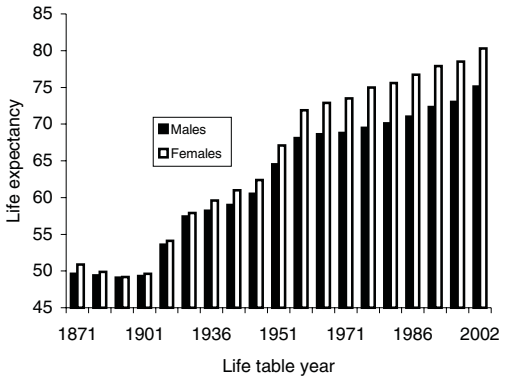
Central Statistics Office
An Phríomh-Oifig Staidrimh

23 June 2004

Irish Life Tables No. 14
2001-2003

Life expectancy at birth



Life expectancy at birth

Area	Males	Females
Ireland	75.1	80.3
EU 15	75.8	81.6
EU 25	74.8	81.1

Women live over 5 years longer than men

In 2002 the life expectancy at birth was 75.1 years for males and 80.3 years for females - gap of 5.2 years. Between 1996 and 2002 life expectancy improved by 2.1 years for males and 1.8 years for females. The rate of improvement over the period was one of the fastest observed in recent years. *See Table 3.*

In 2002 the average EU 15 life expectancy at birth was 75.8 years for males and 81.6 years for females, while the average EU 25 life expectancy at birth was 74.8 years for males and 81.1 years for females. *See Table 4.*

This places Irish male life expectancy at birth below the EU 15 average but above the EU 25 average. However in the case of Irish females, their life expectancy at birth is below both the EU 15 and EU 25 average.

The highest European life expectancy at birth in males is reported in Sweden at 77.7 years and for females, Spain at 83.1 years.

In 2002 Irish male infant life expectancy ranked joint 8th with Belgium out of those reported in the EU 15 and was below Malta. Similarly the life expectancy of Irish baby girls ranked second last out of those reported in the EU 15 and was below both Malta and Slovenia.

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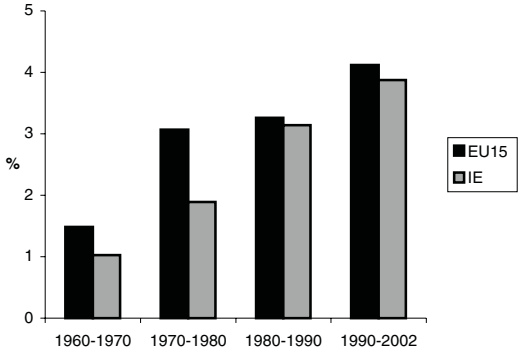
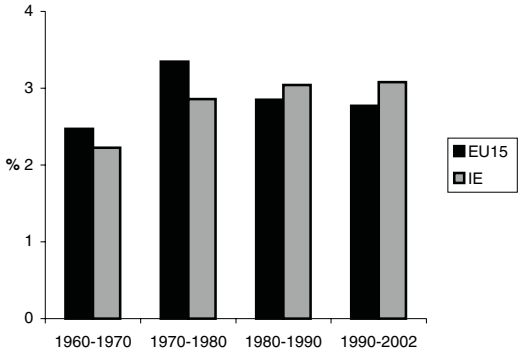
Percentage improvement in male life expectancy at birth



Percentage improvement in female life expectancy at birth



Improvement in Irish female life expectancy at birth above EU 15 average

Life expectancy at birth

Year	Males	Females
1960	68.1	71.9
1970	68.8	73.5
1980	70.1	75.6
1990	72.3	77.9
2002	75.1	80.3

Life expectancy at birth has increased consistently for both men and women since the first life table was compiled in 1926. In that year males had a life expectancy at birth of 57.4 years while it was slightly higher for females at 57.9 years.

The improvement is a direct result of decreasing mortality, particularly infant mortality rates over the period. Much of the improvement occurred between 1946 and 1961 with more modest increases since then. *See Table 3.*

In 2002 a baby boy can expect to live 75.1 years, an improvement of 2.8 years or 3.9% over the last decade. This is below the corresponding EU 15 average improvement of 3 years (4.1%) over the same period. *See Table 5.*

In 2002 a baby girl can expect to live 80.3 years, an increase of 2.4 years or 3.1% over the last decade. This is above the EU 15 average increase of 2.2 years (2.8%) over the same period.

Since 1980, the improvement in Irish female life expectancy at birth continues to be above the EU 15 average.

Life expectancy at age 65 below EU 15 average

Life expectancy at age 65

Area	Males	Females
Ireland	15.4	18.7
EU 15	16.3	19.9
EU 25	16.0	19.6

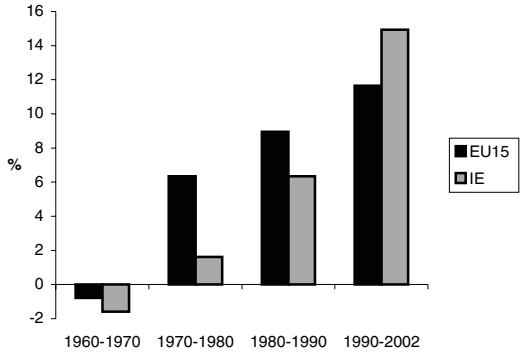
In 2002 the average EU 15 life expectancy at age 65 was 16.3 years for males and 19.9 years for females. Similarly the EU 25 average is 16.0 and 19.6 years respectively.

This places Irish life expectancy at age 65 below both the EU 15 average and the EU 25 average for both males and females. *See Table 4.*

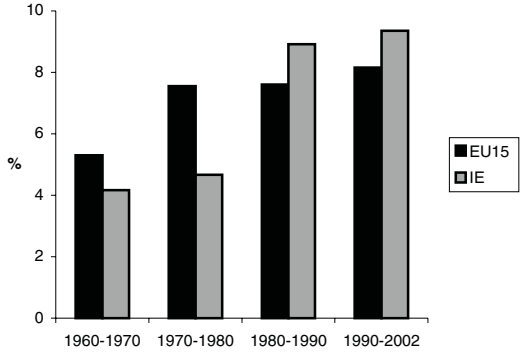
The highest life expectancy for both sexes is experienced in Sweden at 16.9 years for males and 20 years for females.

Ireland is joint bottom with Denmark of the EU 15 league table but higher than the new Member States for 65 year old males. For females Ireland is second from the bottom in the EU 15 league table at this age and also below Malta and Slovenia.

