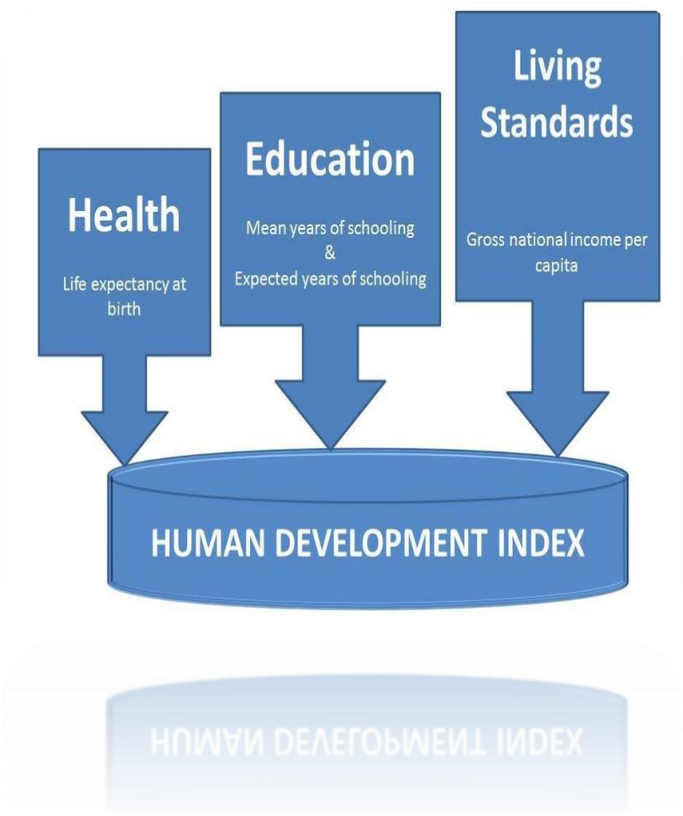


THE CAYMAN ISLANDS' HUMAN DEVELOPMENT INDEX REPORT 2021

Contents

Economics and Statistics Office

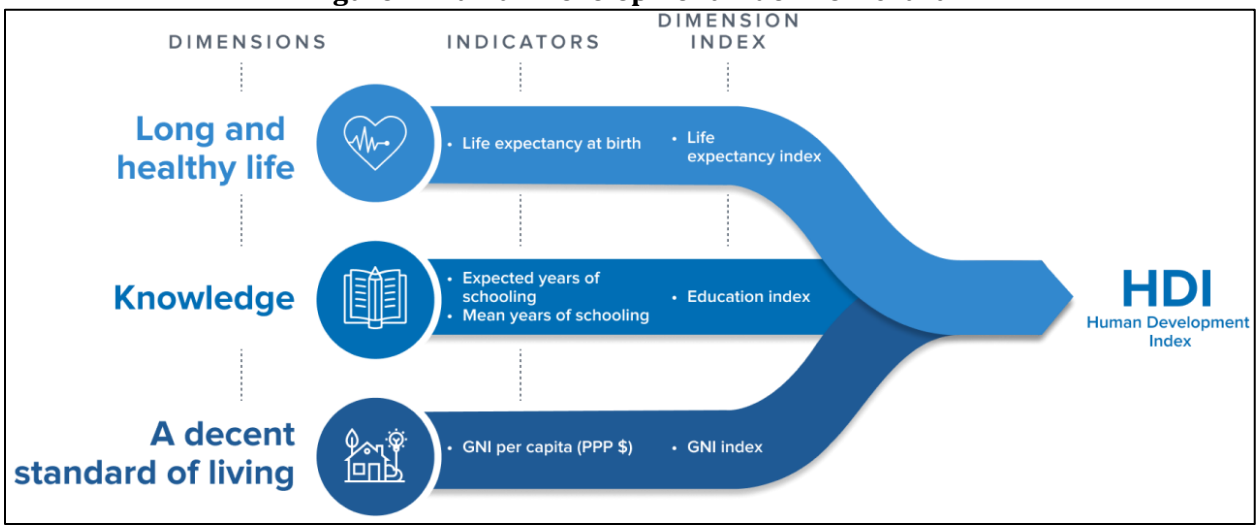
1. Background: Human Development Index[1]

The Human Development Index (HDI) is a summary measure of achievements in three key dimensions of human development: a long and healthy life (Health Index), access to knowledge (Education Index) and a decent standard of living (Income Index). The HDI is the geometric mean of normalized indices for each of the three dimensions.

