defined contribution schemes**
- **Notional defined contribution schemes**

5.1 Defined benefit schemes

Defined benefit (DB) schemes were at the origin of social security systems. Their main characteristics are that their financing is based on solidarity and pooling of risk and that they provide benefits defined by national legislation. They can be operated in different ways, as explained below:

- **Universal and means-tested schemes:** Universal and means-tested pensions (non-contributory schemes) are usually financed from the general government budget. They differ from contributory pensions in that their eligibility criteria do not include a minimum number of contributions by an individual, but, rather, are based on citizenship or residency and age or other criteria set by the government. Benefits are paid either at a flat rate or as an amount that takes into account the beneficiary's means, and sometimes also the means of his or her family members.

- **Social insurance pensions:** The vast majority of social insurance pensions are operated as DB schemes, usually partially funded on a pays-as-you-go basis. They are based on the principles of solidarity and collective financing established by ILO social security standards. The contributions paid on behalf of insured persons (share of income from work transferred to the pension scheme) are pooled in a common fund from which pensions are paid to pensioners based on a formula or methodology established by law, which can only be modified through a change in legislation. The benefit formula is chiefly based on the earnings of an insured person for which contributions were paid and the years of service. Countries usually base the calculation of the pension on the average of a certain number of contributory salaries, ranging from the last salary (final salary schemes) to the salaries of the entire period of service (career average schemes), with an indexation of the average earnings in line with a wage index. DB schemes should thus provide guaranteed income security irrespective of what happens in the financial markets or how long someone lives after retirement. In addition, the level of pensions in payment are usually periodically adjusted in line with the changes in the general level of earnings or cost of living. However, it should be noted that, in order to ensure sustainability of the pension fund, some governments have started resorting to an approach whereby the pension formula only entitles individuals to pension points which are only converted into monetary equivalent upon retirement and with governments setting the price of each point annually or at set intervals. This practice may nevertheless jeopardize the predictability of benefits.

- **Civil service pension schemes:** Civil service pensions are not per se social insurance schemes, but are providing defined benefits, financed through contributions paid by the government and civil servants.

- **Occupational pension schemes:** Occupational pension schemes, which often complement non-contributory pensions, such as in the Netherlands or in Canada, are fully pre-funded schemes, financed through employers' and workers' contributions, which are paid into a worker's individual account. Despite being fully pre-funded and operating on an individual account basis, these Occupational pension schemes provide for defined benefits.

5.2 Defined contribution schemes

Defined contribution (DC) schemes can be operated in different ways, the most prominent of which are:

- **DC schemes:** In DC schemes, which are usually fully pre-funded, contributions are paid into an individual account for each insured person. The contributions are invested in, for example, the fixed-income and equity markets, and the returns on the investments (which may be positive or negative) are credited to the individual's account. At the time of retirement, the balance of the savings plus the investment returns in the participant's account is applied to purchase a pension annuity, the size of which depends on that balance and often on the gender of the beneficiary (women having longer life expectancy are thus often prejudiced). The pension paid thus depends on the amounts contributed and the investment earnings. The future returns on the investments, and the future benefits to be paid, are not known in advance, so there is no guarantee that a given level of contributions will translate into an adequate benefit level and provide income security. Since contributions are paid into individual accounts belonging to the insured workers and investment risks and rewards are assumed by each worker, rather than collectively, DC schemes are usually characterized by a lack of social solidarity and redistribution, which is a core principle of social security systems. ***However, it must be mentioned here that several countries have adopted DC schemes, often in form of an additional pension pillar, which provide some form of security for pensioners, e.g. in form of a minimum return prescribed by law to be credited to the accounts and the annuity rate, which share some of the risk with the employer (e.g. Swiss 2nd pillar pension scheme)***. Furthermore, in contrast to DB schemes, DC schemes often lack mechanisms to periodically adjust the level of pensions based on changes in the general level of earnings or cost of living. The transition from DB to DC schemes implies also high costs for public finances, as the general budget needs to continue the imbursement of pensions in payment acquired under the DB schemes, while new contributions are redirected to the DC schemes.

- **Provident Funds:** Provident funds usually provide for compulsory retirement saving plans for private sector workers. At retirement, a worker is eligible to withdraw the savings in his/her accounts plus the gained interest or fixed dividends. The benefit is paid as a lump sum, not as a periodic benefit as prescribed by ILO social security Standards.

5.3 Notional defined contribution schemes

There have been DC schemes since the 1980s, but in the 1990s an alternative emerged: notional defined contribution (NDC) schemes. The calculation of benefits under these is in principle carried out in a similar way to DC schemes; however, there are important differences. NDC schemes are usually partially funded, but benefits are financed on a pay-as-you-go basis. Thus, no accumulation of contributions in individual accounts over time takes place, which explains the "notional" in the name of such schemes. While every person has a unique individual account, where the amount of all contributions is noted, the contributions are not collected in the individual account as in fully funded DC schemes but are used instead to finance current benefits. The value of the contributions is indexed periodically according to a chosen benchmark (average wage increase or total payroll increase in the economy). When someone retires, an operation similar to establishing an annuity takes place; it takes into consideration the amount of contributions paid into the scheme, the retirement age and life expectancy. Since NDC schemes are not (fully) funded, the strict link between contributions and benefits can be loosened, which means that such schemes sometimes include redistribution mechanisms financed through taxation – for example, they provide credits for periods of childcare or unemployment, or minimum pensions.

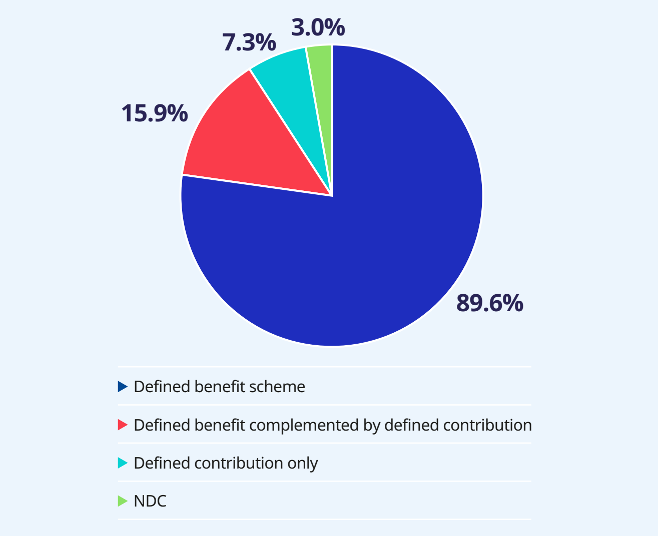
In contrast to DC schemes, NDC schemes are not vulnerable to volatility in financial markets because the rate of return is tied to broad economic indicators such as wage growth, rather than to the performance of stocks and bonds. However, they are subject to more economic and demographic risks than DB schemes. In addition, under NDC schemes, it is difficult for workers to know the amount of their pension in advance because the benefit level depends on such factors as average wage growth and changes in life expectancy.

