

Definition and measurement

The old-age pension replacement rate is a measure of how effectively a pension system provides income during retirement to replace earnings which were the main source of income prior to retirement. The indicator shown here is the expected pension benefit for a full-career, single worker in the private sector entering the labour market at age 20. It includes all mandatory parts of the pension system, both public and private, while excluding voluntary pensions, which are important in some countries. This indicator aims to show the long-term stance of the pension system and takes account of all changes in rules and parameters that have been legislated; phased-in legislated changes will thus be fully in place by the time of retirement. Parameters are those for a person entering the labour market in 2004. A standard set of economic assumptions is used for each country.

The replacement rate is defined as pension entitlement divided by pre-retirement earnings. It is shown here at 0.50, 0.75, 1.0, 1.5, 2.0 and 2.5 of average earnings levels, using the newly defined OECD “average worker” concept. Indicators of expected replacement rates from old-age pensions are presented both on a gross (i.e. pre-tax) and net basis (i.e. taking account of the taxes and social security contributions paid on earnings when working and on pension when retired).

Table EQ9.1 shows gross replacement rates from old-age pensions relative to earnings in all 30 OECD countries. Various types of pension systems can be observed. In Ireland, New Zealand, and the United Kingdom, the pension system pays a similar amount to all retirees regardless of their earnings history. This means that the replacement rate declines with earnings. These countries all have public schemes that are flat-rate (paying the same amount to all for each year of contributions or residency) or resource-tested (paying larger amounts to low-income pensioners). In contrast, Finland, Italy and the Netherlands pay very similar replacement rates across the earnings range, meaning that benefits are strongly related to previous earnings. The Polish pension system has a public and a private defined-contribution component; thus, gross replacement rates do not vary with earnings. Other countries are intermediate cases: France and Germany are both traditionally regarded as countries with a strong social-insurance tradition; however, ceilings in the public scheme (of around 125 and 150% of average earnings respectively), plus a generous minimum pension in France, means that replacement rates fall at higher earnings levels, unlike in the previous “earnings related” group of countries.

The United States’ public pension system uses a strongly redistributive formula for benefit calculation. At half-average earnings, the replacement rate is over

50%, falling to 40% at average earnings and to 30% at twice average earnings. Japan has a two-tier public pension programme, with flat-rate and earnings-related parts. This delivers a similar pattern of benefits with earnings as in the United States.

It is the net replacement rate that matters to individuals as this is what determines their standard of living during retirement relative to when working (Figure EQ9.2). Averaging across OECD countries, net replacement rates at average earnings are 15% larger than gross replacement rates. Net replacement rates are substantially higher than gross rates in Belgium, France and Germany. The effect of taxes and contributions on low earners is more muted because they typically pay less in taxes and contributions than those on average earnings.

At average earnings, the average net replacement rate for OECD countries is 71%. There is substantial variation, with the basic pension schemes in Ireland and New Zealand paying 40% or less, while in Greece and Turkey the pension entitlements exceed pre-retirement earnings.

Status indicators: Intergenerational mobility (EQ4), Life expectancy (HE1).

Response indicators: Public social spending (EQ5), Total social spending (EQ7).

EQ9. OLD-AGE PENSION REPLACEMENT RATES

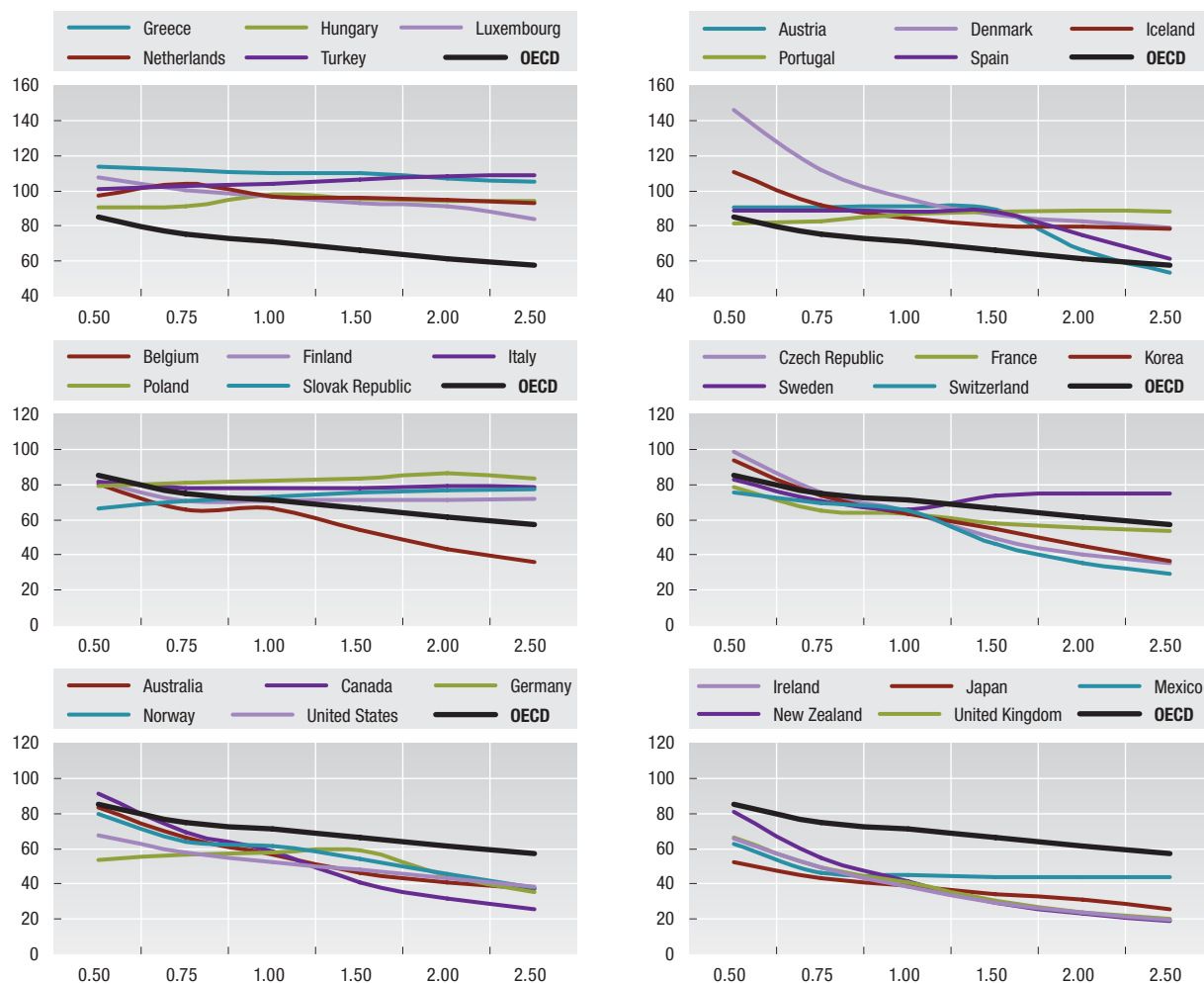
EQ9.1. More generous old-age pensions for workers with lower earnings