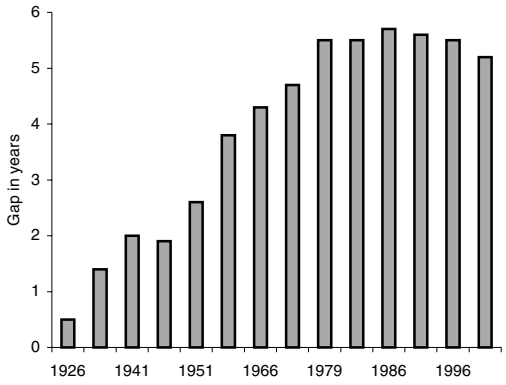
Percentage improvement in male life expectancy at age 65



Percentage improvement in female life expectancy at age 65



The gender gap



Improvement in Irish life expectancy at age 65 above EU 15 average

Life expectancy at age 65

Year	Males	Females
1960	12.6	14.4
1970	12.4	15.0
1980	12.6	15.7
1990	13.4	17.1
2002	15.4	18.7

In 2002 a 65 year old males expects to live 15.4 years, an improvement of 2 years or 14.9% over the last decade. This is above the corresponding EU 15 average improvement in the same period of 1.7 years (11.6%).

Since 1990, the improvement in Irish male life expectancy at age 65 has been above the EU 15 average.

In 2002 a 65 year old female can expect to live 18.7 years, an increase of 1.6 years or 9.4% over the last decade. This is above the corresponding EU 15 average improvement in the same period of 1.5 years (8.2%).

Since 1980 the improvement in Irish female life expectancy at age 65 has been above the EU average.

The most dramatic increase in life expectancy for both sexes occurred over the last 6 years, where male life expectancy increased by 1.5 years (11%) and female life expectancy increased by 1.3 years (7%).

The gap between the sexes is narrowing

In 1926 males had life expectancy of 57.4 years while it was 0.5 years higher for females at 57.9 years. This gap widened significantly over the following 60 years to stand at 5.7 years in 1986. Since then it has tended to narrow somewhat down to 5.2 years in 2002.

A similar decrease has been experienced in the EU 15, with a gap of 6.7 years in 1980 now reduced to a gap of 5.8 years in 2002. In 2002 the largest gap is in Spain at 7.4 years while the smallest is in Sweden at 4.4 years. *See Table 5.*

Table 1 Irish Life Table No. 14 2001-2003, Males

Age x	l_x	d_x	p_x	q_x	L_x	T_x	e^o_x	Age x
0	100,000	651	0.99349	0.00651	99,421	7,506,685	75.07	0
1	99,349	48	0.99952	0.00048	99,325	7,407,264	74.56	1
2	99,301	40	0.99959	0.00041	99,281	7,307,939	73.59	2
3	99,261	21	0.99979	0.00021	99,250	7,208,658	72.62	3
4	99,240	20	0.99979	0.00021	99,230	7,109,407	71.64	4
5	99,220	15	0.99985	0.00015	99,212	7,010,178	70.65	5
6	99,205	11	0.99989	0.00011	99,199	6,910,965	69.66	6
7	99,194	15	0.99985	0.00015	99,187	6,811,766	68.67	7
8	99,179	12	0.99988	0.00012	99,173	6,712,580	67.68	8
9	99,167	10	0.99990	0.00010	99,162	6,613,407	66.69	9
10	99,157	10	0.99990	0.00010	99,152	6,514,245	65.70	10
11	99,147	11	0.99989	0.00011	99,141	6,415,093	64.70	11
12	99,136	15	0.99985	0.00015	99,128	6,315,952	63.71	12
13	99,120	23	0.99977	0.00023	99,109	6,216,824	62.72	13
14	99,097	34	0.99965	0.00035	99,080	6,117,715	61.73	14
15	99,063	47	0.99952	0.00048	99,039	6,018,635	60.76	15
16	99,016	60	0.99939	0.00061	98,986	5,919,596	59.78	16
17	98,956	71	0.99928	0.00072	98,920	5,820,610	58.82	17
18	98,884	81	0.99919	0.00081	98,844	5,721,690	57.86	18
19	98,804	90	0.99909	0.00091	98,759	5,622,846	56.91	19
20	98,714	98	0.99901	0.00099	98,665	5,524,087	55.96	20
21	98,616	105	0.99894	0.00106	98,564	5,425,422	55.02	21
22	98,511	110	0.99889	0.00111	98,457	5,326,858	54.07	22
23	98,402	112	0.99886	0.00114	98,345	5,228,401	53.13	23
24	98,289	113	0.99885	0.00115	98,233	5,130,056	52.19	24
25	98,176	112	0.99886	0.00114	98,120	5,031,823	51.25	25
26	98,064	111	0.99887	0.00113	98,009	4,933,703	50.31	26
27	97,954	110	0.99888	0.00112	97,899	4,835,694	49.37	27
28	97,844	109	0.99889	0.00111	97,789	4,737,795	48.42	28
29	97,735	107	0.99891	0.00109	97,682	4,640,005	47.48	29
30	97,629	105	0.99893	0.00107	97,576	4,542,324	46.53	30
31	97,524	104	0.99894	0.00106	97,472	4,444,747	45.58	31
32	97,420	104	0.99893	0.00107	97,368	4,347,275	44.62	32
33	97,317	106	0.99892	0.00108	97,264	4,249,907	43.67	33
34	97,211	108	0.99889	0.00111	97,157	4,152,643	42.72	34
35	97,103	112	0.99885	0.00115	97,047	4,055,486	41.76	35
36	96,991	117	0.99880	0.00120	96,933	3,958,439	40.81	36
37	96,875	123	0.99873	0.00127	96,813	3,861,506	39.86	37
38	96,752	131	0.99865	0.00135	96,686	3,764,693	38.91	38
39	96,621	140	0.99855	0.00145	96,551	3,668,007	37.96	39
40	96,481	150	0.99844	0.00156	96,406	3,571,456	37.02	40
41	96,330	162	0.99831	0.00169	96,249	3,475,050	36.07	41
42	96,168	176	0.99817	0.00183	96,080	3,378,801	35.13	42
43	95,992	189	0.99803	0.00197	95,898	3,282,721	34.20	43
44	95,803	204	0.99787	0.00213	95,701	3,186,823	33.26	44
45	95,599	220	0.99770	0.00230	95,489	3,091,122	32.33	45
46	95,379	239	0.99749	0.00251	95,260	2,995,633	31.41	46
47	95,140	263	0.99723	0.00277	95,008	2,900,373	30.49	47
48	94,877	293	0.99692	0.00308	94,730	2,805,364	29.57	48
49	94,584	326	0.99656	0.00344	94,421	2,710,634	28.66	49
50	94,259	362	0.99616	0.00384	94,077	2,616,213	27.76	50
51	93,896	402	0.99572	0.00428	93,695	2,522,135	26.86	51
52	93,494	446	0.99523	0.00477	93,271	2,428,440	25.97	52
53	93,048	490	0.99473	0.00527	92,803	2,335,169	25.10	53
54	92,558	536	0.99421	0.00579	92,290	2,242,365	24.23	54

Table 1 Irish Life Table No. 14 2001-2003, Males (contd.)