5.4 Which types of pension scheme are used around the world?

DB schemes are the predominant schemes worldwide, being present in 90 per cent of countries. In one in six countries (16 per cent), DB schemes are complemented by mandatory DC schemes. Only 7.3 per cent of countries rely exclusively on mandatory DC schemes, based on individual accounts, and just 3 per cent have only NDC schemes (see figure 3).

Even though a number of countries have introduced defined contribution schemes (on a mandatory or voluntary basis or both), in most cases these are intended not to replace social insurance pension schemes, but to complement them so as to increase benefit levels. Unlike solidarity-based mechanisms, schemes based on individual accounts and defined contributions transfer market risks on to individuals and magnify existing inequalities in the labour market, including gender inequalities. Conversely, solidarity-based mechanisms are key to reducing not only vertical inequality (between high- and low-income earners) but also horizontal inequality (for example, between stable and fragmented careers, between men and women) and intergenerational inequality. Thus, from the point of view of ILO principles and standards, solidarity based contributory and non-contributory pension schemes are key pillars in

▶ Figure 3: Financial mechanisms for old-age pensions: Percentages of countries with pension schemes financed by defined benefits and defined contributions



Note: NDC = notional defined contribution

Source: ILO, World Social Protection Database, based on the SSI; ILOSTAT; national sources.

securing the levels of old-age protection established in national legal frameworks. In countries with sufficiently developed financial services and facilities, individual savings mechanisms regulated by public authorities, or managed jointly by employers and workers, could complement social insurance pensions (ILO 2021a).

6. Financing of pensions: Pay-as-you-go versus fully funded systems

The financing mechanism of pensions is closely linked to the type of pension scheme, which determines whether the financing of benefits is based on the provision of monies as needed for each year's benefit payments (referred to as pay-as-you-go (PAYG) financing), or on the advance accrual of assets which are invested in reserve funds (referred to as full or partial funding) (ILO 2011).

- **In PAYG systems**, pension schemes operate either under a public social insurance system, financed through contributions, or a non-contributory pension system, financed by government budget. The underlying principle is that the contributions paid by the current workforce are used to finance the benefits of retired workers. Every month, a worker accumulates entitlements to a future pension and can thus claim the right to a future benefit in accordance with national legislation.
  - DB schemes are usually financed either on a PAYG basis, since the contributions of current workers and their employers are used to pay for the pensions of current retirees.
  - DB non-contributory pensions are by definition always financed on a PAYG basis.
- **In fully funded systems**, social security contributions are accumulated in the individual accounts of insured persons. The contributions are invested in financial instruments and the investment returns are added to the individual accounts. Upon retirement, the contributions plus the investment returns are paid out to members or converted into an annuity. In a fully funded scheme, pension funds and assets match pension liabilities at any given time.
  - DC schemes are financed on a fully funded basis.
  - Occupational pension schemes, which often complement non-contributory pensions, are also by law fully funded schemes. These schemes can be either DC, DB or hybrid (i.e. DC and DB) schemes.
- **In partially funded systems**, pensions are paid out of the revenue obtained from current contributions and part of the revenue is set aside for the payment of future liabilities. In other words, assets are constituted in a reserve fund, which is earmarked for meeting future obligations of the social security system. A partially funded pension scheme is thus less sensitive to fluctuations in investment returns than a fully funded one. On the other hand, it is more sensitive to demographic ratios. However, demographic ratios are much less volatile and more predictable than investment returns.
  - In addition to NDC schemes, social insurance DB pensions are usually financed on a partially funded basis.

6.1 Financing methods in the context of demographic ageing

Fully funded pension schemes are often presented as a better option than PAYG schemes in the context of demographic ageing because, under the PAYG mechanism, a shrinking number of individuals who are contributing to a scheme need to support a growing number of pensioners drawing benefits. The proponents of this argument claim that, in fully funded schemes, the contributions are saved and invested before retirement for each individual, with the consequence that this method of financing pensions is not affected by demographic ageing. However, there are two caveats to be made:

- The PAYG method of financing plays a major role in relation to the social function of pension schemes. This method allows wide-ranging redistribution, both within a cohort and between generations, provided there will be real wage growth in line with labour productivity to ensure an equitable redistribution. For this reason, most countries in the post-Second World War era decided to introduce mandatory PAYG pension schemes.
- From an economic point of view, fully funded pension schemes are subject to the risk that, in the long term, the value of the assets in which contributions were invested will decrease below an acceptable level. In other words, it is impossible to predict a long-term rate of return. Additionally, fully funded financing is based on the assumption that retirees will sell their assets to the working-age population in order to obtain a pension. With a growing population of pensioners and a decreasing population of active workers, either the former will sell their assets below market value, or the latter will buy them at an excessive price and will therefore reduce their current consumption (Gillion et al. 2000).

7. Different pension models from an ILO perspective: Which model complies best with ILO social security standards?

ILO social security standards lay down general principles for the organization and management of social security systems which should be observed by all Member States when reforming or developing their systems, including the principles of solidarity and collective financing, predictability of benefits, and responsibility of the State for the due provision of benefits and proper administration of social security systems.

7.1 Different pension models and their compliance with ILO social security standards

Schemes based on defined benefits best fulfil the requirements set out in ILO social security standards and the key principles enshrined therein, for the following reasons:

