

Key Results

The total fertility rate is below the estimated replacement level – the number of children needed to keep the total population constant – of about 2.1 in developed countries in 34 out of 36 OECD countries. The exceptions to this are Israel with a total fertility rate of 3.04 and Mexico at 2.14. Fertility rates fell sharply in the second half of the 20th century, and have stabilised in the OECD on average since 2000. However, in more than half of OECD countries, fertility rates have slightly increased since the early 2000s. Fertility rates have a profound implication for pension systems because they, along with life expectancy, are the drivers of substantial shifts in demographic structures. Since 1960, there has been a steady convergence of fertility rates across countries, which is expected to be prolonged in the next decades.

Fertility rates currently average 1.66 across OECD countries, well below the level that ensures population replacement. The trend to fewer children has been going on since the late 1950s, but stopped around the turn of century on average. The fall in fertility rates reflected changes in individuals' lifestyle preferences, in family formation, and in the constraints of everyday living, such as those driven by labour-market insecurity, difficulties in finding suitable housing and unaffordable childcare.

Another effect might come from changes in women's aspiration regarding partnership and childbearing norms, especially in countries such as Japan and Korea where there is a strong link between marriage and maternity. However, the childbearing patterns of unmarried men and women have also changed. For example, half or more of births now occur outside of marriage in France, Iceland, Norway and Sweden. The average proportion of births outside marriage in OECD countries is now one-third of the total.

Over the last 50 years, there has been a steady convergence in fertility rates across OECD countries. In 1960, Korea, Mexico and Turkey had rates around twice the OECD average, with Hungary and Latvia not much over half, and an overall standard deviation of 1.2. This latter figure has decreased considerably over time, falling to 0.3 by 2020 and forecast to be only 0.1 by 2060.

Since 2000, the fertility rates in 21 out of 36 countries have slightly increased while the average has remained stable. The increases from a very low level have been stronger in a few countries, including the Czech Republic (+0.47), Latvia (+0.54) and Slovenia (+0.35). The strongest declines have been observed in Chile (-0.55), Mexico (-0.71) and Turkey (-0.57).

This recent increase in fertility rates is forecasted to continue in more than two-thirds of OECD countries, albeit very slowly, and the average rate will be 1.71 across OECD countries by 2050 according to the median forecast of the United Nations Population Prospects. However, forecast uncertainty is considerable, with the 20th percentile of

probabilistic projections for the OECD average at only 1.41 and the 80th percentile close to reproduction at 1.96 (Figure 6.1).

Low fertility rates have wider social and economic consequences. The old-age to working-age ratio will increase sharply placing additional burdens on the working-age population to finance pay-as-you-go pensions and health care for older people. Moreover, the workforce will also age over time and so might be less adaptable to technological change.

Among the other major economies, Argentina, India, Indonesia, Saudi Arabia and South Africa all currently have fertility rates well above the replacement level of 2.1. However, the downward trend is expected to continue in these countries as well as in Brazil, with fertility rates going below the natural replacement rate by 2030. By contrast, the trough was reached at low levels in China and the Russian Federation about 20 years ago.

Definition and measurement

The total fertility rate is the number of children that would be born to each woman if she were to live to the end of her child-bearing years and if the likelihood of her giving birth to children at each age was the currently prevailing age-specific fertility rate. It is generally computed by summing up the age-specific fertility rates defined over a five-year interval. A total fertility rate of 2.1 children per women – the replacement level – broadly ensures a stable population size, on the assumptions of no migration flows and unchanged mortality rates.

Further Reading

D'Addio, A. and M. d'Ercole (2005), "Trends and Determinants of Fertility Rates: The Role of Policies", *OECD Social, Employment and Migration Working Papers*, No. 27, OECD Publishing, Paris, <https://dx.doi.org/10.1787/880242325663>.

