Gross pension wealth

Key results

Pension wealth measures the total discounted value of the lifetime flow of all retirement incomes in mandatory pension schemes at retirement age as a ratio of annual earnings before retirement. For average earners, pension wealth for men is 10.1 times and for women 11.2 times annual individual earnings on average in OECD countries. Gross pension wealth relative to annual individual earnings is higher for women because of their longer life expectancy. The main determinants of differences across countries are differences in the gross replacement rate, in the length of the retirement period measured by remaining life expectancy at the normal retirement age, and in indexation rules.

Replacement rates give an indication of the pension promise relative to individual earnings, but they are not comprehensive measures of cumulated pension payments; they look only at the benefit level relative to individual earnings at the point of retirement, or more generally at a given, later age. For a full picture, life expectancy, normal retirement age and indexation of pension benefits must also be taken into account. Together, these determine for how long the pension benefit is paid, and how its value evolves over time. Pension wealth – a measure of the stock of future discounted flows of pension benefits – takes account of these factors. It can be thought of as the lump sum needed at the retirement age to purchase, without paying any fee, an annuity giving the same flow of pension payments as that promised by mandatory retirement-income schemes.

In defined benefit systems there is often no or a weak systematic link between the replacement rate and the expected duration of benefit withdrawal. However, in the long run, ensuring financial sustainability imposes a trade-off between the replacement rate and the duration of retirement. When retirement ages and pension benefits are held constant, pension wealth increases with longevity gains. In defined contribution systems there is a more direct link between the size of the benefit and the expected duration of benefit withdrawals. In these systems the pension wealth measure is equal to the accumulated assets and therefore independent of longevity increases as these automatically reduce the monthly benefits.

Gross pension wealth at individual earnings equal to the average wage is highest in Luxembourg at 19.7 times annual individual earnings for men and 21.8 times for women (Table 4.6). It is also larger than 15 times for men and 17 times for women in Austria (men only), Colombia, Greece and Spain. The lowest pension wealth for both men and women is found in Lithuania at 3.3 and 3.7 years of annual earnings, respectively, due to low replacement rates. Estonia, Ireland, Japan (men only), Korea and Poland also have pension wealth levels below 7 years for men and 8 years for women, with Canada, Chile, Israel and the United States also below 8 years for women.

While this indicator takes into account gender-specific mortality rates it assumes away differences in life expectancy across income levels. Given that individuals with low (high) income generally have a lower (higher) life expectancy, this implies that the computed numbers overestimate pension wealth for low earners and underestimate it for high earners (OECD, 2017). With this caveat in mind, higher individual replacement rates for low earners than for average earners mechanically translate into higher pension wealth relative to individual earnings low earners. For men with individual earnings equal to half average-earnings, pension wealth is 12.8 times their annual earnings on average and it is 14.4 times for women. Colombia and Luxembourg have the highest values for low earners at 24 and 23 times individual earnings for men, respectively, and 30 and 25 times individual earnings for women, with Colombia having a larger increase because of the lower retirement age for women.

Impact of life expectancy

In countries where the duration in retirement is shorter, such as Estonia and Latvia, pension wealth is smaller. The effect is the opposite in Luxembourg and Slovenia, where life expectancy is higher and retirement ages are much lower. Similarly, since women's life expectancy is longer than men's, pension wealth for women is higher in all countries that use unisex mortality tables to compute annuities from defined contribution schemes or that have defined benefit systems. In addition, some countries still have lower retirement ages for women; this extends the payment period even further.

Impact of indexation

Pension wealth is affected by indexation rules at a given initial replacement rate level. Although most OECD countries now index pensions in payment to prices, there are exceptions: Ireland, for example, has adopted a smoothed earnings method to calculate an indexed rate of the basic pension, which is assumed equivalent to average earnings growth for this report. Since earnings tend to grow faster than prices pension wealth is higher with wage than price indexation, for a given level of replacement rate. If Ireland, for example, indexed to prices, the pension wealth for an average male earner would decrease from 6.0 to 5.2 with unchanged initial benefit based on the OECD pension model.