- **State responsibility, investment risk and predictability of benefits:** DC schemes do not offer statutory guarantees that the benefits will be adequate and predictable, since the benefit level is tied to market performance. The negative impact of investment risks in the financial markets and of labour market risks (such as periods of unemployment or low income) is therefore transferred to individuals. In contrast, during economic crises, collectively financed schemes under the responsibility of the State tend to resist systemic shocks more effectively, as they can borrow on an exceptional basis, and may therefore be less affected by the short-term volatility of stock markets than DC schemes, in which each individual bears the investment risk, particularly when they are administered by private pension administrators (see also ILO 2017, 94–95, box 4.6).
- **Collective financing and pooling of risks:** Whereas contributions in DB schemes are pooled into a common fund and income replacement rates are established in the legislation through a defined benefit formula, DC schemes are fully funded systems where contributions are saved in individual accounts and the benefit level depends on the balance of the savings plus the interest earned. Thus, the DC approach may not meet the minimum requirements of Convention No. 102, whereby state intervention for the provision of pensions is justified on the grounds of pooling the resources across insured persons and providing the State with the necessary capacity to guarantee a minimum level of income security for all insured persons. NDC schemes mirror the approach of DC schemes, but with a PAYG financing mechanism (see sections 5 and 6). The key difference from DB schemes is that NDC benefits are not calculated using a formula based on wages and years of service but depend on a worker's accumulated account balance at retirement. In contrast to DC schemes, however, NDC schemes are tied to broad economic indicators such as wage growth and are thus not vulnerable to volatility in financial markets.
- **Principle of solidarity and the purpose of redistribution:** DC schemes based on individual savings do not offer any potential to achieve positive redistributive effects through social security, as they are not based on the principle of social solidarity and collective financing. NDC schemes, even when they include elements of solidarity, exhibit the same limitations as DC schemes: they do not provide for redistribution, leading to greater inequality among retirees and thus potentially undermining retirement security for low-income workers and those without a strong attachment to the labour force. Long-term benefit schemes, such as DB old-age pensions, with minimum benefit guarantees and replacement of income established by law, have the advantage of leading to more adequate and predictable benefits than schemes based on individual savings accounts, whether they are real or virtual. The pooling of financial risks through collectively financed schemes allows for the necessary level of redistribution to ensure that everyone receives at least minimum guaranteed benefits. This is a prerequisite not only for decent work but, more broadly, also for social cohesion and stability.

7.2 Assessment of the different pension models by the ILO Committee of Experts on the Application of Conventions and Recommendations

According to the ILO Committee of Experts on the Application of Conventions and Recommendations (CEACR), "[a]n effective means of deriving revenue is an obvious prerequisite for the success of any social security scheme" (ILO 2011, para. 443). While Convention No. 102 allows each State great flexibility in terms of financing methods, it prescribes in Article 70 that financing shall be borne collectively by way of insurance contributions or general taxation or through a combination of both in a manner that avoids hardship to individuals of limited means and takes into account the economic situation of the persons protected. As the Convention insists on the principle of collective financing through contributions or taxes, it rules out schemes where workers' contributions exceed 50 per cent of the total cost of protection, in line with the consideration that collective financing is closely connected with the principle of solidarity, which implies a redistribution of income between those with sufficient earnings and those with small earnings.

In the *General Survey concerning Social Security Instruments in Light of the 2008 Declaration on Social Justice for a Fair Globalization* (2011), the CEACR argued that (fully funded) DC schemes may not meet the requirements of ILO social security standards. In addition to the reasons discussed at the start of this section, the Committee pointed out the following:

> 446. [...] In recent years, a strong trend has developed towards schemes with DC pensions, often associated with fully funded financing based on individual accounts. Such schemes (if implemented on a single-tier basis) carry high risks for members, whose prospective pensions are very vulnerable to the risks associated with investment fluctuations – as seen vividly in the recent global financial crisis. For this reason DC schemes may not meet the requirements of Convention No. 102. Because of the close association between the trends to DC design and (full) funding, some commentators have assumed, mistakenly, that these features of scheme design are equivalent. In fact, many DB schemes are funded, and in a few countries experience is being gained with PAYG-financed DC schemes (so-called "notional defined contribution"). In light of the diverse range of possibilities, rather careful analysis is needed of both the adequacy of and risks associated with each national system in totality.
>
> [...]
>
> 449. One of the main lessons of the economic crisis has been the conclusion that, where the schemes were financed collectively and have been fully managed by the State, in particular through PAYG financing, the immediate impact has been small. In contrast, fully funded schemes, where individual savings have been invested in relatively volatile products, have sustained severe losses. [...] (ILO 2011, paras 446, 449)

Furthermore, on one occasion the CEACR asked a government to enlighten it on "the level and sustainability of benefits provided by the reformed social security system after the previous defined benefit collectively financed pay-as-you-go scheme was replaced by a defined contribution individual savings account system".[5] In an observation directed at another government, the Committee even pointed out that "[t]he crisis has been more devastating in cases where financial investments of private pension schemes were not sufficiently regulated and where there was not a supplementary pay-as-you-go component based on the principle of solidarity providing defined benefits".[6]

Therefore, although not explicitly favouring DB schemes over DC schemes, the CEACR requires Member States to demonstrate that the levels of pension benefits provided through DC schemes are in line with the requirements of Convention No. 102. In addition to that, the Committee points out that DC schemes do not allow observing a number of other principles and requirements – including participatory governance or periodic adjustments. In practice, while a number of countries have complemented their pension systems with individual savings account pillars, in many instances these have functioned to the detriment of social solidarity and redistribution by reducing the share of finances that go into the collective pay-as-you-go mechanisms. Furthermore, ILO supervisory bodies have generally observed that pension schemes based on the capitalization of individual savings managed by private pension funds were organized in disregard of the principles of solidarity, risk sharing and collective financing which are the essence of social security, as well as in disregard of the principles of transparent, accountable, and democratic management, which must include the participation of representatives of the insured persons. The CEACR pointed out in 2009 that these principles underpin all international social security standards and technical assistance and offer the appropriate guarantees of financial viability and sustainable development of social security; neglecting them, and at the same time removing state guarantees, exposes members of private schemes to greater financial risk (ILO 2021a).

8. Pension privatization and reversal of reforms

During the 1990s, many countries underwent a series of market-oriented economic reforms that involved a switch from PAYG to fully funded financing, together with a shift from public to private administration of pension funds.

5 Observation by the CEACR on the application of Convention No. 102 by Mexico – adopted in 2010, published during the 100th Session of the International Labour Conference (2011).

6 Observation by the CEACR on the application of Convention No. 102 by Peru – adopted in 2009, published during the 99th Session of the International Labour Conference (2010).

▶ What is pension privatization?

Pension privatization is a simplified term used to describe a category of structural pension reforms involving three key changes:

- A shift within the mandatory pension system from a **defined benefit** mechanism, in which retirement benefits are set in relation to working income, towards a **defined contribution** scheme, in which only the contributions are specified in advance, while benefits vary according to an individual's payroll contributions and the investment returns from those funds.
- A shift from a pay-as-you-go financing method, in which the payroll contributions of current workers are used to finance the benefits of current pensioners, towards one in which old-age benefits are funded wholly by each worker's contributions to an individual account during his or her working life and the investment returns from those funds.
- A shift from public to private administration of pension funds.

Source: Brooks (2005).

