

Portuguese Life Table  
2016 - 2018

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**Life expectancy was 80.80 years at birth and 19.49 years at age 65**

**Life expectancy at birth** was estimated at 80.80 years. In 2016-2018, men and women could expect to live up to 77.78 years and 83.43 years, respectively. Compared with 2015-2017, it represents an increase of 0.48 months for men and 0.24 months for women and a slowdown from gains in 2015-2017 when it increased by 1.56 and 0.96 months, respectively, for men and women.

Within a decade, there was a gain of 2.06 years of life for the total population, 2.29 years for men and 1.62 years for women. This increase in female life expectancy at birth resulted mainly from a reduction in mortality among those aged 60 years and over. For men, these gains were mainly due to the decrease of mortality below 60 years.

**Life expectancy at age 65** attained 19.49 years for the total population. A man aged 65 years could expect to live another 17.58 years, and a woman aged 65 another 20.88 years, which represents a gain of 1.23 years and 1.18 years, respectively, in the last ten years.

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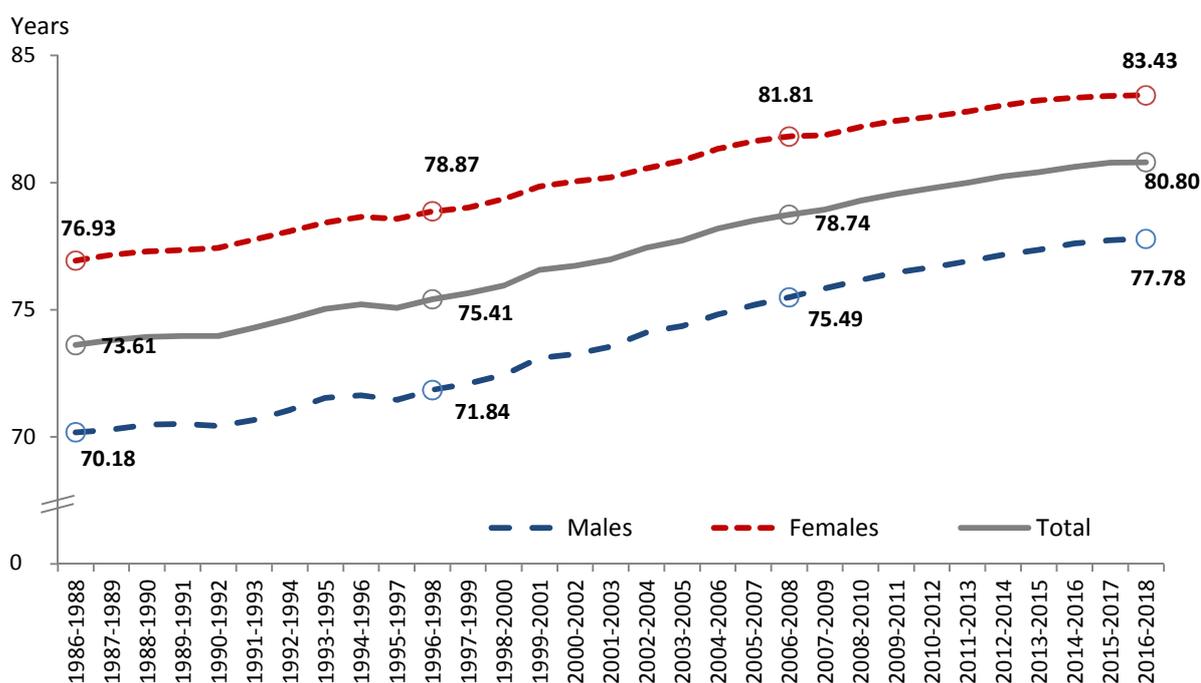
Statistics Portugal releases the 2016-2018 complete life tables for Portugal, by sex and for the total resident population, providing the official values of life expectancy for the same period.

**Life expectancy at birth increased to 80.80 years**

Life expectancy at birth for both males and females was estimated at 80.80 years. At birth, men and women could expect to live up to 77.78 years and 83.43 years respectively. Compared to the estimated values for 2015-2017, it represents an increase of 0.04 years (0.48 months) and 0.02 years (0.24 months), respectively, and a slowdown in longevity gains (1.56 and 0.96 months, respectively, for men and women in 2015-2017).

In the last decade, life expectancy at birth in Portugal has increased by 2.06 years, an increase of 2.29 years for males and 1.62 years for females, when compared with the values for 2006–2008 (75.49 and 81.81 years, respectively).