Definition and measurement

The calculation of pension wealth uses a uniform real discount rate of 1.5%, decreased from the 2.0% used in previous editions, thereby increasing the pension wealth by around 6%, all other things equal. However, to the extent that lower long-term interest rates reflect lower (explicit or implicit) returns to pension contributions, the overall impact on pension wealth is muted. Since the comparisons refer to prospective pension entitlements, the calculations use country-specific mortality rates by age and sex at the year of retirement. Pension wealth is expressed as a multiple of annual individual earnings.

Further reading

OECD (2017), Preventing Ageing Unequally, OECD Publishing, Paris, https://doi.org/10.1787/9789264279087-en.

Table 4.6. Gross pension wealth by earnings, multiple of annual earnings

	Individual earnings, multiple of average wage							Individual earnings, multiple of average wage					
	0.5	1	2	0.5	1	2		0.5	1	2	0.5	1	2
	Men			Women				Men			Women		
Australia	14.8	8.1	5.6	15.8	8.5	5.7	Mexico	13.0	9.8	8.0	14.3	10.8	8.1
Austria	15.0	15.0	11.3	16.6	16.6	12.5	Netherlands	16.3	13.5	12.0	17.6	14.5	13.0
Belgium	13.0	8.4	6.0	14.2	9.1	6.6	New Zealand	15.5	9.8	4.9	16.9	10.6	5.3
Canada	9.5	7.6	3.8	9.5	7.6	3.8	Norway	12.8	9.4	5.9	14.0	10.3	6.5
Chile	9.9	7.5	5.8	10.3	7.7	6.1	Poland	5.6	5.4	5.3	7.0	5.4	5.3
Colombia	23.6	15.2	15.2	30.3	18.8	18.5	Portugal	13.1	12.8	12.1	14.8	14.4	13.5
Costa Rica	12.9	12.7	11.9	14.3	14.1	13.2	Slovak Republic	10.6	8.8	7.7	11.9	9.9	8.7
Czechia	16.0	9.7	6.5	17.8	10.8	7.3	Slovenia	15.5	10.5	10.3	17.5	11.9	11.7
Denmark	18.0	11.0	7.8	19.9	12.2	8.6	Spain	20.1	20.1	12.4	22.7	22.7	14.0
Estonia	7.9	4.6	2.9	9.1	5.3	3.4	Sweden	10.8	10.8	13.4	11.7	11.7	14.5
Finland	10.6	10.6	10.6	12.0	12.0	12.0	Switzerland	12.3	9.4	4.8	13.5	10.3	5.2
France	11.9	11.9	10.2	13.5	13.5	11.6	Türkiye	13.2	13.2	13.2	15.0	15.0	15.0
Germany	10.6	9.7	7.5	11.8	10.8	8.3	United Kingdom	13.2	8.7	5.8	14.2	9.4	6.2
Greece	18.5	15.8	14.5	20.4	17.5	16.0	United States	9.3	7.4	5.3	10.0	7.9	5.6
Hungary	9.8	9.4	9.2	11.2	10.6	10.3	**OECD**	**12.8**	**10.1**	**8.3**	**14.4**	**11.2**	**9.2**
Iceland	13.1	8.2	8.2	14.1	8.7	8.7							
Ireland	12.0	6.0	3.0	13.1	6.5	3.3	Argentina	21.4	15.4	12.4	27.0	19.7	16.1
Israel	10.3	7.4	3.7	11.0	7.8	3.9	Brazil	15.9	15.9	14.8	20.3	20.3	19.3
Italy	13.0	13.0	13.0	14.8	14.8	14.8	China	20.2	15.7	13.4	25.2	19.5	16.7
Japan	9.2	6.9	5.7	10.9	8.2	6.8	India	8.0	8.0	4.6	8.4	8.4	4.6
Korea	9.5	6.2	3.7	11.3	7.4	4.5	Indonesia	7.7	7.7	7.6	8.4	8.4	8.3
Latvia	9.7	7.0	7.0	11.1	8.0	8.0	Saudi Arabia	17.4	17.4	17.4	18.0	18.0	18.0
Lithuania	5.2	3.3	2.3	5.9	3.7	2.6	South Africa	2.8	1.4	0.7	3.4	1.7	0.9
Luxembourg	22.9	19.7	18.1	25.2	21.8	20.0	EU27	12.6	10.6	9.3	14.1	11.8	10.3