The most profound and extensive pension reforms affecting both the financing model and the role of the State took place in Latin America, Eastern Europe and Central Asia from 1981 to 2014:

- In Latin America 10 countries undertook structural reforms, which replaced, in whole or in part, public systems with "private" systems (although they may have a public component). The reforms were not alike because they adopted three models:
  - **Substitutive**, which closed the public system and completely replaced it with a private system (**Chile** in 1981, **Plurinational State of Bolivia** in 1997, **Mexico** in 1997, **El Salvador** in 1998, and the **Dominican Republic** in 2003);
  - **Mixed**, which maintained the public system as a pillar and added the private system as a second pillar (Argentina in 1994, Costa Rica in 2001, Uruguay in 1996, and Panama in 2008[7]); and
  - **Parallel**, which kept the public system and added the private system, the two systems competing with each other (**Colombia** in 1994, and **Peru** in 1993).
- Similarly, 14 countries in Eastern Europe and the former Soviet Union embarked on pension privatization: **Hungary** and **Kazakhstan** (both in 1998), **Croatia** and **Poland** (both in 1999), **Latvia** (2001), **Bulgaria**, **Estonia** and the **Russian Federation** (all three in 2002), **Lithuania** and **Romania** (both in 2004), **Slovakia** (2005), **North Macedonia** (2006), **Czechia** (2013) and **Armenia** (2014).
- Moreover, two African countries also privatized their public pension systems during the same period: **Nigeria** (2004) and **Ghana** (2010).

The aforementioned countries fully or partially privatized their mandatory public pension systems, moving from the public DB model to the DC model with individual accounts and private administration (see figure 4). As part of the necessary structural reforms, a privately managed pension system pillar was set up involving defined contributions and the investment of people's savings in capital markets. This process shifted the responsibility and financial burden away from the State to the individual worker and changed the perception of old-age security (Mesa Lago 2014).

Advocates of pension privatization claimed that whereas DB-based systems would lead to an unavoidable "social security crisis" or an "old-age crisis", privatization was a clear-cut solution to address population ageing and ensure the sustainability of social security pension systems. It would not only enable higher pensions for future beneficiaries but also increase national savings and accelerate economic growth. Additionally, a main objective of the privatization efforts was to mobilize people's savings so as to stimulate national long-term savings and develop capital markets (Ortiz et al. 2018).

However, pension privatization policies did not deliver the expected results. The reasons are multiple, ranging from high fiscal and administrative costs to low coverage and benefits, to the unpredictability of old-age income due to capital market risks. In consequence, some of the above-mentioned countries reformed their pension schemes by either nationalizing the administration, and/or changing their DC schemes fully or partially into a DB schemes or introducing a non-contributory pension pillar. While some governments repealed privatization early, the large majority of the above-mentioned countries turned away from privatization after the 2008 global financial crisis, which severely affected financial and capital markets, significantly reducing the real value of private pension assets and consequently sparking popular outrage over the workings of private systems. Many pensioners had to rely on social support, as the value of their pension benefits had fallen to very low levels, often below the poverty line (Ortiz et al. 2018, 24).

By 2018, 15 countries had re-reformed and reversed pension privatization fully or partially, returning to public

7 In Panama the DC scheme is managed by the public social security institution (CSS), thus it has not been privatized, strictly speaking, but private principles been introduced into the public administration. The effect in terms of transition costs and lower pensions still exists, however.

▶ **Figure 4. Countries that privatized their mandatory public pension systems and that later reversed such privatization, 1981–2018**

Source: Ortiz et al. (2018, 4, figure 1).

solidarity-based systems by terminating the individual accounts and transferring all funds to newly created or existing PAYG systems, or by merging the private pension funds with the public pension scheme, or by downsizing the volume of the individual accounts. These countries were as follows:

- **Bulgaria** (2007), **Argentina** (2008), **Slovakia** (2008), **Estonia**, **Latvia** and **Lithuania** (all three in 2009), **Plurinational State of Bolivia** (2009), **Hungary** (2010), **Croatia** and **North Macedonia** (both in 2011), **Poland** (2011), **Russian Federation** (2012), **Kazakhstan** (2013), **Czechia** (2016), **Romania** (2017)

Alongside the countries that have already reversed pension privatization, there are several ongoing pension reform discussions including in Chile, El Salvador, Mexico and Peru, so as to ensure redistribution in pension schemes, e.g. through a non-contributory pillar.

9. Pension adequacy

In addition to reaching all older people in need, pension schemes either contributory or non-contributory should pursue the goal of ensuring an appropriate level of old-age benefits in line with ILO social security standards, which set minimum levels to be achieved by the various types of pensions systems. The design of pension schemes should reflect these objectives in accordance with the principles of adequacy and predictability of benefits, as discussed in section 3.

The notion of pension adequacy encompasses both objective indicators (such as the replacement rate or a pension's capacity to sustain the basic needs of beneficiaries) and more subjective ones (such as beneficiaries' perception of the extent to which their pensions enable them to maintain their living standards in retirement or reflect their contribution to economic and social progress during their active years). Pension adequacy also depends on the affordability of essential goods and services, such as healthcare, food, housing and transport, in a given context, and it evolves over time together with social, cultural, demographic and economic conditions (ILO 2021a, 180).

Adequacy is defined nationally as part of the broader implicit or explicit social contract underlying the design of the pension system. However, there are also internationally accepted benchmarks and standards which set minimum replacement rates. In particular, ILO Conventions Nos 102 and 128 stipulate that:

- If pensions are earnings-related, the minimum replacement rate should be, respectively, at least 40 per cent and 45 per cent of previous earnings, after 30 years of contributions or employment for a person reaching the statutory pensionable age set at 65 years (Convention No. 102, Art. 65 in conjunction with the Schedule appended to Part XI; and Convention No. 128, Art. 26 in conjunction with the Schedule appended to Part V). ILO social security instruments also allow considering in accordance with their minimum levels, pensions at a rate of 35% after 20 years; i.e. a proportionate reduction in both the replacement rate and the qualifying period.

- If pensions are paid at a flat rate, the minimum replacement rate should be, respectively, at least 40 per cent and 45 per cent of the previous earnings of an unskilled manual worker considered typical for the country, after 30 years of contributions or employment (Convention No. 102, Art. 66 in conjunction with the Schedule appended to Part XI; and Convention No. 128, Art. 27 in conjunction with the Schedule appended to Part V).
- If pensions are provided as means-tested benefits, the pension needs to complement other means of existence of the beneficiaries and their households up to a level equivalent to 40 or 45%, respectively, of the wage an unskilled worker deemed representative for the country. However, in addition, the level of such pensions "shall be sufficient to maintain the family of the beneficiary in health and decency" (Convention No. 102, Art. 67(c); and Convention No. 128, Art. 28(c)).

These replacement rates were agreed upon by ILO constituents in the middle of the twentieth century on the basis of reviews of national policies and preferences with respect to minimum benefit-setting. The relevance of these standards has been periodically reconfirmed, most recently during the 109th Session of the International Labour Conference held in June 2021.