The health dimension is assessed by life expectancy at birth; the education dimension is measured by the mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school admission age. The standard of living dimension is measured by gross national income per capita. The scores for the three HDI dimension indices are then aggregated into a composite index using geometric mean.

The HDI simplifies and captures only part of what human development entails. It does not reflect on inequalities, poverty, human security, empowerment, etc. A fuller picture of the human development requires analysis of other indicators and information presented in the statistical annex (the website link in footnote 1).

Figure 1: Human Development Index flow chart



Source: UNDP Human Development Index Report

2. Cayman Islands Human Development Index

The human development index for the Cayman Islands was calculated exclusively by the Economics and Statistics Office using the methodology published by the United Nations Development of People (UNDP) and available data. Unlike the HDI rankings of countries included in the UNDP human development report, the Cayman Islands is not a sovereign country and hence is not included in the official rankings. Nonetheless, the HDI calculations

[1] This synopsis of the Human Development Index (HDI) is an excert from the UNDP Human Development Reports. https://hdr.undp.org/content/human-development-report-2021-22

use the UNDP methodology and are comparable to the official HDI country rankings produced by the UNDP.

Table 1: Human Development Index (HDI), 2010-2021

Year	**Human Development Index (HDI)**	Gross National Income (GNI) per capita (base=2015)	Life Expectancy at birth	Education	
				Expected Years of Schooling	Mean Years of Schooling
	Value	US$	Years	Years	Years
2010	0.882	59,569	82.1	13.6	15.0
2011	0.868	60,110	79.5	13.6	14.8
2012	0.877	42,671	84.3	13.6	15.0
2013	0.864	39,553	81.8	13.6	15.3
2014	0.869	37,665	83.3	13.6	15.2
2015	0.868	38,526	82.5	13.6	15.4
2016	0.875	42,141	83.4	13.6	15.3
2017	0.873	45,474	81.6	13.6	15.6
2018	0.876	48,883	81.4	13.6	15.5
2019	0.885	52,491	82.5	13.6	15.4
2020	0.884	48,786	83.2	13.6	15.6
2021	0.877	48,878	82.1	13.6	15.2

All variables estimated by ESO

1. The GNI per capita was taken from the System of National Accounts Reports.
2. Life Expectancy was calculated using Census data for 2010 and 2021 while all other years used the Labour Force Survey results.
3. Expected Years of Schooling was estimated using Census data for 2010 and 2021 and other year maintained as a constant.
4. Mean Years of Schooling were calculated from the educational attainment and highest grade passed questions from Census 2010 and 2021 while all other years used similar questions from the Labour Force Survey results.

Source: Economics and Statistics Office

Human Development Index (HDI) is a composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living. For the Cayman Islands, the 2021 Human Development Index value was 0.877, which falls within the range of 0.80 and 1.0 in the HDI Report 2021/2022. Countries in this group are classified as having a Very High Human Development Index. Comparatively, the only other country from the Caribbean Region in this category was Trinidad and Tobago, with an index value of 0.81. The HDI for the Cayman Islands was consistently between 0.86 and 0.88.

The sub-components of the HDI:

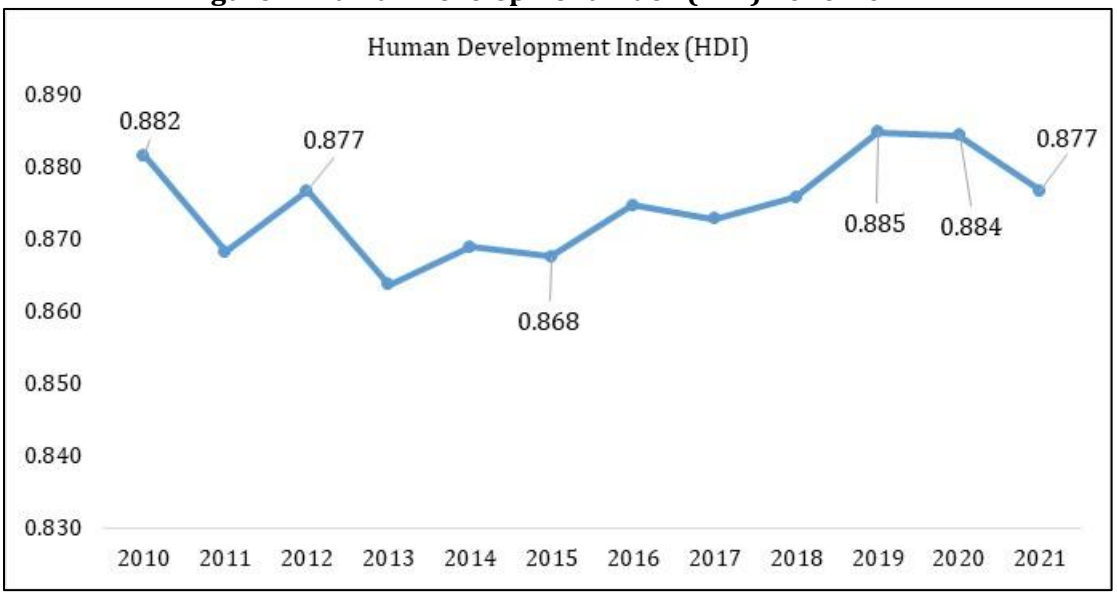
I. A decent standard of living measured by Gross national income (GNI) per capita is a measure of the aggregate income of the economy generated by production and ownership of factors of production, less the incomes paid for the use of factors of