**Life expectancy at birth, Portugal, 1986-1988 to 2016-2018**



The increase in female life expectancy at birth over the last ten years resulted mainly from a reduction in mortality among those aged 60 years and over. For men, the increase in life expectancy at birth was mainly due to the reduction of mortality below 60 years, particularly among those aged 35 to 49<sup>1</sup>.

Women continue to live longer than men, but the gap has been gradually narrowing, from 6.32 years in 2006-2008 to 5.65 years in 2016-2018.

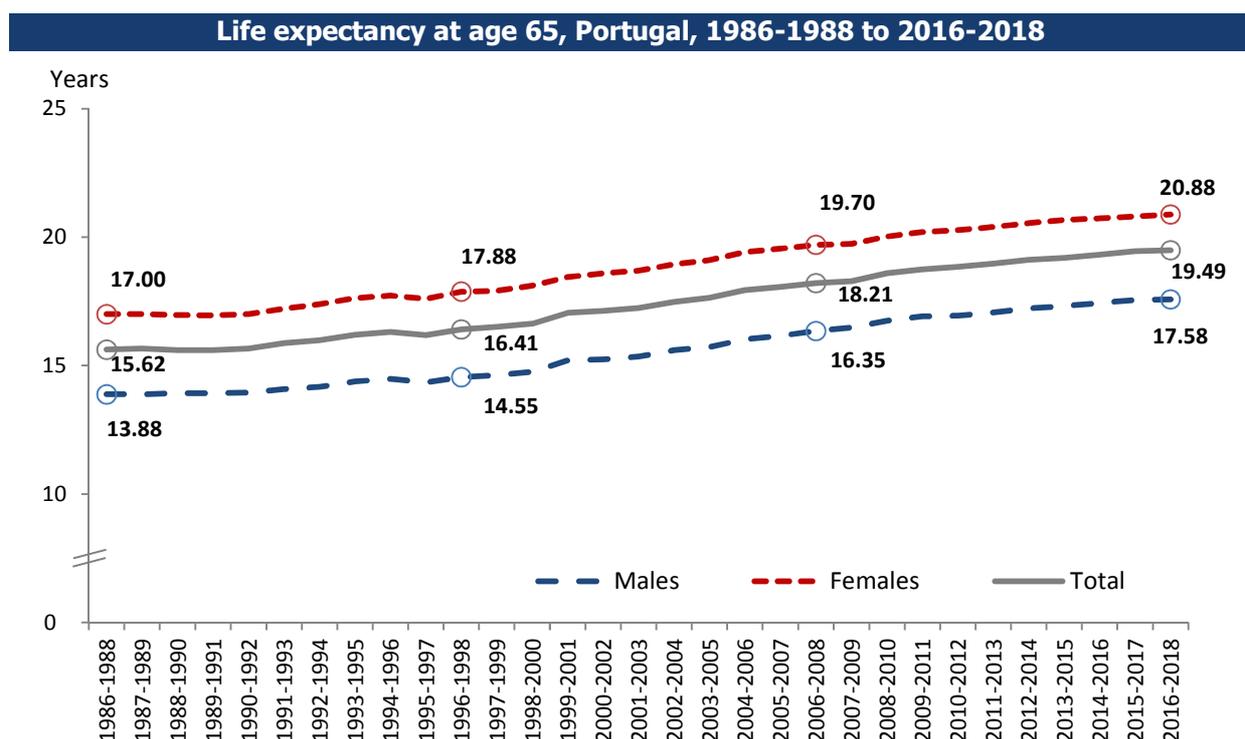
In 2016-2018, it is estimated that 36.7% of male live births and 58.0% of female live births will survive to age 85 if they experience the respective age-specific mortality rates of this time period for the rest of their life. In 2006-2008, these values were, respectively, 29.0% and 50.0%, for men and women<sup>2</sup>.

<sup>1</sup> Results based on the decomposition of the difference in life expectancy at birth between 2006-2008 and 2016-2018 (see technical note).

<sup>2</sup> Values are taken from the survival function ( $l_x$ ) of the life table (see technical note).

## Life expectancy at age 65 increased to 19.49 years

Life expectancy at age 65 attained 19.49 years for the total population. If mortality rates remained the same as they were in 2016-2018, a man aged 65 years old could expect to live another 17.58 years, and a woman aged 65 another 20.88 years, a gain of 0.03 years (0.36 months) and 0.07 years (0.84 months), respectively, compared to the estimated values for 2015-2017.