Note: *Low earners in Colombia, New Zealand and Slovenia are at 64%, 63% and 56% of average earnings, respectively, to account for the minimum wage level.
Source: OECD pension models.

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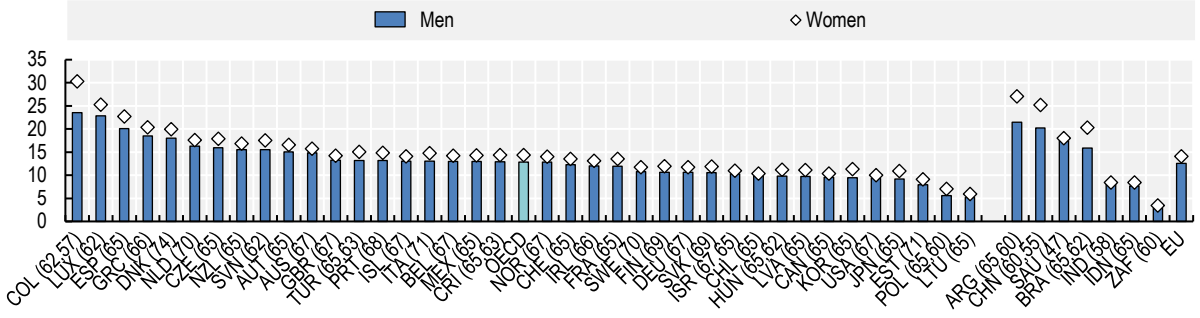
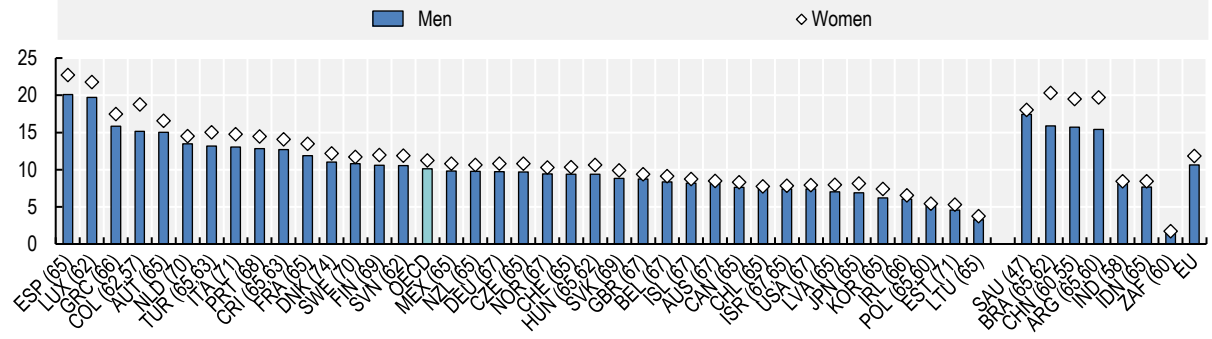
Figure 4.6. Gross pension wealth for lower earners by gender, multiple of annual earnings



Source: OECD pension models.

StatLink https://stat.link/figqrs

Figure 4.7. Gross pension wealth for average earners by gender, multiple of annual earnings



Source: OECD pension models.

StatLink https://stat.link/0akim4