Age x	l_x	d_x	p_x	q_x	L_x	T_x	e^o_x	Age x
55	92,022	586	0.99363	0.00637	91,729	2,150,076	23.36	55
56	91,436	643	0.99297	0.00703	91,114	2,058,347	22.51	56
57	90,793	709	0.99219	0.00781	90,438	1,967,233	21.67	57
58	90,083	783	0.99131	0.00869	89,692	1,876,795	20.83	58
59	89,300	863	0.99033	0.00967	88,869	1,787,103	20.01	59
60	88,437	950	0.98925	0.01075	87,962	1,698,234	19.20	60
61	87,487	1046	0.98804	0.01196	86,964	1,610,272	18.41	61
62	86,441	1152	0.98668	0.01332	85,865	1,523,308	17.62	62
63	85,289	1265	0.98517	0.01483	84,657	1,437,444	16.85	63
64	84,024	1384	0.98353	0.01647	83,332	1,352,787	16.10	64
65	82,640	1511	0.98172	0.01828	81,884	1,269,455	15.36	65
66	81,129	1647	0.97970	0.02030	80,306	1,187,571	14.64	66
67	79,482	1792	0.97745	0.02255	78,586	1,107,265	13.93	67
68	77,690	1944	0.97498	0.02502	76,718	1,028,679	13.24	68
69	75,746	2097	0.97232	0.02768	74,698	951,961	12.57	69
70	73,649	2256	0.96937	0.03063	72,522	877,263	11.91	70
71	71,394	2424	0.96605	0.03395	70,182	804,742	11.27	71
72	68,970	2602	0.96227	0.03773	67,669	734,560	10.65	72
73	66,368	2788	0.95799	0.04201	64,974	666,891	10.05	73
74	63,579	2974	0.95323	0.04677	62,093	601,917	9.47	74
75	60,606	3156	0.94793	0.05207	59,028	539,825	8.91	75
76	57,450	3330	0.94204	0.05796	55,785	480,797	8.37	76
77	54,120	3491	0.93549	0.06451	52,375	425,012	7.85	77
78	50,629	3641	0.92809	0.07191	48,809	372,637	7.36	78
79	46,989	3770	0.91978	0.08022	45,104	323,828	6.89	79
80	43,219	3862	0.91064	0.08936	41,288	278,724	6.45	80
81	39,357	3905	0.90078	0.09922	37,404	237,436	6.03	81
82	35,452	3886	0.89038	0.10962	33,509	200,031	5.64	82
83	31,566	3810	0.87930	0.12070	29,661	166,522	5.28	83
84	27,756	3682	0.86733	0.13267	25,915	136,862	4.93	84
85	24,073	3501	0.85455	0.14545	22,323	110,947	4.61	85
86	20,572	3270	0.84105	0.15895	18,937	88,624	4.31	86
87	17,302	2994	0.82693	0.17307	15,805	69,687	4.03	87
88	14,308	2689	0.81204	0.18796	12,963	53,882	3.77	88
89	11,618	2365	0.79642	0.20358	10,436	40,919	3.52	89
90	9,253	2035	0.78006	0.21994	8,236	30,483	3.29	90
91	7,218	1711	0.76297	0.23703	6,363	22,248	3.08	91
92	5,507	1403	0.74515	0.25485	4,805	15,885	2.88	92
93	4,104	1122	0.72659	0.27341	3,543	11,080	2.70	93
94	2,982	873	0.70730	0.29270	2,545	7,537	2.53	94
95	2,109	660	0.68728	0.31272	1,779	4,992	2.37	95
96	1,449	483	0.66652	0.33348	1,208	3,213	2.22	96
97	966	343	0.64503	0.35497	795	2,005	2.08	97
98	623	235	0.62281	0.37719	506	1,210	1.94	98
99	388	155	0.59985	0.40015	310	705	1.82	99
100	233	99	0.57616	0.42384	183	394	1.69	100
101	134	60	0.55174	0.44826	104	211	1.57	101
102	74	35	0.52658	0.47342	56	107	1.44	102
103	39	19	0.50069	0.49931	29	50	1.29	103
104	20	10	0.47407	0.52593	14	21	1.08	104
105	9	5	0.44671	0.55329	7	7	0.72	105