Over the last ten years, life expectancy at age 65 has risen by 1.23 years for males and by 1.18 years for females. At age 65, the gap between males and females life expectancy decreased from 3.35 years in 2006-2008 to 3.30 years in 2016-2018.

In 2016-2018, the majority of all deaths (65.4%) occurred among those aged 80 years and over. Approximately half of deaths for men (55.2%) and about three quarters for women (75.0%) concentrated in that age group. The most common age at death was 86 for men and 88 years for women. Ten years ago, it was 85 years for men and 87 for women<sup>3</sup>.

<sup>3</sup> Death values considered here are taken from the life table function  $d_x$  (see technical note).

### Complete Life Table for Portugal 2016 - 2018 (Both sexes)

Age (x)	Probability of dying (qx)	Survivors at exact age x (lx)	Deaths between exact ages x and x+1 (dx)	Person-years lived between exact ages x and x+1 (Lx)	Person-years lived above age x (Tx)	Life expectancy (ex)
1	2	3	4	5	6	7
0	0.002995	100,000	300	99,816	8,079,513	80.80
1	0.000243	99,700	24	99,688	7,979,697	80.04
2	0.000119	99,676	12	99,670	7,880,009	79.06
3	0.000133	99,664	13	99,658	7,780,338	78.07
4	0.000116	99,651	12	99,645	7,680,681	77.08
5	0.000118	99,640	12	99,634	7,581,035	76.08
6	0.000097	99,628	10	99,623	7,481,401	75.09
7	0.000097	99,618	10	99,613	7,381,778	74.10
8	0.000056	99,609	6	99,606	7,282,165	73.11
9	0.000076	99,603	8	99,599	7,182,559	72.11
10	0.000100	99,596	10	99,591	7,082,960	71.12
11	0.000087	99,586	9	99,581	6,983,369	70.12
12	0.000105	99,577	10	99,572	6,883,788	69.13
13	0.000076	99,566	8	99,563	6,784,216	68.14
14	0.000121	99,559	12	99,553	6,684,654	67.14
15	0.000121	99,547	12	99,541	6,585,101	66.15
16	0.000206	99,535	20	99,524	6,485,560	65.16
17	0.000143	99,514	14	99,507	6,386,036	64.17
18	0.000249	99,500	25	99,488	6,286,529	63.18
19	0.000358	99,475	36	99,457	6,187,041	62.20
20	0.000349	99,439	35	99,422	6,087,584	61.22
21	0.000284	99,405	28	99,391	5,988,162	60.24
22	0.000336	99,377	33	99,360	5,888,771	59.26
23	0.000406	99,343	40	99,323	5,789,411	58.28
24	0.000317	99,303	31	99,287	5,690,088	57.30
25	0.000369	99,271	37	99,253	5,590,801	56.32
26	0.000344	99,235	34	99,218	5,491,548	55.34
27	0.00046	99,201	46	99,178	5,392,330	54.36
28	0.000409	99,155	41	99,135	5,293,152	53.38
29	0.000537	99,114	53	99,088	5,194,018	52.40
30	0.000407	99,061	40	99,041	5,094,930	51.43
31	0.000450	99,021	45	98,999	4,995,889	50.45
32	0.000461	98,976	46	98,953	4,896,890	49.48
33	0.000524	98,931	52	98,905	4,797,937	48.50
34	0.000592	98,879	59	98,850	4,699,032	47.52
35	0.000698	98,820	69	98,786	4,600,183	46.55
36	0.000705	98,751	70	98,716	4,501,397	45.58
37	0.000737	98,682	73	98,645	4,402,680	44.61
38	0.000830	98,609	82	98,568	4,304,035	43.65
39	0.000964	98,527	95	98,480	4,205,467	42.68
40	0.001037	98,432	102	98,381	4,106,987	41.72
41	0.001183	98,330	116	98,272	4,008,606	40.77
42	0.001345	98,214	132	98,148	3,910,335	39.81
43	0.001485	98,082	146	98,009	3,812,187	38.87
44	0.001576	97,936	154	97,859	3,714,178	37.92
45	0.001766	97,782	173	97,695	3,616,319	36.98
46	0.001961	97,609	191	97,513	3,518,624	36.05
47	0.002183	97,417	213	97,311	3,421,111	35.12
48	0.002421	97,205	235	97,087	3,323,800	34.19
49	0.002975	96,969	288	96,825	3,226,713	33.28

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### Complete Life Table for Portugal 2016 - 2018 (Both sexes)

