Mandatory earnings-related pensions

Key results

The second tier of the OECD's taxonomy of retirement-income provision comprises mandatory or quasi-mandatory earnings-related pensions, covering defined benefit, points and defined contribution schemes. Key parameters and rules of these schemes determine the future value of entitlements.

Generic earnings-related schemes are of three different types governed by different rules of benefit calculation. **Defined benefit** (DB) schemes typically specify an accrual rate, expressed as a percentage of individual pensionable earnings, at which benefit entitlements build up for each year of coverage. The higher the contribution rate the higher the accrual rate that can be sustained. Defined benefit schemes can be funded or pay-as-you-go or a combination of both over their lifetime. In **points** schemes, the pension benefit is equal to the number of points accumulated during the career multiplied by the point value. Points schemes that currently exist in OECD countries are all pay-as-you-go. **Defined contribution** (DC) schemes are individual account-based schemes that accumulate contributions during the working career to finance retirement. When the accounts accumulate capital in the form of financial assets, these schemes are classified as **funded defined contribution (FDC)** whilst if schemes are based on notional accumulated capital, then they are referred to as **notional defined contribution (NDC)** schemes. In both cases for the modelling of a replacement rate in Chapter 4 an annuity divisor is applied to transform financial assets (real or notional) into monthly pensions. Table 3.4 presents future parameters and rules for benefit calculation that will apply to people who enter the labour market in 2022, according to the latest legislation.

Within PAYG DB schemes, ***accrual rates*** of at least 2% apply in Colombia, Portugal, Spain and Türkiye. Japan and Korea credit the lowest rates of about 0.5%. In half of DB schemes, the accrual rate is the same irrespective of career length or earnings level. However, in Czechia, Portugal, the United States and for the public scheme in Switzerland, entitlements vary with earnings levels, granting higher accrual rates to lower earners. Accrual rates increase with a longer contribution history in Greece and Luxembourg while in Hungary, Slovenia and Spain accruals are higher for the first years of coverage. Moreover, in the Swiss occupational plan accrual rates increase with age as do contribution rates. In some countries, total accrual rates are limited by an earnings ceiling or by a maximum number of years that generate accruals.

Pensionable earnings measures used to calculate benefits differ by country. Nearly all OECD countries use the entire career earnings, with Portugal and the United States coming close by using the best 40 and 35 years, respectively. Only the main scheme in France and public pensions in Colombia, Costa Rica, Slovenia and Spain will still be based on a comparatively small fraction of career earnings; the best 25, final 10, final 25, best 24 and final 25, respectively, but Spain will increase to best 27 of the final 29 years of earnings from 2044.

All schemes apply a ***valorisation rate*** to past earnings to take account of changes in "living standards" between the time pension rights accrued and the time they are claimed. The most used rate is the growth of average earnings. However, Belgium, Colombia, Costa Rica, Spain and the main scheme in France only revalue past earnings with price inflation, thereby leading to a negative impact of real-wage growth on replacement rates and making the finances of the system more sensitive to real-wage growth (OECD, 2019). Also, Finland, Portugal and the United States revalue earlier years' earnings with a mix of price and wage inflation, and in Estonia and Türkiye it is a mix of prices and, respectively, wage bill and GDP growth.

For DC plans the cumulative growth of the contributions is determined by the rates of return. It is based on financial market returns in FDC schemes and on notional interest rates in NDC schemes. The latter are equal to the rate of GDP growth in Italy, wage bill growth in Latvia and a mix of the two in Poland. Norway and Sweden apply earnings growth. One key parameter for DC plans is the ***contribution rate*** paid into individual accounts.

Most countries set a limit on the earnings used to calculate pension benefits. Pension schemes in nine countries do not have a ceiling. The highest ceilings apply in the occupational scheme in Colombia, France, and the Slovak Republic, at over 6 times average earnings. The lowest at 0.65 to 0.8 times are in Canada, Israel and Switzerland, with France at 0.99 for the public scheme.

Indexation refers to the growth of pensions in payment, i.e. during retirement. Price indexation is most common. However, eight countries uprate benefits with a mix of price inflation and wage growth, and four countries combine price inflation and GDP or wage bill growth. Sweden indexes pensions based on wage growth minus 1.6%.

The ***effective accrual rate*** measures the rate at which benefit entitlements are effectively built for each year of coverage. It thus depends on modelling assumptions and is closely connected to the replacement rates shown in Chapter 4. For DB schemes, it equals the nominal accrual rate after adjusting for all the elements that apply to pensionable earnings i.e. thresholds, valorisation of past earnings, sustainability factors. In FDC and NDC schemes the effective accrual rate the replacement rate, which depends on contribution rates, rates of return and annuity factors, divided by the number of years of contribution.

Based on current legislation, at the average-wage level, the highest future effective annual accrual rates of 1.9% are in Colombia and Spain with Austria, Italy, Luxembourg, Portugal and Türkiye also above 1.5%. The lowest rates, below 0.2%, are in the points scheme in Lithuania and the FDC schemes of Norway and Sweden, reflecting low contribution rates.

Futher reading

OECD (2019), *OECD Reviews of Pension Systems: Portugal,* OECD Reviews of Pension Systems, OECD Publishing, Paris, https://doi.org/10.1787/9789264313736-en.