Gross replacement rates from mandatory pension programmes, in percentage of pre-retirement gross earnings of men

	Ratio of pre-retirement earnings						Ratio of pre-retirement earnings						
	0.5	0.75	1.0	1.5	2.0	2.5	0.5	0.75	1.0	1.5	2.0	2.5	
Australia	70.7	52.3	43.1	33.8	29.2	26.5	Korea	88.8	69.2	59.4	49.6	40.1	32.1
Austria	80.1	80.1	80.1	78.5	58.8	47.1	Luxembourg	99.8	92.1	88.3	84.5	82.5	76.2
Belgium	57.3	40.9	40.4	31.3	23.5	18.8	Mexico	52.8	37.3	35.8	34.4	33.6	33.2
Canada	75.4	54.4	43.9	29.6	22.2	17.8	Netherlands	80.6	81.5	81.9	82.4	82.6	82.7
Czech Republic	78.8	59.0	49.1	36.4	28.9	24.4	New Zealand	79.0	52.7	39.5	26.3	19.8	15.8
Denmark	121.6	92.4	77.8	63.7	59.9	57.7	Norway	60.4	54.3	51.9	42.4	34.6	27.7
Finland	71.3	63.4	63.4	63.4	63.4	63.4	Poland	61.2	61.2	61.2	61.2	61.2	57.5
France	63.8	51.2	51.2	46.9	44.7	43.4	Portugal	70.4	68.3	67.8	66.9	66.0	65.4
Germany	39.9	39.9	39.9	39.9	30.0	24.0	Slovak Republic	56.7	56.7	56.7	56.7	56.7	56.7
Greece	95.7	95.7	95.7	95.7	95.7	95.7	Spain	81.2	81.2	81.2	81.2	67.1	53.7
Hungary	73.0	73.0	73.0	73.0	73.0	73.0	Sweden	79.3	66.8	62.5	65.4	66.8	67.6
Iceland	109.9	85.8	77.5	74.4	72.9	71.9	Switzerland	62.5	62.1	58.4	40.7	30.5	24.4
Ireland	65.0	43.3	32.5	21.7	16.2	13.0	Turkey	72.5	72.5	72.5	72.5	72.5	71.7
Italy	67.9	67.9	67.9	67.9	67.9	67.9	United Kingdom	53.4	37.8	30.8	22.6	17.0	13.6
Japan	47.8	38.9	34.4	29.9	27.2	21.8	United States	55.2	45.8	41.2	36.5	32.1	28.2
							OECD	74.5	62.5	58.0	52.4	47.6	44.4

EQ9.2. At average earnings, the net replacement rate for OECD countries is 71%

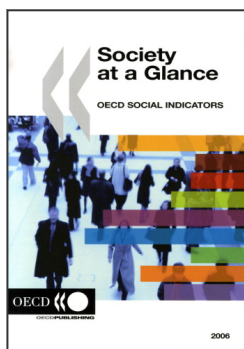
Net replacement rates by earnings level, mandatory pension programmes, in percentage of selected pre-retirement net earnings, men



Source: OECD (2007, forthcoming), *Pensions at a Glance: Public Policies across OECD Countries*, Paris (www.oecd.org/els/social/ageing/PAG).

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Further reading ■ OECD (2000), *Reforms for an Ageing Society*, Paris. ■ OECD (2001), *Ageing and Income: Financial Resources and Retirement in 9 OECD Countries*, Paris. ■ Whitehouse, E. (2004), "The Value of Pension Entitlements: A Model of Nine OECD Countries", OECD Social, Employment and Migration Working Paper, Paris (www.oecd.org/els/workingpapers).



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