Table 2 Irish Life Table No. 14 2001-2003, Females

Age x	l_x	d_x	p_x	q_x	L_x	T_x	e^o_x	Age x
0	100,000	516	0.99484	0.00516	99,543	8,025,136	80.25	0
1	99,484	37	0.99963	0.00037	99,466	7,925,594	79.67	1
2	99,447	23	0.99977	0.00023	99,436	7,826,128	78.70	2
3	99,424	19	0.99981	0.00019	99,415	7,726,692	77.71	3
4	99,406	16	0.99984	0.00016	99,398	7,627,277	76.73	4
5	99,390	9	0.99991	0.00009	99,385	7,527,879	75.74	5
6	99,380	8	0.99991	0.00009	99,376	7,428,494	74.75	6
7	99,372	10	0.99990	0.00010	99,367	7,329,118	73.75	7
8	99,362	10	0.99990	0.00010	99,357	7,229,752	72.76	8
9	99,352	10	0.99990	0.00010	99,347	7,130,395	71.77	9
10	99,342	10	0.99990	0.00010	99,337	7,031,048	70.78	10
11	99,332	11	0.99989	0.00011	99,327	6,931,710	69.78	11
12	99,321	13	0.99987	0.00013	99,314	6,832,384	68.79	12
13	99,308	15	0.99984	0.00016	99,300	6,733,069	67.80	13
14	99,292	19	0.99981	0.00019	99,283	6,633,769	66.81	14
15	99,274	23	0.99977	0.00023	99,262	6,534,486	65.82	15
16	99,251	26	0.99974	0.00026	99,238	6,435,224	64.84	16
17	99,225	29	0.99971	0.00029	99,210	6,335,986	63.85	17
18	99,196	31	0.99969	0.00031	99,180	6,236,776	62.87	18
19	99,165	32	0.99968	0.00032	99,149	6,137,596	61.89	19
20	99,133	33	0.99967	0.00033	99,116	6,038,447	60.91	20
21	99,100	34	0.99966	0.00034	99,083	5,939,330	59.93	21
22	99,066	34	0.99966	0.00034	99,049	5,840,247	58.95	22
23	99,032	34	0.99966	0.00034	99,015	5,741,198	57.97	23
24	98,998	33	0.99966	0.00034	98,982	5,642,183	56.99	24
25	98,965	32	0.99967	0.00033	98,949	5,543,201	56.01	25
26	98,932	32	0.99968	0.00032	98,917	5,444,253	55.03	26
27	98,901	32	0.99968	0.00032	98,885	5,345,336	54.05	27
28	98,869	32	0.99967	0.00033	98,852	5,246,452	53.06	28
29	98,836	33	0.99967	0.00033	98,820	5,147,599	52.08	29
30	98,803	34	0.99965	0.00035	98,786	5,048,780	51.10	30
31	98,769	36	0.99963	0.00037	98,751	4,949,994	50.12	31
32	98,733	40	0.99960	0.00040	98,713	4,851,243	49.14	32
33	98,693	46	0.99954	0.00046	98,670	4,752,530	48.15	33
34	98,647	53	0.99946	0.00054	98,620	4,653,861	47.18	34
35	98,593	62	0.99937	0.00063	98,562	4,555,241	46.20	35
36	98,531	71	0.99928	0.00072	98,496	4,456,678	45.23	36
37	98,461	78	0.99920	0.00080	98,421	4,358,182	44.26	37
38	98,382	84	0.99914	0.00086	98,340	4,259,761	43.30	38
39	98,298	90	0.99909	0.00091	98,253	4,161,421	42.33	39
40	98,208	95	0.99903	0.00097	98,161	4,063,168	41.37	40
41	98,113	101	0.99897	0.00103	98,063	3,965,007	40.41	41
42	98,012	109	0.99889	0.00111	97,958	3,866,944	39.45	42
43	97,903	119	0.99879	0.00121	97,844	3,768,986	38.50	43
44	97,785	129	0.99868	0.00132	97,720	3,671,142	37.54	44
45	97,655	141	0.99855	0.00145	97,585	3,573,422	36.59	45
46	97,514	155	0.99841	0.00159	97,437	3,475,837	35.64	46
47	97,359	173	0.99823	0.00177	97,273	3,378,401	34.70	47
48	97,186	194	0.99801	0.00199	97,090	3,281,128	33.76	48
49	96,993	218	0.99776	0.00224	96,884	3,184,039	32.83	49
50	96,775	244	0.99748	0.00252	96,653	3,087,155	31.90	50
51	96,531	271	0.99719	0.00281	96,396	2,990,502	30.98	51
52	96,260	297	0.99691	0.00309	96,111	2,894,106	30.07	52
53	95,963	321	0.99665	0.00335	95,802	2,797,995	29.16	53
54	95,642	343	0.99642	0.00358	95,470	2,702,193	28.25	54

Table 2 Irish Life Table No. 14 2001-2003, Females (contd.)

Age x	l_x	d_x	p_x	q_x	L_x	T_x	e^o_x	Age x
55	95,299	366	0.99616	0.00384	95,116	2,606,722	27.35	55
56	94,933	393	0.99586	0.00414	94,737	2,511,606	26.46	56
57	94,540	429	0.99546	0.00454	94,325	2,416,870	25.56	57
58	94,111	474	0.99496	0.00504	93,873	2,322,544	24.68	58
59	93,636	525	0.99439	0.00561	93,374	2,228,671	23.80	59
60	93,111	582	0.99375	0.00625	92,820	2,135,297	22.93	60
61	92,529	643	0.99305	0.00695	92,208	2,042,477	22.07	61
62	91,887	708	0.99230	0.00770	91,533	1,950,269	21.22	62
63	91,179	772	0.99153	0.00847	90,793	1,858,736	20.39	63
64	90,406	837	0.99074	0.00926	89,988	1,767,944	19.56	64
65	89,569	907	0.98987	0.01013	89,116	1,677,956	18.73	65
66	88,662	989	0.98884	0.01116	88,168	1,588,840	17.92	66
67	87,673	1088	0.98759	0.01241	87,129	1,500,672	17.12	67
68	86,585	1202	0.98612	0.01388	85,984	1,413,543	16.33	68
69	85,383	1326	0.98447	0.01553	84,720	1,327,559	15.55	69
70	84,056	1463	0.98260	0.01740	83,325	1,242,840	14.79	70
71	82,594	1612	0.98048	0.01952	81,788	1,159,515	14.04	71
72	80,982	1778	0.97805	0.02195	80,093	1,077,727	13.31	72
73	79,204	1949	0.97539	0.02461	78,229	997,634	12.60	73
74	77,255	2124	0.97250	0.02750	76,192	919,405	11.90	74
75	75,130	2311	0.96924	0.03076	73,975	843,212	11.22	75
76	72,819	2516	0.96544	0.03456	71,561	769,237	10.56	76
77	70,303	2747	0.96092	0.03908	68,929	697,676	9.92	77
78	67,556	3007	0.95549	0.04451	66,052	628,746	9.31	78
79	64,549	3282	0.94916	0.05084	62,908	562,694	8.72	79
80	61,267	3552	0.94202	0.05798	59,491	499,786	8.16	80
81	57,715	3797	0.93421	0.06579	55,816	440,295	7.63	81
82	53,918	3997	0.92588	0.07412	51,920	384,479	7.13	82
83	49,921	4150	0.91688	0.08312	47,846	332,559	6.66	83
84	45,772	4257	0.90699	0.09301	43,643	284,713	6.22	84
85	41,514	4305	0.89629	0.10371	39,362	241,070	5.81	85
86	37,209	4283	0.88489	0.11511	35,067	201,708	5.42	86
87	32,926	4184	0.87292	0.12708	30,833	166,641	5.06	87
88	28,741	4019	0.86017	0.13983	26,732	135,808	4.73	88
89	24,722	3790	0.84671	0.15329	22,828	109,076	4.41	89
90	20,933	3505	0.83254	0.16746	19,180	86,248	4.12	90
91	17,427	3178	0.81765	0.18235	15,838	67,068	3.85	91
92	14,249	2821	0.80204	0.19796	12,839	51,229	3.60	92
93	11,429	2449	0.78571	0.21429	10,204	38,390	3.36	93
94	8,980	2077	0.76867	0.23133	7,941	28,186	3.14	94
95	6,902	1719	0.75091	0.24909	6,043	20,245	2.93	95
96	5,183	1387	0.73244	0.26756	4,490	14,203	2.74	96
97	3,796	1089	0.71324	0.28676	3,252	9,713	2.56	97
98	2,708	830	0.69333	0.30667	2,292	6,461	2.39	98
99	1,877	614	0.67271	0.32729	1,570	4,168	2.22	99
100	1,263	440	0.65137	0.34863	1,043	2,598	2.06	100
101	823	305	0.62931	0.37069	670	1,556	1.89	101
102	518	204	0.60653	0.39347	416	885	1.71	102
103	314	131	0.58304	0.41696	249	470	1.50	103
104	183	81	0.55883	0.44117	143	221	1.21	104
105	102	48	0.53391	0.46609	78	78	0.77	105