Age	Probability of dying	Survivors at exact age x	Deaths between exact ages x and x+1	Person-years lived between exact ages x and x+1	Person-years lived above age x	Life expectancy
(x)	(qx)	(lx)	(dx)	(Lx)	(Tx)	(ex)
1	2	3	4	5	6	7
50	0.003066	96,681	296	96,533	3,129,888	32.37
51	0.003412	96,385	329	96,220	3,033,355	31.47
52	0.003789	96,056	364	95,874	2,937,135	30.58
53	0.004066	95,692	389	95,497	2,841,261	29.69
54	0.004268	95,303	407	95,099	2,745,764	28.81
55	0.004563	94,896	433	94,679	2,650,664	27.93
56	0.004809	94,463	454	94,236	2,555,985	27.06
57	0.005383	94,009	506	93,756	2,461,749	26.19
58	0.005979	93,503	559	93,223	2,367,994	25.33
59	0.006407	92,944	595	92,646	2,274,770	24.47
60	0.006772	92,348	625	92,035	2,182,125	23.63
61	0.007508	91,723	689	91,378	2,090,089	22.79
62	0.008030	91,034	731	90,669	1,998,711	21.96
63	0.008475	90,303	765	89,920	1,908,042	21.13
64	0.009134	89,538	818	89,129	1,818,122	20.31
65	0.009370	88,720	831	88,304	1,728,993	19.49
66	0.010004	87,889	879	87,449	1,640,688	18.67
67	0.011039	87,009	960	86,529	1,553,239	17.85
68	0.012472	86,049	1,073	85,512	1,466,710	17.05
69	0.013271	84,976	1,128	84,412	1,381,198	16.25
70	0.014676	83,848	1,231	83,233	1,296,786	15.47
71	0.015317	82,617	1,265	81,985	1,213,553	14.69
72	0.017578	81,352	1,430	80,637	1,131,568	13.91
73	0.019569	79,922	1,564	79,140	1,050,931	13.15
74	0.022028	78,358	1,726	77,495	971,791	12.40
75	0.023973	76,632	1,837	75,713	894,296	11.67
76	0.026340	74,795	1,970	73,810	818,583	10.94
77	0.030731	72,825	2,238	71,706	744,773	10.23
78	0.035026	70,587	2,472	69,351	673,067	9.54
79	0.040214	68,114	2,739	66,745	603,716	8.86
80	0.044275	65,375	2,895	63,928	536,971	8.21
81	0.050308	62,481	3,143	60,909	473,043	7.57
82	0.057076	59,338	3,387	57,644	412,134	6.95
83	0.067499	55,951	3,777	54,062	354,490	6.34
84	0.080900	52,174	4,221	50,064	300,427	5.76
85	0.098674	47,953	4,732	45,587	250,364	5.22
86	0.116051	43,222	5,016	40,714	204,776	4.74
87	0.135564	38,206	5,179	35,616	164,063	4.29
88	0.156520	33,026	5,169	30,442	128,447	3.89
89	0.179506	27,857	5,000	25,357	98,005	3.52
90	0.206675	22,857	4,724	20,495	72,648	3.18
91	0.233868	18,133	4,241	16,012	52,154	2.88
92	0.263306	13,892	3,658	12,063	36,141	2.60
93	0.294958	10,234	3,019	8,725	24,078	2.35
94	0.328752	7,216	2,372	6,029	15,353	2.13
95	0.364573	4,843	1,766	3,961	9,324	1.93
96	0.402264	3,078	1,238	2,459	5,363	1.74
97	0.441617	1,840	812	1,433	2,905	1.58
98	0.482380	1,027	496	779	1,471	1.43
99	0.524255	532	279	392	692	1.30
100	0.566897	253	143	181	300	1.18