In addition, to ensure that pension benefits continue to be adequate and retain their purchasing power and real value over time, ILO social security instruments refer to parameters such as the level of earnings in the country or the cost of living: Convention No. 102 requires pensions to be periodically adjusted following substantial changes in the general levels of earnings when these result from substantial changes in the cost of living; the more advanced standard, Convention No. 128, is more demanding and requires that benefit levels be adjusted following substantial changes in the level of earnings or the cost of living. Recommendation No. 131 which accompanies the latter instrument suggests that benefit levels should be periodically adjusted to consider changes in the general level of earnings or the cost of living. Finally, adjustment of basic income security guarantees has been also recognized as a key by the Social Protection Floors Recommendation, No.202 which states that their levels to be reviewed regularly through a transparent procedure established by national laws, regulations or practice (ILO 2021a, 227).

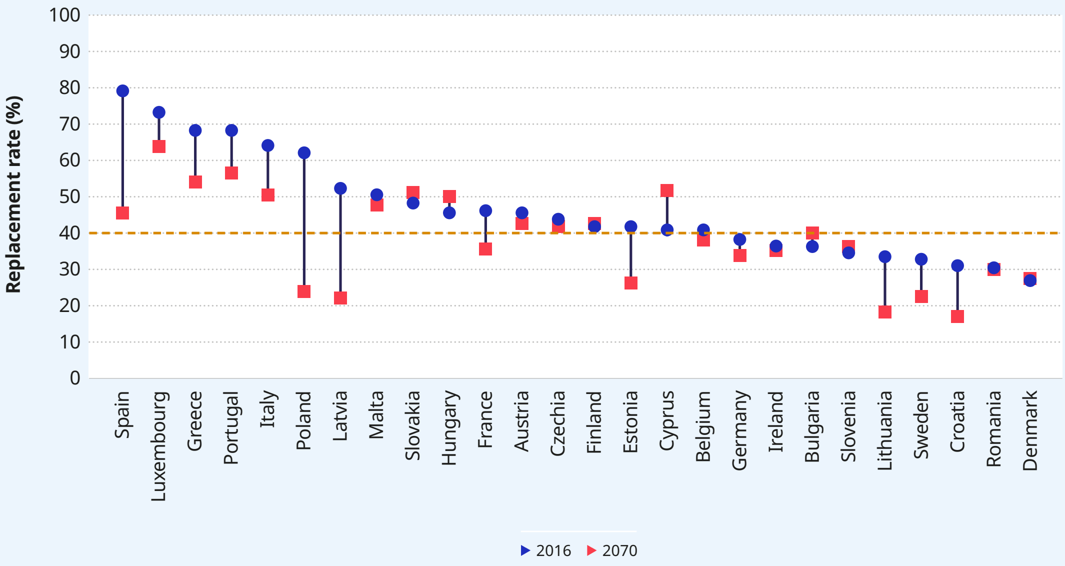
At times of inflation, preserving beneficiaries' purchasing power becomes more challenging unless pensions are regularly adjusted to keep up with increases in real wages or other metrics related to the overall cost of living. National practices in this respect vary from ad hoc mechanisms to automatic indexation. The main indexation methods used worldwide are as follows (ILO 2021a, 182, table 4.4):

- Price indexation (in this case the purchasing value of benefits is maintained over the retirement period)
- Wage indexation (the principle here is that retirees should share in the benefits of economic development, the assumption being that wages increase faster than prices)
- Mixed price/wage indexation
- Regular
- Ad hoc

9.1 Lessons from pension reforms in Europe and assessments of benefit adequacy for the years to come

Over the past 20 years, all European Union (EU) Member States have changed their pension schemes. For instance, **Sweden**, **Italy** and several **Eastern European countries** switched from a DB to a DC or NDC formula and to fully or partially funded systems, but these generally proved to be problematic in the case of individuals with fragmented careers – including women and workers in precarious employment – owing to their focus on individual savings accounts, the fact that credited periods are not granted (for example, to raise children or care for family members) and the absence of other redistribution mechanisms. However, as explained earlier, several of the DC schemes in Eastern Europe were re-reformed after the 2007-2008 financial crisis. In other countries, parametric reforms were introduced, such as raising the retirement age (including linking the retirement age to the evolution of life expectancy), changes to indexation formulas, the extension of calculation periods, changes to the length of contributory periods and other measures aimed at improving pension systems' sustainability. Several European governments decided to move from wage-based indexation to price indexation to improve sustainability. In case wages will grow faster than prices in the coming decades, this direction of reform seems to be a "covert" way of reducing benefits' generosity (through the erosion of benefits). Additionally, several countries have amalgamated public and private sector pension schemes or have aligned the retirement principles of public sector schemes with those of private sector ones.

▶ **Figure 5. Average income replacement rates at retirement in earnings-related public pension schemes, selected European countries, 2016 and projected for 2070 (percentage)**



Note: A minimum 40 per cent replacement rate of previous earnings is prescribed by Convention No. 102 for periodic old-age benefits after a contributory period of 30 years (currently applicable to Bulgaria, Croatia, Cyprus, Denmark, France, Greece, Italy, Luxembourg, Poland, Portugal, Romania, Slovenia and Spain as regards old-age benefits). Convention No. 128 increases this minimum replacement rate to 45 per cent for the same contributory period (currently applicable to Austria, Belgium, Czechia, Finland, Germany, the Netherlands, Slovakia and Sweden as regards old-age benefits).

Source: European Commission. 2018. The 2018 Ageing Report: Economic and Budgetary Projections for the 28 EU Member States (2016–2070). Institutional Paper 079. May 2018. https://ec.europa.eu/info/sites/default/ files/economy-finance/ip079_en.pdf.

A recent publication analysing in detail the impact of pension reforms in the EU, as presented in the 2018 Pension Adequacy Report (EC 2018a), provides a comprehensive overview of benefit adequacy for those who retire now under current retirement rules and for those who will retire in the future (up to 2070) under legislated retirement rules (EC 2018b). Current replacement rates are still relatively adequate, being based on the (increasingly unrealistic) assumptions for an individual with 40 years of service retiring at the statutory pensionable age, which is however becoming more and more unrealistic due to interruption in employment careers. Thus, as shown in figure 5, the projections for the year 2070 point to declining replacement rates in most EU countries, with a few exceptions (such as **Bulgaria** and **Hungary**). A staggering drop in the replacement rate is projected to occur in **Spain** (–31 per cent) and **Poland** (–29 per cent), followed by significant decreases in **France** and **Croatia** (–13 per cent in both), **Romania** (–12 per cent), and **Greece** and **Norway** (–10 per cent in both). To ensure the sustainability of pension systems, the European Union has advocated that countries link the pensionable age with life expectancy. Considering this, the ILO encourages to look at both healthy life expectancy and working ability of older persons, instead of only life expectancy.