Table 3 Expectation of Life at various ages, 1871-2002

		Age in years										
Irish Life Table No.	Period	0	5	10	15	20	25	35	45	55	65	75
						Males						
	1870-72	49.6			46.8		39.0	31.8	24.4	17.5	11.1	6.5
	1881-83	49.4			46.0		38.1	30.7	23.4	16.7	10.8	6.3
	1890-92	49.1			45.8		37.8	30.6	23.4	16.5	10.5	5.8
	1900-02	49.3			46.2		38.2	31.0	23.8	16.9	10.8	5.8
	1910-12	53.6			49.2		41.0	33.5	25.9	18.9	13.0	8.0
1	1925-27	57.4	59.5	55.2	50.7	46.4	42.4	34.4	26.5	19.1	12.8	7.7
2	1935-37	58.2	60.1	55.8	51.2	46.8	42.7	34.4	26.3	18.8	12.5	7.9
3	1940-42	59.0	60.7	56.3	51.6	47.2	43.1	34.8	26.5	18.8	12.3	7.3
4	1945-47	60.5	61.5	56.9	52.2	47.8	43.5	34.9	26.4	18.6	12.0	6.9
5	1950-52	64.5	63.6	58.8	54.0	49.3	44.8	35.8	27.0	19.0	12.1	6.8
6	1960-62	68.1	65.7	60.8	56.0	51.1	46.4	37.0	27.8	19.5	12.6	7.1
7	1965-67	68.6	65.7	60.8	56.0	51.2	46.4	36.9	27.7	19.3	12.4	7.3
8	1970-72	68.8	65.5	60.6	55.7	51.0	46.3	36.8	27.6	19.3	12.4	7.3
9	1978-80	69.5	65.7	60.8	55.9	51.1	46.4	36.9	27.7	19.3	12.4	7.1
10	1980-82	70.1	66.1	61.3	56.4	51.6	46.9	37.3	28.1	19.6	12.6	7.3
11	1985-87	71.0	66.8	61.9	57.0	52.2	47.4	37.9	28.5	19.8	12.6	7.3
12	1990-92	72.3	68.0	63.1	58.2	53.4	48.6	39.2	29.7	20.9	13.4	7.8
13	1995-97	73.0	68.6	63.6	58.7	53.9	49.3	39.8	30.4	21.5	13.8	8.0
14	2001-03	75.1	70.7	65.7	60.8	56.0	51.3	41.8	32.3	23.4	15.4	8.9
						Females						
	1870-72	50.9			47.7		39.8	32.4	25.0	17.7	11.2	6.6
	1881-83	49.9			46.2		38.3	31.0	23.7	16.7	10.7	6.3
	1890-92	49.2			45.5		37.7	30.5	23.2	16.2	10.3	5.9
	1900-02	49.6			46.2		38.3	30.9	23.7	16.7	10.6	5.9
	1910-12	54.1			49.4		41.4	33.8	26.4	19.2	13.4	8.2
1	1925-27	57.9	59.2	54.9	50.5	46.4	42.4	34.7	27.0	19.6	13.4	8.4
2	1935-37	59.6	60.4	56.1	51.6	47.3	43.2	35.2	27.2	19.6	13.1	8.4
3	1940-42	61.0	61.4	56.9	52.4	48.0	44.0	35.8	27.6	19.8	13.2	8.1
4	1945-47	62.4	62.5	57.9	53.2	48.8	44.7	36.3	28.0	20.1	13.1	7.7
5	1950-52	67.1	65.4	60.6	55.8	51.2	46.6	37.7	28.9	20.6	13.3	7.6
6	1960-62	71.9	69.0	64.1	59.2	54.3	49.5	39.9	30.7	22.1	14.4	8.1
7	1965-67	72.9	69.6	64.8	59.8	54.9	50.1	40.4	31.1	22.4	14.7	8.4
8	1970-72	73.5	70.0	65.1	60.2	55.3	50.5	40.8	31.4	22.7	15.0	8.5
9	1978-80	75.0	71.0	66.1	61.1	56.2	51.4	41.6	32.1	23.3	15.4	8.8
10	1980-82	75.6	71.5	66.6	61.7	56.8	51.9	42.1	32.6	23.7	15.7	9.1
11	1985-87	76.7	72.4	67.5	62.5	57.6	52.7	42.9	33.3	24.3	16.2	9.5
12	1990-92	77.9	73.5	68.6	63.6	58.7	53.8	44.0	34.5	25.4	17.1	10.2
13	1995-97	78.5	74.1	69.1	64.2	59.3	54.4	44.6	35.0	25.8	17.4	10.4
14	2001-03	80.3	75.7	70.8	65.8	60.9	56.0	46.2	36.6	27.4	18.7	11.2

1871-1911 data from the Report on the Commission on Emigration and other Population Problems 1948-1954