### Complete Life Table for Portugal 2016 - 2018 (Males)

Age	Probability of dying	Survivors at exact age x	Deaths between exact ages x and x+1	Person-years lived between exact ages x and x+1	Person-years lived above age x	Life expectancy
(x)	(qx)	(lx)	(dx)	(Lx)	(Tx)	(ex)
1	2	3	4	5	6	7
0	0.003309	100,000	331	99,798	7,777,573	77.78
1	0.000293	99,669	29	99,655	7,677,775	77.03
2	0.000139	99,640	14	99,633	7,578,120	76.06
3	0.000071	99,626	7	99,623	7,478,487	75.07
4	0.000147	99,619	15	99,612	7,378,865	74.07
5	0.000136	99,604	14	99,598	7,279,253	73.08
6	0.000060	99,591	6	99,588	7,179,655	72.09
7	0.000090	99,585	9	99,580	7,080,067	71.10
8	0.000050	99,576	5	99,573	6,980,487	70.10
9	0.000108	99,571	11	99,566	6,880,914	69.11
10	0.000098	99,560	10	99,555	6,781,348	68.11
11	0.000133	99,550	13	99,544	6,681,793	67.12
12	0.000112	99,537	11	99,532	6,582,249	66.13
13	0.000074	99,526	7	99,522	6,482,717	65.14
14	0.000137	99,519	14	99,512	6,383,195	64.14
15	0.000118	99,505	12	99,499	6,283,683	63.15
16	0.000296	99,493	29	99,479	6,184,184	62.16
17	0.000178	99,464	18	99,455	6,084,705	61.18
18	0.000358	99,446	36	99,428	5,985,250	60.19
19	0.000518	99,411	52	99,385	5,885,822	59.21
20	0.000496	99,359	49	99,334	5,786,437	58.24
21	0.000338	99,310	34	99,293	5,687,103	57.27
22	0.000446	99,276	44	99,254	5,587,810	56.29
23	0.000602	99,232	60	99,202	5,488,556	55.31
24	0.000430	99,172	43	99,151	5,389,354	54.34
25	0.000508	99,130	50	99,104	5,290,203	53.37
26	0.000541	99,079	54	99,052	5,191,099	52.39
27	0.000628	99,026	62	98,994	5,092,046	51.42
28	0.000600	98,963	59	98,934	4,993,052	50.45
29	0.000743	98,904	73	98,867	4,894,118	49.48
30	0.000606	98,831	60	98,801	4,795,251	48.52
31	0.000640	98,771	63	98,739	4,696,450	47.55
32	0.000603	98,707	60	98,678	4,597,711	46.58
33	0.000652	98,648	64	98,616	4,499,034	45.61
34	0.000821	98,584	81	98,543	4,400,418	44.64
35	0.001008	98,503	99	98,453	4,301,875	43.67
36	0.000957	98,403	94	98,356	4,203,422	42.72
37	0.000977	98,309	96	98,261	4,105,065	41.76
38	0.001040	98,213	102	98,162	4,006,804	40.80
39	0.001284	98,111	126	98,048	3,908,642	39.84
40	0.001390	97,985	136	97,917	3,810,594	38.89
41	0.001623	97,849	159	97,770	3,712,677	37.94
42	0.001731	97,690	169	97,606	3,614,907	37.00
43	0.002147	97,521	209	97,416	3,517,301	36.07
44	0.002088	97,312	203	97,210	3,419,885	35.14
45	0.002548	97,109	247	96,985	3,322,675	34.22
46	0.002617	96,861	254	96,734	3,225,690	33.30
47	0.003104	96,608	300	96,458	3,128,956	32.39
48	0.003316	96,308	319	96,148	3,032,498	31.49
49	0.004274	95,988	410	95,783	2,936,350	30.59

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### Complete Life Table for Portugal 2016 - 2018 (Males)

