

### Key results

The OECD average for net replacement rates of an average earner from mandatory (public and private) schemes is 59%. When voluntary private pensions are taken into account for a full career of contributions, among the eight OECD countries where voluntary private pensions are widespread, and Israel and Mexico, the average net replacement rate for these ten countries is 70% compared with 36% in gross terms when only mandatory schemes are taken into account.

The personal tax system plays an important role in old-age support. Pensioners often do not pay mandatory contributions and, as personal income taxes are progressive and pension entitlements are usually lower than earnings before retirement, the average tax rate on pension income is typically less than the tax rate on earned income. In addition, most income tax systems give preferential treatment either to pension incomes or to pensioners, by giving additional allowances or credits to older people. Therefore, net replacement rates are usually higher than gross replacement rates.

For the 17 OECD countries where the calculations cover only public pensions, the net replacement rate for a full-career average earner is 68% on average. For the nine OECD countries with public and mandatory private provision, but no voluntary schemes the average net replacement rate is 56%. In the ten countries where voluntary pensions are modelled the average net replacement rate reaches 70% for a worker choosing to contribute for the whole career.

For the other major economies, although there is a wide variation between country and across earnings level, there is a smaller difference between gross and net replacement rates as pensions are not normally liable for any taxation.

### Mandatory private pensions

Twelve countries have mandatory private pensions, including a subset of three countries – Denmark, the Netherlands and Sweden – having private pensions that ensure near-universal coverage and so are described as “quasi-mandatory”.

In Iceland, the Netherlands and Switzerland, private pensions are defined benefit while in the other countries they are defined contribution.

### Voluntary private pensions

Replacement rates are shown for ten countries where voluntary private pensions are widespread (see the

indicator of “Coverage of private pensions” in Chapter 9). For the other economies South Africa also has a significant voluntary scheme. It is assumed that workers with voluntary private pensions spend a full career in the scheme.

The rules that have been modelled are in the “Country Profiles” available at <http://oe.cd/pag>. In nine of the ten countries, a defined contribution plan is modelled, with a defined benefit schemes applying in Japan.

In general, both the defined contribution and defined benefit schemes pay a constant gross replacement rate with earnings. (Data on actual contribution rates by earnings are not available for most countries, and so an average or typical rate is assumed across the earnings range). However, progressive tax rules mean that the net replacement rate differs across the earnings range. Whilst the increase in gross replacement rate is generally constant across earnings the net replacement rate tends to increase more with earnings as the previous work earnings are taxed at much higher rates as individuals move up the earnings distribution.

### Definition and measurement

The net replacement rate is defined as the individual net pension entitlement divided by net pre-retirement earnings, taking account of personal income taxes and social security contributions paid by workers and pensioners. Otherwise, the definition and measurement of the net replacement rates are the same as for the gross replacement rate. Details of the rules that national tax systems apply to pensioners can be found in the online Country Profiles available at <http://oe.cd/pag>.

Table 5.6. **Gross and net pension replacement rates from mandatory (public and private) and voluntary pension schemes**  
Percentage of individual earnings

	Gross mandatory public and private			Net mandatory public and private			Total gross with voluntary			Total net with voluntary		
	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5	0.5	1	1.5
Australia	64.9	30.9	30.9	75.5	41.0	43.8						
Austria	76.5	76.5	76.5	89.7	89.9	89.6						
Belgium	57.3	46.8	33.7	70.7	66.2	48.3	78.1	61.0	44.1	87.9	72.4	57.8
Canada	50.9	39.0	29.8	58.3	50.7	39.7	71.9	64.1	54.9	82.4	83.3	73.4
Chile	36.2	31.2	31.2	44.6	37.3	37.9						
Czech Republic	75.0	45.9	36.2	91.6	60.3	47.9						
Denmark	113.8	74.4	64.0	104.5	70.9	63.3						
Estonia	61.4	47.1	42.3	65.6	53.1	49.0						
Finland	56.5	56.5	56.5	65.1	64.2	64.9						
France	60.2	60.1	54.0	71.4	73.6	69.0						
Germany	38.7	38.7	38.7	56.1	51.9	51.4	52.2	52.2	52.2	68.6	68.0	67.5
Greece	63.1	49.9	45.5	57.6	51.1	50.3						
Hungary	56.1	56.1	56.1	84.3	84.3	84.3						
Iceland	75.3	66.1	65.1	80.5	69.8	69.8						
Ireland	54.1	27.0	18.0	60.5	35.9	26.7	89.9	62.9	53.8	105.6	81.1	75.5
Israel	77.4	50.1	33.4	81.1	57.8	42.4	97.2	65.5	43.7	98.9	73.2	53.7
Italy	79.5	79.5	79.5	92.0	91.8	94.4						
Japan	42.5	32.0	28.5	45.9	36.8	33.3	66.2	55.8	52.3	74.0	61.5	59.5
Korea	55.6	37.3	27.0	60.8	43.4	32.6						
Latvia	44.6	44.6	44.6	55.2	54.3	52.2						
Lithuania	36.8	23.6	19.2	48.4	31.0	25.3						
Luxembourg	91.5	78.8	74.5	99.0	90.1	85.9						
Mexico	35.1	25.7	24.6	35.6	28.6	28.6	48.2	43.9	42.5	48.8	48.9	49.4
Netherlands	73.5	70.9	70.1	78.0	80.2	78.5						
New Zealand	79.3	39.7	26.4	79.8	42.8	30.3	97.1	57.4	44.2	98.8	62.2	50.4
Norway	50.4	45.4	36.3	57.0	51.6	43.0						
Poland	29.4	29.4	29.4	35.9	35.1	34.7						
Portugal	75.8	74.4	73.1	88.0	89.6	89.0						
Slovak Republic	59.5	49.6	47.0	71.7	65.1	63.3						
Slovenia	47.8	38.8	36.0	62.8	57.5	53.7						
Spain	72.3	72.3	72.3	78.6	83.4	82.8						
Sweden	54.1	54.1	65.3	60.7	53.4	68.9						
Switzerland	53.0	42.4	29.2	54.3	44.3	31.7						
Turkey	67.4	67.4	67.4	86.2	93.8	98.7						
United Kingdom	43.5	21.7	14.5	51.0	28.4	20.2	72.6	50.9	37.4	82.3	61.0	47.4
United States	50.1	39.4	33.1	61.2	49.4	42.7	79.1	69.1	62.6	94.1	83.7	79.0
<b>OECD</b>	<b>60.0</b>	<b>49.0</b>	<b>44.7</b>	<b>68.3</b>	<b>58.6</b>	<b>54.7</b>	<b>66.1</b>	<b>55.2</b>	<b>50.5</b>	<b>75.0</b>	<b>65.4</b>	<b>61.6</b>
Argentina	83.7	71.2	67.1	102.8	92.8	88.8						
Brazil	92.1	58.9	58.9	100.1	64.8	64.8						
China	90.6	71.6	65.2	98.5	79.4	73.6						
India	83.4	83.4	83.4	94.8	94.8	94.8						
Indonesia	55.3	55.3	55.3	58.2	59.0	58.6						
Russian Federation	62.3	49.6	44.9	71.7	57.0	51.6						
Saudi Arabia	59.6	59.6	59.6	65.4	65.4	65.4						
South Africa	34.5	17.2	11.5	34.5	18.5	12.9	49.1	49.1	49.1	54.6	59.2	61.9
EU28	60.3	52.0	48.8	69.8	63.5	60.4	63.6	55.4	51.8	73.6	67.0	64.0

Source: OECD pension models.

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