Life expectancy at age 65

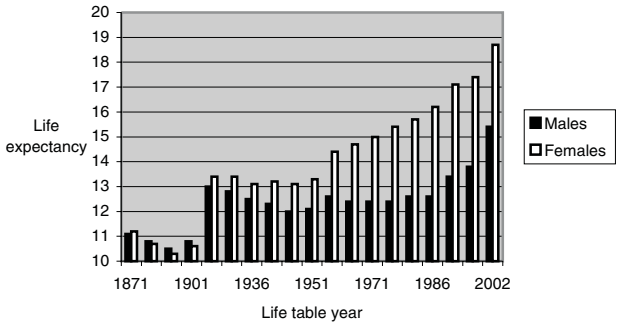


Table 4 Life Expectancy in 2002 at various ages for some European Countries

	Age							
	0	15	30	45	55	65	75	85
				Males				
EU15 European Union (15 countries)	75.8	61.4	47.0	32.9	24.2	16.3	9.8	5.0
EU 25	74.8	60.4	46.1	32.1	23.6	16.0	9.7	5.0
BE Belgium	75.1	60.7	46.4	32.3	23.7	15.8	9.3	4.7
DK Denmark	74.8	60.3	45.9	31.8	23.1	15.4	9.1	4.8
DE Germany (including ex-GDR from 1991)	:	:	:	:	:	:	:	:
GR Greece	75.4	:	:	:	:	:	:	:
ES Spain	75.7	:	:	:	:	:	:	:
FR France	75.6	:	:	:	:	:	:	:
IE Ireland	**75.1**	**60.8**	**46.5**	**32.3**	**23.4**	**15.4**	**8.9**	**4.6**
IT Italy	76.8	:	:	:	:	:	:	:
LU Luxembourg (Grand-Duché)	74.9	60.7	46.5	32.4	23.6	15.9	9.6	4.9
NL Netherlands	76.0	61.6	47.0	32.7	23.7	15.6	9.0	4.6
AT Austria	75.8	61.3	47.0	32.9	24.2	16.3	9.8	5.0
PT Portugal	73.8	59.5	45.3	31.9	23.4	15.6	9.1	4.6
FI Finland	74.9	60.3	46.0	32.1	23.6	15.8	9.3	4.8
SE Sweden	77.7	63.2	48.6	34.3	25.2	16.9	9.9	4.9
UK United Kingdom	:	:	:	:	:	:	:	:
CY Cyprus	:	:	:	:	:	:	:	:
CZ Czech Republic	72.1	57.7	43.3	29.3	21.0	14.0	8.4	4.4
EE Estonia	65.3	51.1	37.6	25.2	18.5	12.7	8.1	4.7
HU Hungary	68.4	54.1	39.7	26.4	19.3	13.1	8.2	4.6
LT Lithuania	66.3	52.2	38.6	26.2	19.2	13.3	8.5	4.9
LV Latvia	64.8	50.9	37.3	25.0	18.1	12.5	8.0	4.7
MT Malta	75.9	61.5	47.0	32.5	23.3	14.9	8.5	3.9
PL Poland	70.4	56.2	42.0	28.4	20.6	14.0	8.7	4.9
SI Slovenia	72.7	58.3	44.0	30.1	21.8	14.6	8.8	4.6
SK Slovakia	69.9	55.6	41.3	27.6	19.8	13.3	8.2	4.6
				Females				
EU15 European Union (15 countries)	81.6	67.1	52.4	37.9	28.6	19.9	12.1	6.0
EU 25	81.1	66.6	51.9	37.4	28.2	19.6	11.8	5.9
BE Belgium	81.1	66.6	51.9	37.4	28.3	19.7	11.8	5.7
DK Denmark	79.5	64.9	50.1	35.7	26.6	18.3	11.4	6.2
DE Germany (including ex-GDR from 1991)	:	:	:	:	:	:	:	:
GR Greece	80.7	:	:	:	:	:	:	:
ES Spain	83.1	:	:	:	:	:	:	:
FR France	82.9	:	:	:	:	:	:	:
IE Ireland	**80.3**	**65.8**	**51.1**	**36.6**	**27.4**	**18.7**	**11.2**	**5.8**
IT Italy	82.9	:	:	:	:	:	:	:
LU Luxembourg (Grand-Duché)	81.5	67.1	52.2	37.7	28.6	19.9	12.1	6.4
NL Netherlands	80.7	66.2	51.4	37.0	27.9	19.3	11.6	5.8
AT Austria	81.7	67.0	52.3	37.8	28.5	19.7	11.8	5.8
PT Portugal	80.5	66.1	51.4	37.0	27.8	19.0	11.1	5.2
FI Finland	81.5	66.8	52.1	37.6	28.4	19.6	11.6	5.5
SE Sweden	82.1	67.5	52.7	38.1	28.8	20.0	12.2	6.1
UK United Kingdom	:	:	:	:	:	:	:	:
CY Cyprus	:	:	:	:	:	:	:	:
CZ Czech Republic	78.7	64.2	49.4	34.9	25.8	17.4	10.1	5.0
EE Estonia	77.1	62.7	48.0	34.0	25.4	17.3	10.2	5.1
HU Hungary	76.7	62.4	47.7	33.6	25.0	17.0	10.1	5.1
LT Lithuania	77.5	63.3	48.7	34.6	25.8	17.7	10.6	5.3
LV Latvia	76.0	62.1	47.5	33.4	24.8	16.9	10.0	5.0
MT Malta	81.0	66.6	51.8	37.2	27.8	19.0	11.6	6.3
PL Poland	78.7	64.4	49.7	35.2	26.3	17.9	10.6	5.3
SI Slovenia	80.5	65.9	51.1	36.6	27.5	18.9	11.3	5.6
SK Slovakia	77.8	63.6	48.9	34.4	25.3	17.0	10.0	5.0

Source : Eurostat New Cronos Database

Table 5 Life expectancy at birth and at age 65 for some European Countries since 1960