9.2 How to ensure pension sustainability and adequate pensions at the same time

To address this worrying scenario, in which income replacement rates in some countries are projected to fall well below the minimum benchmarks set by ILO social security standards ratified by those countries (that is, Conventions Nos 102 and 128), timely and appropriate policy responses adopted through effective social dialogue are essential. Policymakers should focus on pension reform options that are able to address the fiscal imbalances of pension systems in both the medium and the long term. Moreover, it is important to promote the extension of old-age pensions in a way that takes into account demographic ageing, new forms of work, the informal economy and transitions from the informal to the formal economy. Relevant measures include:

- adjusting (increasing) revenue from social security contributions and/or financing from tax revenues;
- increasing labour force participation;
- increasing employment rates;
- reducing informality through formalization of the informal economy;
- reducing undeclared work and evasion of contributions/taxes;
- expanding the contribution base (beyond labour income);
- creating conditions conducive to extending working lives and delaying the departure of older workers from the labour market through policies that stimulate job creation and reduce unemployment; and
- promoting (a) effective access to lifelong learning, (b) regulations and other measures aimed at improving working conditions, (c) regulations and incentives aimed at changing employers' attitudes, and (d) affordable access to care services, which would make it easier for women in particular to harmonize their working careers with family obligations and expectations.
- An overarching issue regarding the adequacy of pensions and the sustainability of pension schemes in the long run is the persistent neglect of the link between labour productivity increases and labour income which automatically impacts on pension levels. One could indeed wonder about the fact that despite tripled labour productivity since the 1950s, workers need to retire later and receive lower pensions in the future.[8]

10. How can workers' organizations contribute to discussions on pension reform policies that are in line with ILO social security principles and standards?

"The COVID-19 crisis has greatly affected everyone worldwide. [...] At the same time, millions of workers at the lower end of our labour markets, in precarious jobs or the informal economy, have suffered from lockdowns everywhere. They are paying a high price, losing their jobs and livelihoods without enjoying proper protection in social security. This leaves many of them in poverty, unable to feed their families. Universal social protection is therefore needed more than ever. There is an urgent need for a global, coordinated effort to implement universal social protection, with major investment in funding it, especially to help the poorest countries and regions provide their populations with concrete support."
Catelene Passchier, Chair of the Workers' Group of the Governing Body of the International Labour Office, 29 May 2020

Workers' organizations should treat the COVID-19 crisis as a wake-up call to do their utmost to ensure that the social protection achievements recorded during the crisis pave the way for a recovery that institutes social protection for all. They should oppose governments' inclination to revert to fiscal retrenchment to pay for the massive public expenditure outlays necessitated by the crisis.[9] At the same time, they need to champion a job-rich, human-centred recovery that is aligned with health, social, environmental and climate change goals, contributes to income security, job creation and social cohesion objectives, expands the tax base and helps to finance universal social protection. The clock is ticking for a new social contract to be concluded.

In that sense, the recurrent discussion on social protection at the 109th Session of the International Labour Conference in June 2021 could not have been timelier. Member States were called upon to "commit with strong political will and through strong social dialogue to progressively and as soon as possible build and maintain universal, comprehensive,

8 For example: See Sweet J. 2020, *How U.S. labor productivity has changed since 1950*, available at https://stacker.com/stories/4068/how-us-labor-productivity-has-changed-1950, according to whom "U.S. raise its labour productivity by 299% from 1950 to 2018. But despite the increased efficiencies of workers, the adjusted median household income only went up 152% in that 68-year period—contributing to a stark wealth divide between the rich and poor. Over the last few decades, the share of aggregate income held by people in middle- and low-income tiers has shrunk, while upper-income households have seen their wealth grow rapidly". See also Juliana Menasce Horowitz, Ruth Igielnik and Rakesh Kochhar 2020, *Trends in income and wealth inequality*, available at https://www.pewresearch.org/social-trends/2020/01/09/trends-in-income-and-wealth-inequality/; and ILO 2020, *Global Wage Report 2020–21: Wages and minimum wages in the time of COVID-19*.

9 In addition, COVID related measures, while paid by the general budget, were added in some countries as debts to the national social security system, thus putting the responsibility of repaying this debt on the social security system, instead of considering this spending as a debt of the State.

sustainable and adequate social protection systems" (ILO 2021b). Moreover, the ILO constituents acknowledged the important role of social dialogue in shaping national social protection policies for an inclusive and human-centred COVID-19 recovery that can bring about universal social protection, in line with the priorities set out in the ILO Centenary Declaration for the Future of Work (2019) and the 2030 Agenda for Sustainable Development (notably SDG targets 1.3, 3.8, 5.4, 8.5 and 10.4).[10]

Workers' organizations can make a vital contribution to informed discussions on pension reform policies and their implementation at the national level. To that end, they need to know which pension policy options are the best for their country, be aware of the various financing mechanisms and understand the implications of each option for social protection coverage and benefits. This requires in addition a high-level strategic vision and the ability to negotiate and generate consensus for the transformative changes necessary to fashion a better future that includes social protection for all.

Accordingly, the agenda of workers' organizations in the context of the post COVID-19 recovery should take the following aspects into account:

- **The capacity of workers' organizations must be strengthened**, to ensure that effective social dialogue can take place and contribute to building coordinated policy responses to address the current crisis and recovery. **Sound technical knowledge among workers' representatives contributes to the formulation of national social protection policies and legal frameworks and their implementation in line with ILO social security standards**. Informed policy design improves implementation effectiveness and contributes to ownership of the measures adopted as well as trust amongst tripartite actors and workers in general.
- The extension of social protection must be based on **national social dialogue**. Social dialogue and consultations with the social partners are particularly important for devising coordinated policy responses, including policy responses to the COVID-19 crisis. Workers' organizations should therefore work towards generating **political will among decision-makers** – a prerequisite for an enabling environment for constructive social dialogue.
- Workers' organizations must play a key role in **strengthening social dialogue mechanisms and institutions** to ensure that the necessary infrastructure is available to enable these mechanisms and institutions to operate better during a crisis and beyond.
- Workers' organizations must **increase their representative capacity** through the development and implementation of innovative strategies and services to attract, retain and represent all workers, regardless of their degree of vulnerability in the labour market and their employment relationships, including informal economy workers.[11]
- Workers' representatives on tripartite boards of directors of social security institutions must insist on **good governance of the social protection system**. Board members are "trustees" for social security schemes and thus have to exercise a reasonable standard of care on behalf of all the beneficiaries of a scheme. This includes acting in accordance with the rules of the scheme and within the framework of the law; acting prudently, conscientiously and with good faith; acting in the best interests of the scheme's constituents; and striking a fair balance among the different categories. Representatives of workers' organizations represent the interests of workers as a whole, not just those in their own federation. Moreover, board members need to be balanced and fair in their approach, because the board is meant to look after the whole social security scheme, not just the part that most affects a given board member's organization (ILO 2010, 15).
- **Regular actuarial valuations are of utmost importance for ensuring the sustainability of pension schemes**. These valuations may reveal that current parameters may jeopardize the adequacy and sustainability of future pensions if not adjusted in time. While workers' representatives have to insist that such regular actuarial valuations take place, they also have to urge that any adjustment to the pension scheme is discussed in tripartite settings and not imposed by the government based on actuarial advice.
- Workers' organizations must be actively engaged in **promoting the ratification, implementation and monitoring of the Social Security (Minimum Standards) Convention, 1952 (No. 102)** and the other ILO social security Conventions – for example, by initiating ratification campaigns, and the effective application of the Social Protection Floors Recommendation, 2012 (No. 202).
- Workers' organizations must help to **disseminate information to workers and employers and raise their awareness of their social protection rights and obligations**.
- Workers' organizations must **support the social protection needs of vulnerable workers**, including those who are not part of the formal economy.
- Workers' representatives must **engage with the United Nations processes on sustainable development**, which offer workers' organizations and other ILO constituents the space and impetus necessary to participate in