production owned by the rest of the world, divided by the midyear population. For the Cayman Islands, the GNI ranged from a high of US$60,110 in 2011, declined to a low of US$37,665 in 2014, and continuously recovered to US$48,878 in 2021. The main reasons for the erosion of GNI between 2012 and 2014 were a deterioration in net property income which resulted from higher interest payments on long-term debt instruments, and a simultaneous fall in dividends received on direct investment equity.

II. Life expectancy at birth is the number of years a newborn infant could expect to live if prevailing patterns of age-specific mortality rates at the time of birth stay the same throughout the infant's life. The life expectancy at birth was 82.1 years in the census years 2010 and 2021.

III. The education index measures knowledge, a combination of expected years of schooling and the mean years of schooling.
   a. Expected years of schooling is the number of years a child of school entrance age can expect to receive if the prevailing patterns of age-specific enrolment rates persist throughout the child's life. In calculating this index, the entrance age used was four (4) years, generally the primary school entrance age.
   b. Mean years of schooling is the average number of years of education received by persons ages 25 and older, converted from education attainment levels using official durations of each level.

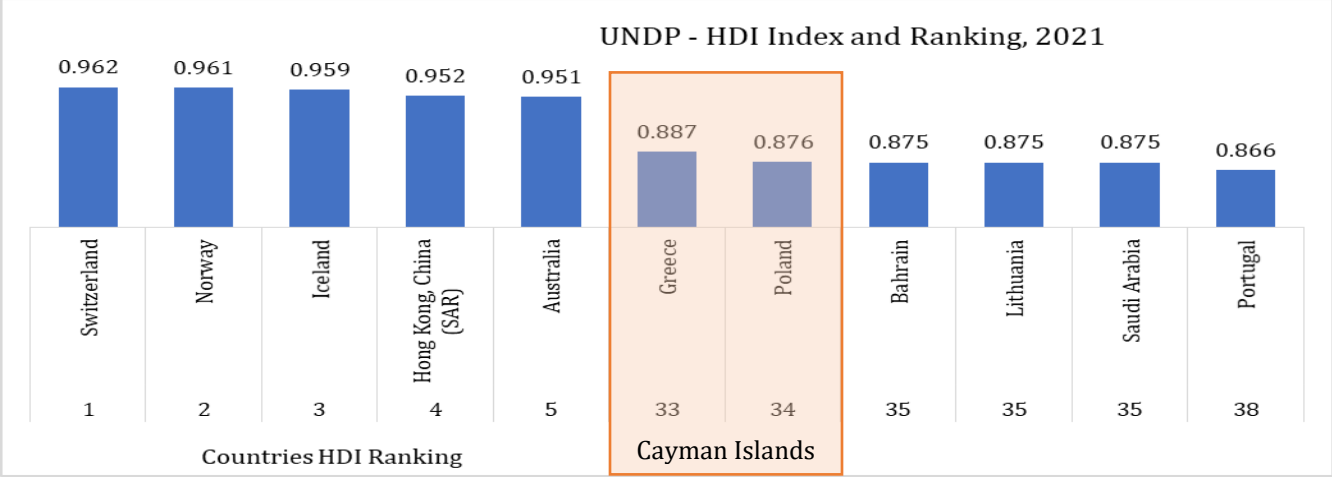
Figure 2: Human Development Index (HDI) 2010-2021[2]



Source: Economics and Statistics Office

[2] The methodology is taken form the UNDP Technical notes - Human Development Reports https://hdr.undp.org/sites/default/files/data/2020/hdr2019_technical_notes.pdf