	Age = 0					Age = 65				
	1960	1970	1980	1990	2002	1960	1970	1980	1990	2002
					Males					
EU15 European Union (15 countries)	67.4	68.4	70.5	72.8	75.8	12.7	12.6	13.4	14.6	16.3
BE Belgium	67.7	67.8	70.0	72.7	75.1	12.4	12.1	13.0	14.3	15.8
DK Denmark	70.4	70.7	71.2	72.0	74.8	13.7	13.7	13.6	14.0	15.4
DE Germany *	66.9	67.3	69.9	72.0	:	12.4	11.9	13.0	14.0	:
GR Greece	67.3	70.1	72.2	74.6	75.4	13.4	13.9	14.6	15.7	:
ES Spain	67.4	69.2	72.5	73.3	75.7	13.1	13.3	14.8	15.4	:
FR France	66.9	68.4	70.2	72.8	75.6	12.5	13.0	14.0	15.5	:
IE Ireland	**68.1**	**68.8**	**70.1**	**72.3**	**75.1**	**12.6**	**12.4**	**12.6**	**13.4**	**15.4**
IT Italy	67.2	69.0	70.6	73.6	76.8	13.4	13.3	13.3	15.1	:
LU Luxembourg (Grand-Duché)	66.5	67.1	69.1	72.3	74.9	12.5	12.1	12.3	14.2	15.9
NL Netherlands	71.5	70.7	72.7	73.8	76.0	14.2	13.6	14.0	14.4	15.6
AT Austria	66.2	66.5	69.0	72.2	75.8	:	11.7	12.9	14.3	16.3
PT Portugal	61.2	64.2	67.7	70.4	73.8	13.0	12.2	12.9	13.9	15.6
FI Finland	65.5	66.5	69.2	70.9	74.9	:	:	12.5	13.7	15.8
SE Sweden	71.2	72.2	72.8	74.8	77.7	13.7	14.2	14.3	15.3	16.9
UK United Kingdom	67.9	68.7	70.2	72.9	:	11.9	12.0	12.6	14.0	:
CY Cyprus	:	:	72.3	74.1	:	:	:	14.5	15.8	:
CZ Czech Republic	67.9	66.1	66.8	67.6	72.1	12.5	11.1	11.2	11.6	14.0
EE Estonia	64.3	65.5	64.1	64.7	65.3	12.1	12.1	11.4	12.0	12.7
HU Hungary	65.9	66.3	65.5	65.1	68.4	12.3	12.0	11.6	12.0	13.1
LT Lithuania	64.9	66.9	65.5	66.4	66.3	:	:	13.4	13.3	13.3
LV Latvia	65.2	66.0	63.6	64.3	64.8	:	:	:	12.1	12.5
MT Malta	66.5	68.4	68.5	73.7	75.9	12.0	12.1	10.7	14.2	14.9
PL Poland	64.9	66.6	66.9	66.7	70.4	12.7	12.5	12.6	12.7	14.0
SI Slovenia	66.1	65.0	67.4	69.5	72.7	12.0	11.3	12.6	13.2	14.6
SK Slovakia	68.4	66.7	66.8	66.6	69.9	13.2	12.3	12.3	12.2	13.3
					Females					
EU15 European Union (15 countries)	72.9	74.7	77.2	79.4	81.6	15.1	15.9	17.1	18.4	19.9
BE Belgium	73.5	74.2	76.8	79.4	81.1	14.8	15.3	16.9	18.5	19.7
DK Denmark	74.4	75.9	77.3	77.7	79.5	15.3	16.7	17.6	17.8	18.3
DE Germany *	72.4	73.6	76.6	78.4	:	14.6	15.0	16.6	17.6	:
GR Greece	72.4	73.8	76.8	79.5	80.7	14.6	15.2	16.8	18.0	:
ES Spain	72.2	74.8	78.6	80.3	83.1	15.3	16.0	17.9	19.0	:
FR France	73.6	75.9	78.4	80.9	82.9	15.6	16.8	18.2	19.8	:
IE Ireland	**71.9**	**73.5**	**75.6**	**77.9**	**80.3**	**14.4**	**15.0**	**15.7**	**17.1**	**18.7**
IT Italy	72.3	74.9	77.4	80.1	82.9	15.3	16.2	17.1	18.8	:
LU Luxembourg (Grand-Duché)	72.2	73.4	75.9	78.5	81.5	14.5	14.9	16.0	18.2	19.9
NL Netherlands	75.3	76.5	79.3	80.9	80.7	15.7	16.5	18.5	18.9	19.3
AT Austria	72.7	73.4	76.0	78.8	81.7	:	14.9	16.2	17.8	19.7
PT Portugal	66.8	70.8	75.2	77.4	80.5	15.3	15.0	16.5	17.0	19.0
FI Finland	72.5	75.0	77.6	78.9	81.5	:	:	16.5	17.7	19.6
SE Sweden	74.9	77.1	78.8	80.4	82.1	15.3	16.8	17.9	19.0	20.0
UK United Kingdom	73.7	75.0	76.2	78.5	:	15.1	16.0	16.6	17.9	:
CY Cyprus	:	:	77.0	78.6	:	:	:	16.5	17.5	:
CZ Czech Republic	73.4	73.0	73.9	75.4	78.7	14.5	14.1	14.3	15.2	17.4
EE Estonia	71.6	74.1	74.1	74.9	77.1	15.1	15.4	15.6	15.7	17.3
HU Hungary	70.1	72.1	72.7	73.7	76.7	13.8	14.3	14.6	15.3	17.0
LT Lithuania	71.4	74.8	75.4	76.2	77.5	:	:	16.6	16.8	17.7
LV Latvia	72.4	74.4	74.2	74.6	76.0	:	:	:	15.8	16.9
MT Malta	70.5	72.6	72.7	78.1	81.0	13.7	13.7	12.7	16.9	19.0
PL Poland	70.6	73.3	75.4	76.3	78.7	14.9	15.3	16.4	16.9	17.9
SI Slovenia	72.0	72.4	75.2	77.4	80.5	13.9	14.2	15.9	16.7	18.9
SK Slovakia	72.7	72.9	74.3	75.4	77.8	14.6	14.5	15.4	15.7	17.0

Source : Eurostat New Cronos Database

* DEW Federal Republic of Germany (excluding ex-GDR) for 1960, 1970, 1980; DE Germany (including ex-GDR from 1990)

Background Notes

A Life Table is a method of deriving measures which are representative of average life expectancy prevailing at a given time. It is compiled in a manner that eliminates the effect of the current age composition in question. This age composition may change over time and thus affect comparisons using other measures such as the number of deaths per 1,000 population.

A Life Table is purely a hypothetical calculation. The basic assumption is that a given cohort of births, (100,000), start in a given year. These are subject, as the survivors pass through each year of age, to the mortality rates prevailing for that age in the years for which the Life Table is being calculated. Thus, the Life Table deals with current mortality rates only and no assumptions are made about future changes.

The mortality rates for each age are used to calculate how many of the cohort will reach each year of age until eventually all members of the cohort have died. This enables the total number of years lived by the cohort to be calculated. When this total is divided by the number of persons in the cohort, (100,000) the result is the average number of years lived in the cohort, or the mean expectation of life at birth. The total number of years lived by the cohort from any given age can also be calculated and, when divided by the number of survivors in the cohort entering upon that year of age, the figure obtained is the expectation of life in years for those persons.

Life tables were constructed for males and females which are representative of the mortality experience in Ireland in 2002 by using the 2002 Census of Population and deaths registered in the three years 2001, 2002 and 2003. The life table should reflect the normal mortality conditions at about the time of the Census. The Irish Statistical Bulletin, Sept. – Dec. 1985, contains further detail on the construction of Life Tables. References to previous Life Tables are given on page 15.