10 For more information on each SDG target see *The 17 goals*, UN Department of Economic and Social Affairs Sustainable Development, available at https://sdgs.un.org/goals.

11 Among the initiatives undertaken by trade unions during the COVID-19 crisis that enabled them to reach out to workers who would normally be non-unionized, it is worth mentioning one in Georgia: a nationwide awareness-raising campaign was launched by the Georgian Trade Union Confederation in 2020 in support of the around 10,000 self-employed and informally employed market vendors who were eligible for financial support as compensation for the lockdown. As part of this campaign, the country's trade unions sought to reach hard-to-organize workers and recruit new members. (ILO 2021c, 20).

democratic and transparent multilateral decision-making. These processes also offer them the opportunity to demand enhanced policy coherence, improved enforcement and greater accountability. Workers' organizations can demonstrate the important role of social dialogue and social partnership in national development (ILO 2021c, 20).

- Finally, workers' organizations must actively **contribute to the proposed Global Accelerator for Jobs and Social Protection and to the current debate on new international financing mechanisms**, such as a Global Social Protection Fund, by expressing workers' needs and ensuring that the commitments made at the international level are transformed into concrete progress, based on strong social dialogue, in implementing the 2030 Agenda for Sustainable Development.

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Resources for further readings and tools

ILO. 2021f. 'Extending Social Security Coverage to Workers in the Informal Economy: Lessons from International Experience (Good Practice Guide)'. https://www.social-protection.org/gimi/RessourcePDF.action?id=55728.

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ILO Pension Primer: A Toolbox to Achieve Equitable and Sustainable Pension Systems. Available at https://www.social-protection.org/gimi/ShowWiki.action?id=63.

ILO n.d. Toolkit on ILO Social Security Standards. Available at https://www.social-protection.org/gimi/Standards.action.

Appendix I. Differences between defined benefit, defined contribution and notional defined contribution schemes at a glance

The table below highlights and compares the main characteristics of defined benefit (DB), defined contribution (DC) and notional defined contribution (NDC) schemes in relation to some fundamental aspects of the ILO's approach to the development and reform of social security pension schemes, such as the collection of contributions, the level of benefits (including their adjustment and adequacy), the financing method, administrative and transition costs, compliance with the principles of solidarity and risk-pooling, the representation of workers in the administration of the schemes, demographic risk and gender equality.

	Defined benefit scheme	Defined contribution and notional defined contribution schemes	
Type of scheme	▶ In a DB scheme, **the benefit is a defined amount and thus known**; contributions are adjusted to finance the benefits, as and when required.	▶ In DC and NDC schemes, **the contribution is known but the benefit is unknown** (until calculated).	
Benefits	▶ In a DB scheme, **contributions are pooled in a common fund**. ▶ In a DB scheme, **benefits are determined according to a formula and related to the earnings on which contributions were paid**. ▶ Furthermore, **the income replacement rate is established in the legislation through a clearly defined benefit formula**. The replacement rate can only be changed through a change in legislation. ▶ Thus, DB schemes provide guaranteed income security, irrespective of what happens in the financial markets or how long an employee lives after retirement.	▶ In a DC scheme, **contributions are paid into an individual account** for each participant. ▶ The **contributions are invested, for example in the fixed-income and equity markets**, and the investment returns (which may be positive or negative) are credited to the individual's account. ▶ At the time of retirement, the balance of the savings plus the investment returns in the participant's account is used to purchase a pension annuity, which depends on the amount of the balance. **The pension paid thus depends on the amounts contributed and the investment earnings**. ▶ **The future returns on investments, and the future benefits to be paid, are not known in advance**, so there is no guarantee that a given level of contributions will be sufficient to ensure adequate benefit levels and provide income security.	▶ In an NDC scheme, as in a DC scheme, workers have **an individual account that reflects the amount of the contributions** which they and their employers pay each month. However, these accounts are **notional accounts, meaning that they serve a bookkeeping purpose only**. No assets are actually deposited in the accounts, as the contributions are pooled in a common fund and immediately used to finance benefits for current pensioners. In contrast to a fully funded DC scheme, an NDC scheme is financed primarily on a pay-as-you-go basis, similar to a DB scheme.

	Defined benefit scheme	Defined contribution and notional defined contribution schemes
Benefits (cont.)		▶ In an NDC scheme, the individual account earns a "virtual" rate of return that is usually tied to the growth of economy-wide wages or other economic factors. Thus, **benefits are determined by adding up the notional contributions at the time of retirement (with an index linked to economic growth) and converting the theoretical accumulated amount into an annuity** using conversion factors determined on the basis of the life expectancy of the cohort to which the participant belongs. ▶ An NDC scheme, in contrast to a DC scheme, is **not vulnerable to volatility in financial markets because its rate of return is tied to broad economic indicators**, such as wage growth, rather than the performance of stocks and bonds. ▶ As under DC schemes, it is difficult for workers to know the amount of their pension in advance, since **the benefit level depends on such factors as average wage growth and changes in life expectancy**.