Table 3.4. Future parameters and rules of mandatory earnings-related pensions, latest legislation

At the normal retirement age for a full-career worker who entered the labour market at age 22 in 2022

	Type of scheme	DB schemes	DB, points or NDC schemes			FDC or NDC schemes	Ceiling for pensionable earnings (multiple of average earnings)	Effective accrual rate of a male full-career average earner (% of earnings)
		Nominal accrual rate (% of individual pensionable earnings)	Earnings measure	Valorisation rate	Indexation rate	Total contribution rate (%)		
Australia	FDC					12.0	2.54	0.58
Austria	DB	1.78	L	w	p		1.51	1.72
Belgium	DB	1.33	L	p	p		1.35	0.94
Canada	DB	0.83	L	w	p [c]		0.79	0.72
Chile	FDC					10.0	2.99	0.59
Colombia	DB or FDC	2 [w]	F10	p	p	11.5	14.19	1.87
Costa Rica	DB / FDC	1.2 [w]	F25	p	p	4.25	None	1.27 / 0.23
Czechia	DB	0.87 [w]	L	w	50%w + 100%p		3.04	0.87
Denmark	FDC (Occ.)					12.0	None	0.83
Estonia	Points		L	w	80%wb + 20%p		None	0.30
Finland	DB	1.50	L	80%w + 20%p	20%w + 80%p		None	1.24
France	DB / points	1.16	B25 / L	p / w	p / p		0.99 / 7.92	0.98 / 0.36
Germany	Points		L	w	w – x		1.54	0.97
Greece	DB / DC	1.14 [y]	L	p, w	50%p+50%g / p	6.0	4.66 / 4.66	1.14 / 0.39
Hungary	DB	1.22 [y]	L	w	p		None	1.22
Iceland	FDC (Occ.)					15.5	None	0.96
Ireland	None							
Israel	FDC					12.5	0.85	0.63
Italy	NDC		L	g	p	33.0	3.10	1.55
Japan	DB	0.55	L	w	p or w [a]		2.39	0.50
Korea	DB	0.44	L	w	p		1.33	0.44
Latvia	NDC / FDC		L	wb	p + 50%-80%wb	14.0 / 6.0	4.66 / none	0.58 / 0.39
Lithuania	Points		L	w	wb		4.84	0.18
Luxembourg	DB	1.57 [y]	L	w	p, w [c]		1.94	1.57
Mexico	FDC					15.0	3.33	0.94
Netherlands	FDC (Occ.)					18.6	None	0.95
New Zealand	None							
Norway	NDC / FDC		L	w	average (p,w)	18.1 / 2.0	1.17 / 1.98	0.87 / 0.12
Poland	NDC		L	p, wb, g	p, w [c]	19.5	2.44	0.68
Portugal	DB	2.3 [w]	B40	min(25%w+75%p,p +0.5%)	p, d		None	1.61
Slovak Republic	Points		L	w	p		6.56	1.17
Slovenia	DB	1.03 [y]	B24	w, d	60%w + 40%p		3.26	1.03
Spain	DB	2.7 [y]	F25	p	p		1.39	1.87
Sweden	NDC / FDC / FDC (occ.)		L	w	w – 1.6% [c]	14.9 / 2.3 / 4.5 [w]	1.16 / 1.16 / none	0.8 / 0.16 / 0.28
Switzerland	DB / DB (occ.)	0.63 [w] / 0.69 [a]	L / L	f / r	50%w+50%p / 0%		0.65 / 0.65	0.49 / 0.44
Türkiye	DB	2.00	L	p + 30%g	p		4.24	1.64
United Kingdom	FDC					8.0	1.13	0.45
United States	DB	1.23 [w]	B35	w or p	p		2.27	0.87

Note: Empty cells indicate that the parameter is not relevant. [a] = varies with age, B = number of best years, [c] = valorisation/indexation conditional on financial sustainability, d = discretionary, F = number of final years, f = fixed-rate valorisation, [f/m] = varies by gender, g = with growth of gross domestic product, L = lifetime average, p = with price inflation, r = with financial market return, w = with growth of average earnings, wb = with growth of wage bill, [w] = varies with earnings, [y] = varies with years of service. Denmark: contribution rate reported is typical rate for quasi-mandatory occupational plans. ATP pension only enters the last column. Germany: x depends on changes in both sustainability and contribution factor. More precisely, x is positive if the ratio of contributors to pensioners drops or/and if the contribution rate rises. Greece: Past earnings are uprated by CPI until 2024 and wages thereafter. Italy: indexation is to price inflation for low pensions and to 75% of price inflation for high pensions. Japan: indexation is to earnings growth until age 67 and to price inflation after age 68. Latvia: Proportion of wage bill increases to 60%, 70% or 80% if career is at least 30, 40 or 45 years, respectively. Luxembourg: indexation is to price inflation plus a share of real earnings growth, depending on the financial situation of the pension scheme. Poland: indexation is to price inflation + at least 20% of real average earnings growth in the previous year. Portugal: indexation is higher relative to prices for low pensions and vice versa. Indexation rises with higher GDP growth. Sweden: the contribution rate is 2.5% in the mandatory personal FDC plan up to the ceiling for the public scheme. For quasi-mandatory occupational plans the contribution rates are 4.5% on a lower slice of earnings and 30% on an upper slice with no ceiling. Switzerland: in the public scheme, ceiling applies to average earnings measure at retirement rather than annual earnings in the contribution years. United States: valorisation with earnings growth to age 60, no adjustment from 60 to 62, valorisation with price inflation from 62 to 67. Accrual rates applied to average earnings measure at retirement. In some countries accrual stops after a certain number of contribution years or when a certain total accrual rate is reached. This is the case in Belgium (45 years), Canada (40 years), Portugal (40 years), Spain (100%), Türkiye (90%) and the United States (35 years). In other countries a maximum pension or a late retirement age may stop accrual too.

Source: See "Country Profiles" available at http://oe.cd/pag.

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