Glossary of technical terms

- x the exact age of the person, that is, on his or her birthday.
- l_x the number of persons surviving to exact age x out of the original 100,000 aged 0.
- d_x the number of deaths in the year of age x to x+1 out of l_x persons who enter that year.
- p_x the probability of surviving a year, or the ratio of the number completing the year of age x to x+1 to the number entering on the year.
- q_x the rate of mortality, the probability of dying in a year, or the ratio of the number of deaths in the year of age x to x+1 to the number entering on the year.
- L_x the population to be expected according to the Life Table aged between x and x+1 years, assuming deaths occur evenly over year (see page 13).
- T_x the expected number of person years to be lived by the survivors at age x.
- e^o_x life expectancy at age x for each person surviving, or the total future life time in years which will on average be passed through by persons aged exactly x.

Examples

Figures from the Male Irish Life Table No. 14 are used in the examples below. Please note that totals may not add up due to rounding.

The first column of the life table, l_x equals the number of persons surviving in the life table at each exact age x, in other words the January population. l_0 represents the life table population of new born children or those aged exactly zero. If we let l_0 equal 100,000 then for example, l_5 is the number of persons surviving on their fifth birthday, which in this case equals 99,220.

The second column of the life table, d_x equals the expected number of deaths of persons aged age x in the life table.

$$d_x = l_x - l_{x+1} \qquad \textit{equation 1}$$

Equation 1 tells us that the number of deaths equals the number of persons surviving at age x less the number of persons surviving at age x+1.

e.g. for males aged 5

$$\begin{aligned} d_5 &= l_5 - l_6 \\ &= 99220 - 99205 \\ &= 15 \end{aligned}$$

The third column of the life table, p_x equals the probability of surviving from exact age x to x+1. This is simply the ratio of those completing the year of age x to x+1 to the number entering the year. For example, p_5 is the probability of surviving ones fifth year, which in this case equals 0.99985.

$$p_x = \frac{l_{x+1}}{l_x} \qquad \textit{equation 2}$$

Rewriting equation 2 where age x = 10, we see the number of persons surviving to their eleventh birthday equals the number of persons at their tenth birthday multiplied by the probability of their surviving to their eleventh, the remainder having of course died. Migration is ignored in a life table as the population is closed.

$$\begin{aligned} l_{11} &= l_{10} \cdot p_{10} \\ &= 99157 \times 0.99990 \\ &= 99147 \end{aligned}$$

The fourth column of the life table, q_x equals the probability of dying between one birthday and the next . This may also be called the risk of dying in a life table year, in other words the risk of dying at a particular age. The probability of dying and the probability of survival equal unity. In other words one can only be alive or dead.

$$p_x + q_x = 1 \qquad \textit{equation 3}$$

From equations 1, 2 and 3:

$$q_x = \frac{d_x}{l_x} \qquad \textit{equation 4}$$

So the probability of dying is the ratio of the number of deaths at exact age x divided by the number of persons surviving at that exact age. Hence we say the life table is based on 'current mortality rates only and that no assumptions are made about future changes'.

The fifth column of the life table, L_x equals the number of years survived by the life table cohort between the ages x and x+1, in other words the July population. Assuming a uniform distribution of deaths over a year of age and using equation 1 we find:

$$\begin{aligned} L_x &= l_x - \frac{d_x}{2} \\ &= l_x - \frac{l_x - l_{x+1}}{2} \\ &= \frac{l_x + l_{x+1}}{2} \qquad (x > 0) \end{aligned}$$

equation 5

e.g. for age 1 this means

$$L_1 = l_1 - \frac{d_1}{2} = 99349 - \frac{48}{2} = 99325$$

or

$$L_1 = \frac{l_1 + l_2}{2} = \frac{99349 + 99301}{2} = 99325$$

This cannot be used at age 0 as infant deaths are not evenly distributed (i.e. they are non-linear over a year). For example, in 2002 40% of all infant deaths occurred on their first day of life.

The sixth column of the life table, T_x equals the total number of years which will be survived at age x, l_x. So if L_x is person years, then T_x is cumulated person years, i.e.

$$T_x = \sum_{x}^{105} L_x$$

equation 6

e.g.

$$T_{102} = L_{102} + L_{103} + L_{104} + L_{105}$$

The final column of the life table, e^0_x is the life expectancy in years

$$e^0_x = \frac{T_x}{l_x}$$

equation 7

e^0_0 represents life expectancy at birth and it is broadly used to express the level of mortality. Life expectancy is the average number of additional years a person would live if current mortality trends were to continue. The expectation of life at birth represents the mean length of life of individuals who are subjected since birth to current mortality trends. Life expectancy is usually compiled on the basis of a life table showing the probability of dying at each age for a given population according to the age specific death rates prevailing in a given period.

Further information

From equation 3 we see the link between the probability of surviving with that of dying, therefore we can make assumptions on the probability of surviving from the probability of dying. This is what is referred to in population projections as the mortality assumption.

$$S_x = \frac{L_x}{L_{x-1}}$$

The survivorship ratio at age x, S_x , equals the ratio of those surviving between ages x and x+1 and those surviving between the ages x-1 and x, e.g. the ratio of those aged 5-9 surviving to age 10-14 is calculated as follows:

$$s_{10-14} = \frac{\sum_{10}^{14} L_x}{\sum_{5}^{9} L_x}$$

Similarly, the probability of a man aged 20 dying before his 50th birthday is calculated as follows:

$$\begin{aligned} q_x &= 1 - p_x \\ &= 1 - \frac{l_{x+1}}{l_x} \\ &= \frac{l_x - l_{x+1}}{l_x} \end{aligned}$$

therefore

$$\begin{aligned} q_{20-50} &= \frac{l_{20} - l_{50}}{l_{20}} \\ &= \frac{98714 - 94259}{98714} = 0.045 = 4.5\% \end{aligned}$$

Publications containing Life Tables Nos. 1 - 13

LIFE TABLE	*PUBLICATION*
No. 1	Census of Population of Ireland, 1926 – Vol. V (Part 1).
No. 2	Census of Population of Ireland, 1936 – Vol. V (Part 1).
No. 3	Register of Population of Ireland, 1941.
No. 4	Census of Population of Ireland, 1946 – Vol. (Part 1).
No. 5	Census of Population of Ireland – General Report 1946 and 1951.
No. 6	Irish Statistical Bulletin – June, 1965.
No. 7	Census of Popualtion of Ireland, 1971 – Vol. II. Irish Statistical Bulletin – March, 1972.
No. 8	Irish Statistical Bulletin – March, 1976.
No. 9	Census of Population of Ireland, 1981 – Vol. II. Irish Statistical Bulletin – June, 1984.
No. 10	Irish Statistical Bulletin – September – December, 1985.
No. 11	Irish Statistical Bulletin – December, 1995.
No. 12	Irish Statistical Bulletin – December, 1995.
No. 13	Irish Statistical Bulletin - December, 2001