Key results

The base case at the beginning of this chapter concentrates on showing full-career replacement rates under the standard economic parameters that apply within the report, and reflect those used in the last few editions. This indicator focuses on an alternative set of economic assumptions that may better reflect the possibility of an extended period of low growth and low interest rates, which might be in part driven by population ageing. For workers with average earnings and a full career from age 22, the future gross replacement rate at the normal retirement age averages 51.6% for men and 50.6% for women in the 38 OECD countries under this alternative scenario, which is very similar to the base case figures. However, this similar average masks significant differences across countries.

Full career male workers at the average wage throughout their career will have, on average, a gross replacement rate of 51.8%, when they start working at age 22. These estimates are based on the standard economic parameters described in Chapter 4. As an alternative these standard parameters have been lowered to account for the possibility of a low economic growth and low interest rates scenario over the long term, which might be partly related to population ageing (Table 5.3). Within the alternative assumptions all the parameter values have been lowered.

Table 5.3. **Annual economic assumptions**

Economic assumptions that apply every year from 2020

	Base case assumptions	Alternative scenario
Discount rate	2.0%	1.0%
Price inflation	2.0%	1.0%
Real wage growth	1.25%	1.0%
Real rate of return	3.0%	2.0%
GDP growth	Country specific	Adjusted downward by 0.25%

As a consequence the gross replacement rate for male workers at average earnings decreases slightly to 51.6%, with the corresponding value for women also decreasing from 50.9% under the base assumptions to 50.6% under the alternative scenario. These reasonably stable values, however, hide the country specific impact, which can be quite significant.

Firstly, there are seven OECD countries, the Czech Republic, Germany, Ireland, Japan, Italy, New Zealand and Slovenia, as well as South Africa amongst G20 countries that have the same replacement rate under both scenarios. In all these countries there is either just a basic pension linked to earnings growth, or all parameters of the pension system are linked to wage (or GDP) growth, resulting in a steady state replacement rate if the earnings are at a constant proportion of the average.

The largest increases in replacement rates are found in Belgium, France, Greece, the Netherlands, Spain and Turkey, with increases of between 2.3 percentage points and 3.8 percentage points. In these countries past earnings are valorised to prices (Belgium, France, Greece for the first five years, the Netherlands and Spain) or the basic pension is indexed to prices, holding a higher relative value as a result of lower earnings growth (Greece) or past earnings are increased partially by GDP (Turkey). In both instances under the alternative economic parameters, wage growth is lower thereby increasing the value of the pension at retirement relative to average earnings.

Conversely, in countries that have large DC pension schemes the replacement rate decreases as the rate of return under the alternative scenario is only 1.0 percentage points higher than real wage growth, compared to 1.75 percentage points under the baseline assumptions. Australia, Chile, Denmark, Iceland, Israel, Latvia and Sweden all have a fall in their replacement rate of between 2.7 percentage points and 4.7 percentage points.

Definition and measurement

The old-age pension replacement rate measures how effectively a pension system provides a retirement income to replace earnings, the main source of income before retirement. The gross replacement rate is defined as gross pension entitlement divided by gross pre-retirement earnings.

Often, the replacement rate is expressed as the ratio of the pension to final earnings (just before retirement). Under the baseline assumptions, workers earn the same percentage of average worker earnings throughout their career. Therefore, final earnings are equal to lifetime average earnings revalued in line with economy-wide earnings growth. Replacement rates expressed as a percentage of final earnings are thus identical to those expressed as a percentage of lifetime earnings.

Table 5.4. **Gross pension replacement rates by different economic assumptions**

Percentage of average earnings

Full career male workers at average earnings (women where different)																	
	Pension age		Base case		Sensitivity		Difference			Pension age		Base case		Sensitivity		Difference	
Australia	67		31.3	*(28.4)*	27.0	*(24.6)*	*-4.2*	*(-3.8)*	Netherlands	69		69.7		72.0		*2.3*	
Austria	65		74.1		75.0		*0.9*		New Zealand*	65		39.8		39.8		*0.0*	
Belgium	67		43.4		45.9		*2.4*		Norway	67		46.0		44.9		*-1.1*	
Canada	65		38.8		40.4		*1.6*		Poland	65	*(60)*	30.6	*(23.4)*	30.7	*(23.5)*	*0.1*	*(0.1)*
Chile	65		31.2	*(28.8)*	28.5	*(27.3)*	*-2.7*	*(-1.5)*	Portugal	68		74.9		71.5		*-3.3*	
Colombia	62	*(57)*	74.8	*(73.4)*	75.8	*(74.3)*	*1.0*	*(0.9)*	Slovak Republic	64		53.1		52.6		*-0.5*	
Costa Rica	65		71.9		71.5		*-0.4*		Slovenia*	62		42.0		42.0		*0.0*	
Czech Republic*	65		49.0		49.0		*0.0*		Spain	65		73.9		77.7		*3.8*	
Denmark	74		80.0		75.9		*-4.1*		Sweden	65		53.3		50.4		*-2.9*	
Estonia	71		28.0		29.0		*0.9*		Switzerland	65	*(64)*	44.1	*(43.5)*	44.6	*(44)*	*0.4*	*(0.5)*
Finland	68		56.6		57.3		*0.6*		Turkey	65	*(63)*	73.3	*(70.3)*	76.9	*(73.6)*	*3.6*	*(3.3)*
France	66		60.2		62.7		*2.5*		United Kingdom	67		49.0		49.8		*0.8*	
Germany*	67		41.5		41.5		*0.0*		United States	67		39.2		40.2		*1.0*	
Greece	66		72.6		75.5		*2.9*		***OECD***	**66.1**	**(65.5)**	**51.8**	**(50.9)**	**51.6**	**(50.6)**	*-0.2*	*(-0.3)*
Hungary	65	*(62)*	62.5	*(58.1)*	63.3	*(47.7)*	*0.8*	*(-10.4)*									
Iceland	67		51.8		47.1		*-4.7*										
Ireland*	66		29.7		29.7		*0.0*		Argentina	65	*(60)*	76.1	*(72.9)*	73.8	*(71.3)*	*-2.3*	*(-1.6)*
Israel	67	*(62)*	41.5	*(34.1)*	37.4	*(31.7)*	*-4.1*	*(-2.4)*	Brazil	65	*(62)*	88.4	*(93.3)*	93.0	*(97.8)*	*4.5*	*(4.5)*
Italy*	71		74.6		74.6		*0.0*		China	60	*(55)*	71.6	*(55.7)*	66.8	*(52.9)*	*-4.8*	*(-2.8)*
Japan*	65		32.4		32.4		*0.0*		India	58		56.4	*(55.6)*	56.8	*(56.1)*	*0.4*	*(0.5)*
Korea	65		31.2		31.2		*0.1*		Indonesia	65		55.3	*(53)*	53.4	*(51.5)*	*-1.9*	*(-1.5)*
Latvia	65		43.4		40.1		*-3.3*		Russian Federation	65	*(60)*	47.2	*(43.4)*	54.0	*(49.2)*	*6.9*	*(5.8)*
Lithuania	65		19.7		19.8		*0.1*		Saudi Arabia	47		59.6		60.7		*1.1*	
Luxembourg	62		76.6		77.3		*0.7*		South Africa*	60		14.9		14.9		*0.0*	

Note: * Individuals have the same gross benefit under both the base case and alternative economic assumption scenarios.
Source: OECD pension models.

StatLink https://stat.link/6m4tau

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