Age	Probability of dying	Survivors at exact age x	Deaths between exact ages x and x+1	Person-years lived between exact ages x and x+1	Person-years lived above age x	Life expectancy
(x)	(qx)	(lx)	(dx)	(Lx)	(Tx)	(ex)
1	2	3	4	5	6	7
50	0.004380	95,578	419	95,369	2,840,566	29.72
51	0.004940	95,160	470	94,925	2,745,198	28.85
52	0.005540	94,689	525	94,427	2,650,273	27.99
53	0.006008	94,165	566	93,882	2,555,846	27.14
54	0.006252	93,599	585	93,307	2,461,964	26.30
55	0.006561	93,014	610	92,709	2,368,657	25.47
56	0.007286	92,404	673	92,067	2,275,948	24.63
57	0.008186	91,730	751	91,355	2,183,881	23.81
58	0.008960	90,980	815	90,572	2,092,526	23.00
59	0.009692	90,164	874	89,727	2,001,954	22.20
60	0.010204	89,291	911	88,835	1,912,227	21.42
61	0.011225	88,379	992	87,883	1,823,392	20.63
62	0.012213	87,387	1,067	86,854	1,735,509	19.86
63	0.012418	86,320	1,072	85,784	1,648,655	19.10
64	0.013511	85,248	1,152	84,672	1,562,871	18.33
65	0.013661	84,096	1,149	83,522	1,478,198	17.58
66	0.014178	82,948	1,176	82,359	1,394,676	16.81
67	0.015630	81,771	1,278	81,132	1,312,317	16.05
68	0.018051	80,493	1,453	79,767	1,231,185	15.30
69	0.018693	79,040	1,478	78,302	1,151,418	14.57
70	0.020642	77,563	1,601	76,762	1,073,116	13.84
71	0.021783	75,962	1,655	75,135	996,354	13.12
72	0.024759	74,307	1,840	73,387	921,219	12.40
73	0.027514	72,467	1,994	71,470	847,832	11.70
74	0.029999	70,474	2,114	69,416	776,361	11.02
75	0.033146	68,359	2,266	67,226	706,945	10.34
76	0.035953	66,094	2,376	64,905	639,718	9.68
77	0.041544	63,717	2,647	62,394	574,813	9.02
78	0.046306	61,070	2,828	59,656	512,419	8.39
79	0.052638	58,242	3,066	56,709	452,763	7.77
80	0.057971	55,177	3,199	53,577	396,054	7.18
81	0.065612	51,978	3,410	50,273	342,476	6.59
82	0.073950	48,568	3,592	46,772	292,204	6.02
83	0.087734	44,976	3,946	43,003	245,432	5.46
84	0.105235	41,030	4,318	38,871	202,429	4.93
85	0.128641	36,712	4,723	34,351	163,558	4.46
86	0.149754	31,990	4,791	29,594	129,207	4.04
87	0.172834	27,199	4,701	24,849	99,612	3.66
88	0.196670	22,498	4,425	20,286	74,764	3.32
89	0.222187	18,073	4,016	16,066	54,478	3.01
90	0.251988	14,058	3,542	12,287	38,413	2.73
91	0.280745	10,515	2,952	9,039	26,126	2.48
92	0.311406	7,563	2,355	6,386	17,087	2.26
93	0.343897	5,208	1,791	4,312	10,701	2.05
94	0.378106	3,417	1,292	2,771	6,389	1.87
95	0.413888	2,125	880	1,685	3,618	1.70
96	0.451063	1,245	562	965	1,933	1.55
97	0.489413	684	335	516	968	1.42
98	0.528686	349	185	257	452	1.29
99	0.568598	165	94	118	195	1.18
100	0.608831	71	43	49	77	1.09

### Complete Life Table for Portugal 2016 - 2018 (Females)

Age (x)	Probability of dying (qx)	Survivors at exact age x (lx)	Deaths between exact ages x and x+1 (dx)	Person-years lived between exact ages x and x+1 (Lx)	Person-years lived above age x (Tx)	Life expectancy (ex)
1	2	3	4	5	6	7
0	0.002665	100,000	267	99,836	8,342,698	83.43
1	0.000190	99,733	19	99,724	8,242,863	82.65
2	0.000097	99,715	10	99,710	8,143,139	81.66
3	0.000198	99,705	20	99,695	8,043,429	80.67
4	0.000083	99,685	8	99,681	7,943,734	79.69
5	0.000100	99,677	10	99,672	7,844,053	78.69
6	0.000135	99,667	14	99,660	7,744,381	77.70
7	0.000104	99,653	10	99,648	7,644,721	76.71
8	0.000063	99,643	6	99,640	7,545,073	75.72
9	0.000041	99,637	4	99,635	7,445,433	74.73
10	0.000102	99,633	10	99,628	7,345,798	73.73
11	0.000040	99,623	4	99,621	7,246,170	72.74
12	0.000098	99,619	10	99,614	7,146,550	71.74
13	0.000078	99,609	8	99,605	7,046,936	70.75
14	0.000105	99,601	10	99,596	6,947,331	69.75
15	0.000124	99,591	12	99,584	6,847,735	68.76
16	0.000110	99,578	11	99,573	6,748,151	67.77
17	0.000106	99,567	11	99,562	6,648,578	66.77
18	0.000136	99,557	14	99,550	6,549,016	65.78
19	0.000194	99,543	19	99,533	6,449,466	64.79
20	0.000196	99,524	20	99,514	6,349,933	63.80
21	0.000229	99,504	23	99,493	6,250,419	62.82
22	0.000221	99,482	22	99,471	6,150,926	61.83
23	0.000207	99,460	21	99,449	6,051,455	60.84
24	0.000202	99,439	20	99,429	5,952,006	59.86
25	0.000228	99,419	23	99,407	5,852,577	58.87
26	0.000145	99,396	14	99,389	5,753,170	57.88
27	0.000292	99,382	29	99,367	5,653,781	56.89
28	0.000218	99,353	22	99,342	5,554,414	55.91
29	0.000332	99,331	33	99,314	5,455,072	54.92
30	0.000212	99,298	21	99,287	5,355,758	53.94
31	0.000267	99,277	26	99,264	5,256,471	52.95
32	0.000325	99,250	32	99,234	5,157,207	51.96
33	0.000402	99,218	40	99,198	5,057,973	50.98
34	0.000377	99,178	37	99,159	4,958,775	50.00
35	0.000412	99,141	41	99,120	4,859,616	49.02
36	0.000474	99,100	47	99,076	4,760,495	48.04
37	0.000517	99,053	51	99,027	4,661,419	47.06
38	0.000638	99,002	63	98,970	4,562,392	46.08
39	0.000670	98,938	66	98,905	4,463,422	45.11
40	0.000713	98,872	70	98,837	4,364,516	44.14
41	0.000778	98,802	77	98,763	4,265,680	43.17
42	0.000991	98,725	98	98,676	4,166,916	42.21
43	0.000884	98,627	87	98,583	4,068,240	41.25
44	0.001111	98,540	110	98,485	3,969,657	40.28
45	0.001054	98,430	104	98,378	3,871,172	39.33
46	0.001361	98,327	134	98,260	3,772,794	38.37
47	0.001337	98,193	131	98,127	3,674,534	37.42
48	0.001600	98,061	157	97,983	3,576,407	36.47
49	0.001793	97,905	176	97,817	3,478,424	35.53