	Defined benefit scheme	Defined contribution and notional defined contribution schemes
Financing	▶ DB schemes are usually either **partially funded or unfunded**. In an unfunded scheme, no assets are set aside and the contributions of current workers and their employers are used to pay the pensions of current retirees. This method of financing is known as **pay-as-you-go** (PAYG). ▶ While most European pension schemes are unfunded, some countries have hybrid systems which are partially funded. For example, Spain set up the Social Security Reserve Fund in 2000, and France the Pension Reserve Fund in 2001. The Canada wage-based retirement plan (Canada Pension Plan, or CPP) is funded, with assets managed by the CPP Investment Board. The US social security system is funded by investments in special US Treasury bonds.	▶ DC schemes are usually fully **pre-funded**, with contributions invested in individual accounts that are used by workers to pay for their own retirement benefits. ▶ NDC schemes are usually **partially funded and are financed on a PAYG basis**.
Administrative costs	▶ Managing a large pool of funds is **less expensive** than managing individual accounts. ▶ The calculation, accrual and administration of benefits is significantly easier in a DB scheme. ▶ A DB scheme is better understood by the participants. ▶ A DB scheme is easier to calibrate and adapt if necessary. ▶ In addition, the administration of DB schemes is **non-profit-making**.	▶ The **administration of a DC scheme is much more expensive than that of a DB scheme**, since administrators must keep track of the performance of different investment funds, regulate the ways in which these funds are managed, and stay in touch with the workers who own the funds. ▶ In addition, there arise **significant costs related to marketing and the payment of profits**, since administrators typically contract out the management of these funds to private firms. ▶ It is commonly recognized that administrative costs have serious consequences for those insured through individual account pension schemes. The example of Chile demonstrated that **high fees and commissions** charged at a flat rate on all accounts have a highly regressive effect. When levied against a relatively modest retirement account, for example, the standard fee reduced the amount available to the account holder by approximately 18%, while it reduced the amount in the larger retirement account of a worker with ten times that income by only 0.9%. ▶ Administrative costs in Argentina amounted to 3.4% of the salary or 52.0% of the deposited amount, and in Chile to 2.7% of the salary or 26.8% of the deposited amount. ▶ In an NDC scheme, the level of administrative costs is lower than in a DC scheme because the accounting structure is simpler. A NDC scheme is in this regard similar to a DB scheme.

	Defined benefit scheme	Defined contribution and notional defined contribution schemes
Transition costs	▶ No transition costs, as there are no changes in the funding mechanism	▶ The shift from a PAYG pension system to a funded one inevitably creates financial strains within a country, since it must build up reserves with which eventually to pay prefunded pensions while continuing to meet current pension obligations on a PAYG basis. ▶ In Chile, even thirty years after the reform, in 2010, transition costs represented still 4.7 per cent of GDP. ▶ Transition costs are usually financed by taxing the entire population, including the poor and other uninsured individuals, leading to regressive effects. ▶ The introduction of an NDC scheme implies **lower transition costs**, since such schemes are financed primarily on a PAYG basis.
Solidarity and risk-pooling	▶ DB schemes are usually based on **social solidarity and redistribution**, as contributions are paid into a collective fund. ▶ **Risk is thus borne collectively, and the government is the ultimate guarantor**.	▶ DC schemes normally **lack social solidarity and redistributive impact**, as contributions are paid into individual accounts belonging to the insured workers and are not shared with others. Investment risks and rewards are assumed by each worker, and not collectively through solidarity. ▶ **Although NDC schemes contain some elements of social solidarity, these are very limited in comparison to DB schemes**.
Adequacy of benefits	▶ In DB schemes, **redistributive benefit formulas** (usually with a flat-rate component or equivalent) are used to guarantee higher replacement rates for low-wage earners.	▶ DC and NDC schemes usually **cannot secure a sufficient level of benefits for low-paid workers**, as an insured worker is fully dependent on the savings in his or her individual account and the investment of those savings. Thus, there is no redistribution or solidarity between workers at different levels of earnings and between generations.
Disability and survivor's benefits	▶ **Disability and survivor's benefits are provided under DB schemes**.	▶ **Most DC and NDC schemes cater primarily for old-age pensions**. Disability and survivor's benefits are generally offered under separate arrangements, provided for by DB schemes.
Minimum pension guarantee	▶ In DB schemes there is **a pooled fund from which minimum pensions can be paid**.	▶ In DC schemes there is **no pooled fund from which minimum pensions can be paid**. Thus, a minimum pension guarantee needs to be financed through different funding arrangements, which creates a fiscal burden for governments. ▶ In NDC schemes, minimum pension guarantees also need to be financed through different funding arrangements, which, again, creates a fiscal burden for governments.
Adjustment of pensions	▶ In DB schemes, **pensions can be adjusted automatically or on an ad hoc basis**.	▶ In DC schemes, the **adjustments of individual annuities** with periodic payments fixed at the time of purchase in exchange for a retiree's accumulated contributions **are not always automatic and are not easily accomplished**. ▶ In NDC schemes, pensions are normally adjusted automatically, according to an index **linked to economic growth (not to the cost of living)**.

	Defined benefit scheme	Defined contribution and notional defined contribution schemes
Social dialogue and representation of workers in the administration of the social security schemes	▶ DB schemes usually provide for representatives of the persons protected to participate in their management. Effective and efficient social security governance requires the full involvement and decision-making power of the social partners to improve the design, oversight and operation of the social security system. Social dialogue plays an important role in contributing to the permanent monitoring of financial sustainability and social adequacy, in ensuring effective and efficient management of the scheme, and in guaranteeing that funds are not diverted to other uses. Social dialogue is also important for the enforcement of existing social security legislation so that contributions are paid and benefits delivered.	▶ In DC and NDC schemes, the participation of representatives of the persons protected in their management is usually consultative.
Demographic risk	▶ DB schemes are subject to demographic risk, i.e., the ratio of pensioners to active workers will increase. **DB schemes depend on the performance of the economy**.	▶ DC and NDC schemes are subject to demographic risk, i.e., the ratio of pensioners to active workers will increase. **DC schemes depend on investment performance and are thus also subject to capital market risks, while NDC schemes depend on the performance of the economy**.

	Defined benefit scheme	Defined contribution and notional defined contribution schemes
Gender equality	▶ DB schemes **do not make any distinction between men and women in the determination of pensions**. Thus, men and women with the same contributory record will receive the same pension, irrespective of their different life expectancies. ▶ DB schemes also allow for the inclusion of pension care credits and minimum benefit guarantees which are very important for women.	▶ Sex-differentiated life expectancy tables for the conversion of the accumulated amount in the individual account into an annuity are common in DC schemes. **The purchase of a life annuity at retirement will provide women with lower pensions than men if such tables are used**, because of their longer life expectancy. ▶ NDC schemes **do not make any distinction between men and women in the determination of pensions**, as they normally use unisex life expectancy tables. ▶ DC do not allow for the inclusion of pension care credits and minimum benefit guarantees which are very important for women. NDC schemes may provide pension care credits and minimum benefit guarantees, depending on the design of the scheme.

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