Table 6.1. Total fertility rates, 1960-2060

	1960	1980	2000	2020	2040	2060		1960	1980	2000	2020	2040	2060
Australia	3.41	1.99	1.79	1.83	1.73	1.72	New Zealand	4.07	2.18	1.95	1.90	1.77	1.73
Austria	2.57	1.65	1.39	1.53	1.65	1.71	Norway	2.84	1.81	1.86	1.68	1.73	1.75
Belgium	2.50	1.70	1.60	1.71	1.75	1.77	Poland	3.47	2.23	1.51	1.42	1.57	1.66
Canada	3.88	1.73	1.56	1.53	1.52	1.61	Portugal	3.12	2.55	1.46	1.29	1.49	1.61
Chile	4.75	2.94	2.20	1.65	1.57	1.61	Slovak Republic	3.24	2.46	1.40	1.50	1.65	1.71
Czech Republic	2.38	2.36	1.17	1.64	1.75	1.78	Slovenia	2.38	2.16	1.25	1.60	1.71	1.75
Denmark	2.55	1.68	1.76	1.76	1.79	1.80	Spain	2.70	2.55	1.19	1.33	1.51	1.61
Estonia	1.99	2.06	1.33	1.59	1.71	1.75	Sweden	2.25	1.66	1.56	1.85	1.84	1.83
Finland	2.77	1.66	1.74	1.53	1.53	1.63	Switzerland	2.39	1.54	1.48	1.54	1.61	1.65
France	2.70	1.86	1.76	1.85	1.84	1.83	Turkey	6.50	4.69	2.65	2.08	1.82	1.73
Germany	2.27	1.51	1.35	1.59	1.67	1.71	United Kingdom	2.49	1.73	1.74	1.75	1.77	1.77
Greece	2.42	2.42	1.31	1.30	1.37	1.54	United States	3.58	1.77	2.00	1.78	1.80	1.81
Hungary	2.32	2.25	1.38	1.49	1.63	1.70	OECD	3.19	2.26	1.67	1.66	1.68	1.71
Iceland	4.17	2.45	2.06	1.77	1.67	1.68							
Ireland	3.58	3.25	1.90	1.84	1.70	1.69	Argentina	3.13	3.40	2.63	2.27	2.02	1.87
Israel	3.89	3.47	2.93	3.04	2.63	2.32	Brazil	6.06	4.24	2.47	1.74	1.56	1.59
Italy	2.29	1.89	1.22	1.33	1.42	1.53	China	5.48	3.01	1.62	1.69	1.73	1.76
Japan	2.17	1.83	1.37	1.37	1.49	1.59	India	5.90	4.97	3.48	2.24	1.92	1.76
Korea	6.33	2.92	1.50	1.11	1.25	1.48	Indonesia	5.67	4.73	2.55	2.32	2.00	1.85
Latvia	1.95	1.89	1.17	1.72	1.78	1.80	Russian Federation	2.82	1.94	1.25	1.82	1.83	1.83
Lithuania	2.66	2.10	1.47	1.67	1.75	1.78	Saudi Arabia	7.18	7.28	4.40	2.34	1.83	1.65
Luxembourg	2.23	1.49	1.72	1.45	1.52	1.61	South Africa	6.05	5.05	2.88	2.41	2.07	1.88
Mexico	6.78	5.33	2.85	2.14	1.80	1.71	EU28	2.67	2.06	1.49	1.56	1.64	1.70
Netherlands	3.10	1.60	1.60	1.66	1.72	1.74							

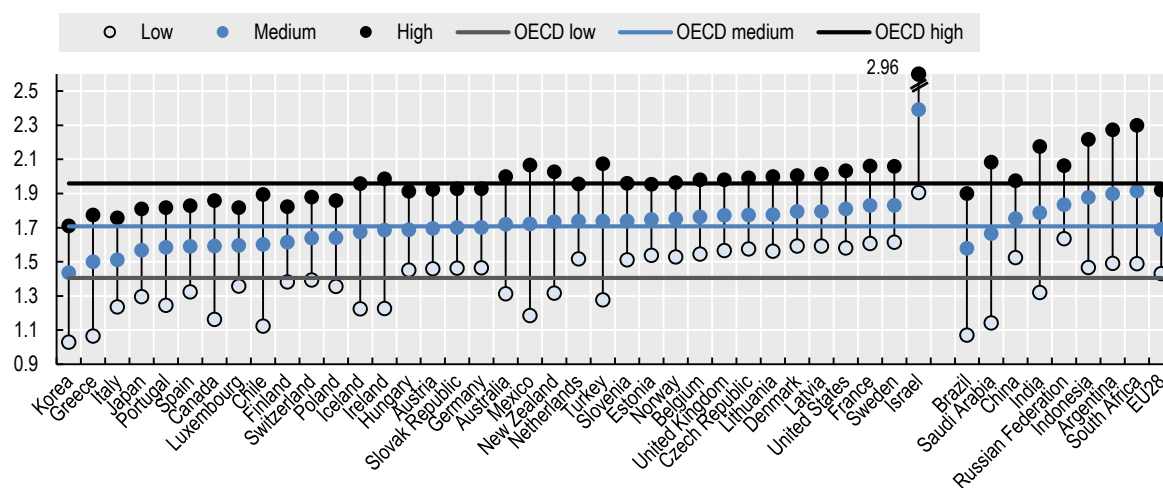
Note: The data refers to 5-year periods whose end-point is indicated in the first row of the table.

Source: United Nations, Department of Economic and Social Affairs, (2019). World Population Prospects 2019, Online Edition (for future periods: medium-variant forecast).

StatLink  <https://doi.org/10.1787/888934041839>

Figure 6.1. Uncertainty about total fertility-rate projections

Low, medium and high variant projections for 2050-2055



Note: For better visibility, the scale of this chart excludes the highest observed values, which is 2.96 in Israel for the high-variant projection. Low, medium and high variant projections correspond to the 20%, 50% and 80% percentiles of probabilistic projections, respectively.

Source: United Nations, Department of Economic and Social Affairs (2019). Probabilistic Population Projections based on the World Population Prospects 2019: <http://population.un.org/wpp/>.

StatLink  <https://doi.org/10.1787/888934041858>



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