(continues)

### Complete Life Table for Portugal 2016 - 2018 (Females)

Age (x)	Probability of dying (qx)	Survivors at exact age x (lx)	Deaths between exact ages x and x+1 (dx)	Person-years lived between exact ages x and x+1 (Lx)	Person-years lived above age x (Tx)	Life expectancy (ex)
1	2	3	4	5	6	7
50	0.001880	97,729	184	97,637	3,380,607	34.59
51	0.002032	97,545	198	97,446	3,282,970	33.66
52	0.002211	97,347	215	97,240	3,185,524	32.72
53	0.002323	97,132	226	97,019	3,088,284	31.79
54	0.002489	96,906	241	96,786	2,991,265	30.87
55	0.002773	96,665	268	96,531	2,894,479	29.94
56	0.002575	96,397	248	96,273	2,797,948	29.03
57	0.002857	96,149	275	96,011	2,701,675	28.10
58	0.003322	95,874	318	95,715	2,605,664	27.18
59	0.003488	95,555	333	95,389	2,509,949	26.27
60	0.003726	95,222	355	95,045	2,414,561	25.36
61	0.004239	94,867	402	94,666	2,319,516	24.45
62	0.004368	94,465	413	94,259	2,224,850	23.55
63	0.005035	94,053	474	93,816	2,130,591	22.65
64	0.005374	93,579	503	93,328	2,036,775	21.77
65	0.005661	93,076	527	92,813	1,943,447	20.88
66	0.006362	92,549	589	92,255	1,850,635	20.00
67	0.007049	91,960	648	91,636	1,758,380	19.12
68	0.007731	91,312	706	90,959	1,666,743	18.25
69	0.008796	90,606	797	90,208	1,575,784	17.39
70	0.009839	89,809	884	89,367	1,485,577	16.54
71	0.010186	88,926	906	88,473	1,396,209	15.70
72	0.011970	88,020	1,054	87,493	1,307,736	14.86
73	0.013404	86,966	1,166	86,383	1,220,243	14.03
74	0.015909	85,800	1,365	85,118	1,133,860	13.22
75	0.017019	84,435	1,437	83,717	1,048,742	12.42
76	0.019145	82,998	1,589	82,204	965,025	11.63
77	0.022835	81,409	1,859	80,480	882,821	10.84
78	0.026944	79,550	2,143	78,479	802,341	10.09
79	0.031559	77,407	2,443	76,186	723,862	9.35
80	0.034981	74,964	2,622	73,653	647,677	8.64
81	0.040226	72,342	2,910	70,887	574,024	7.93
82	0.046298	69,432	3,215	67,824	503,137	7.25
83	0.057016	66,217	3,775	64,329	435,313	6.57
84	0.071494	62,442	4,464	60,210	370,983	5.94
85	0.091366	57,978	5,297	55,329	310,774	5.36
86	0.109586	52,680	5,773	49,794	255,445	4.85
87	0.129876	46,907	6,092	43,861	205,651	4.38
88	0.151154	40,815	6,169	37,730	161,790	3.96
89	0.174326	34,646	6,040	31,626	124,059	3.58
90	0.202005	28,606	5,779	25,717	92,433	3.23
91	0.228993	22,828	5,227	20,214	66,717	2.92
92	0.258261	17,600	4,545	15,327	46,503	2.64
93	0.289783	13,055	3,783	11,163	31,175	2.39
94	0.323492	9,272	2,999	7,772	20,012	2.16
95	0.359279	6,272	2,254	5,146	12,240	1.95
96	0.396988	4,019	1,595	3,221	7,094	1.77
97	0.436416	2,423	1,058	1,895	3,873	1.60
98	0.477309	1,366	652	1,040	1,979	1.45
99	0.519370	714	371	529	939	1.32
100	0.562252	343	193	247	410	1.20

### Technical note:

The life table is a mathematical model of demographic analysis composed by a set of basic functions which provide a basis for measuring longevity in a given population and for making probabilistic judgments about the evolution of mortality with age and time. It is based on age-specific probabilities of dying estimates obtained from the observed number of deaths and the estimated population exposed to the risk of death in a given period of time, for which it is a period life table. Thus, the life table functions represent the experience of a hypothetical cohort of 100,000 live births (called the radix of the table) through their entire life under the assumption that they are subject to the observed schedule of age-specific mortality rates in a given period of time. The life table for Portugal is referred to as a complete since it contains data for every single year of age from birth to the last applicable age.

The functions of the complete life table are:

- Probability of dying ( $q_x$ ): Probability that a person aged  $x$  exactly will die before reaching age  $(x + 1)$ ;
- Survivors at exact age  $x$  ( $l_x$ ): Number of survivors to exact age  $x$  of the initial cohort of 100,000 live births (radix of the table);
- Deaths between the exact ages  $x$  and  $(x + 1)$  ( $d_x$ ): Number of the initial cohort dying between the exact ages  $x$  and  $(x + 1)$ ;
- Person-years lived between exact ages  $x$  and  $(x + 1)$  ( $L_x$ ): Number of person-years lived by the survivors of the initial cohort between exact ages  $x$  and  $(x + 1)$ ;
- Person-years lived above age  $x$  ( $T_x$ ): Total number of person-years lived by survivors after age  $x$ ;
- Life expectancy at age  $x$  ( $e_x$ ): The average number of years a person can expect to live from exact age  $x$ .

The Complete Life Table for Portugal, which is produced annually, has a reference period of 3 years. The calculation of age-specific probabilities of dying is based on the number of deaths for a period of three consecutive years and the respective estimates for the population exposed-to-the risk of death. Due to the variability in the probabilities of dying at advanced ages (over 85 years) the method proposed by Denuit and Goderniaux (2005) is applied for smoothing and extrapolation to the last applicable age (closing age of the life table).

Life expectancy at birth, one of the most important longevity indicators provided by the life table, is a well-known summary measure of mortality, widely employed in comparisons through time and between populations. When analysing changes in life expectancy at birth or studying differences in life expectancy between two populations, it is useful to estimate the contributions of the various age groups that explain them. In the present exercise, the variation of life expectancy values at birth between 2006-2008 and 2016-2018 was analysed using the method proposed by Andreev, E. M., Shkolnikov, V. M., & Begun, A. (2002).

### References:

Andreev, E. M., Shkolnikov, V. M., & Begun, A. (2002). Algorithm for decomposition of differences between aggregate demographic measures and its application to life expectancies, healthy life expectancies, parity-progression ratios and total fertility rates. *Demographic Research*, 7, 499-522.

Denuit, M., & Goderniaux, A. C. (2005). Closing and projecting lifetables using log-linear models. *Bulletin of the Swiss Association of Actuaries*, 1, 29-49.

### Definitions:

**Life expectancy at birth:** The mean number of years that a newborn child can expect to live if subjected throughout his life to the current mortality conditions (age specific probabilities of dying).

**Life expectancy at age 65:** The mean number of years still to be lived by a person who has reached the exact age 65, if subjected throughout the rest of his life to the current age specific probabilities of dying.

### Methodological information (only Portuguese version) can be found at:

<http://smi.ine.pt/DocumentacaoMetodologica/Detalhes/1239>.

### Detailed statistical information available at:

[www.ine.pt](http://www.ine.pt) > Statistical data > Population > Mortality and life expectancy