Figure 3: HDI Index and Selected Ranking, 2021



Source: UNDP Human Development Report 2021 and ESO

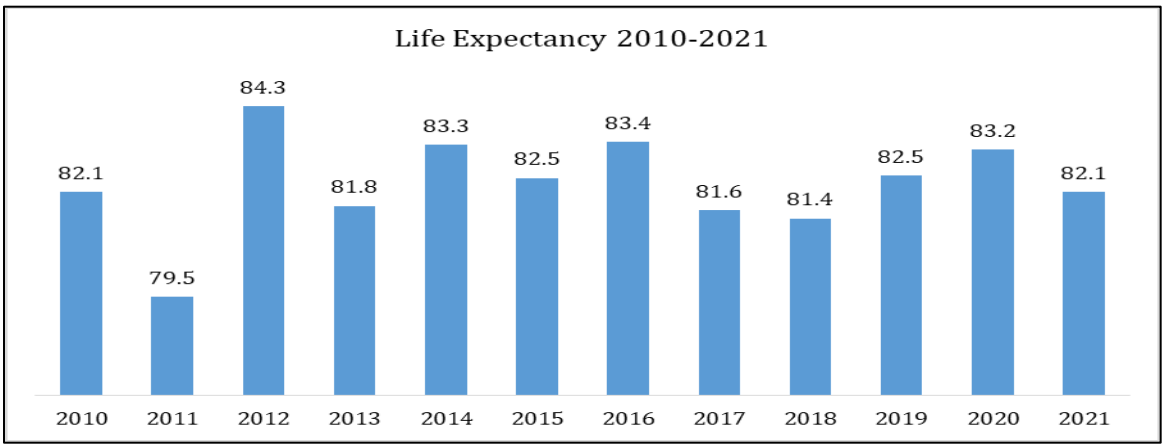
All things being equal, the Cayman Islands would be ranked between Greece and Poland at 33rd and 34th with a UNDP Human Development Index of 0.877.

3. Cayman Islands Life Expectancy

The life expectancy at birth in the Cayman Islands during the year 2021 was 82.1 years; for females, it was 83.7, which exceeded that of men by 3.3 years. Women's life expectancy generally exceeded that of men in all age groups.

Generally, life expectancy fluctuated between 79.5 years and 84.3 years between 2010 and 2021. The fluctuations in life expectancy at birth are usually associated with changes in age-specific mortality and birth rate.

Figure 4: Life Expectancy 2010-2021[3]



[3] The life expectancy for 2010 and 2021 was estimated using Census data, for all other years the Labour Force Survey estimates were used.

4. Cayman Islands Gender Inequality Index

The Gender Inequality Index (GII) is a composite measure reflecting inequality in achievement between women and men in three dimensions: reproductive health, empowerment and the labour market. The Gender Inequality Index for the Cayman Islands deteriorated in 2021 relative to 2010, moving from 0.305 to 0.323, indicating a **widening disparity between males and females**. Based on the UNDP HDI report, countries with a GII of 0.323 ranked within the top 78 on the UNDP GII ranking. In 2021, all the sub-indices improved except the proportion of the female population with at least some secondary education and the maternal mortality ratio.

Table 2: The Cayman Islands Gender Inequality Index

	2010	2021
Health Index	**0.567**	**0.535**
Maternal mortality ratio (death per 100,000 live births)	12.2	119.3
Adolescent birth rate (births per 1,000 women ages 15-19)	45.5	17.2
Empowerment Index	**0.431**	**0.486**
Share of seats in parliament (% held by women)	6.7	26.3
Female: Population with at least some secondary education (% age 25+)	50.7	48.8
Male: Population with at least some secondary education (% age 25+)	49.3	51.2
Labour Market Participation Index	**0.753**	**0.822**
Female: Labour Force Participation rate (% 15+)	72.3	78.8
Male: Labour Force Participation rate (% 15+)	78.2	85.5
Gender Inequality Index (GII)	**0.305**	**0.323**

Source: Economics and Statistics Office (ESO) and the Cayman Islands Health Services Authority (HSA)

Maternal mortality ratio: The number of deaths due to pregnancy-related causes per 100,000 live births stood at 12.2 in 2010 and 119.3 in 2021. The deterioration in the maternal mortality ratio was due mainly to one (1) recorded maternal death in 2021.

Adolescent birth rate: Number of births to women ages 15–19 per 1,000. The adolescent birth rate improved to 17.2 per 1,000 in 2021 relative to 45.5 per 1,000 in 2010.

The Share of seats in parliament: The proportion of seats held by women in the parliament[4] expressed as a percentage of total seats increased to 26.3 percent following the 2021 general elections relative to 2010, when it was 6.7 percent.

Population with at least some secondary education: The percentage of the population ages 25 and older that has reached (but not necessarily completed) a secondary level of education.

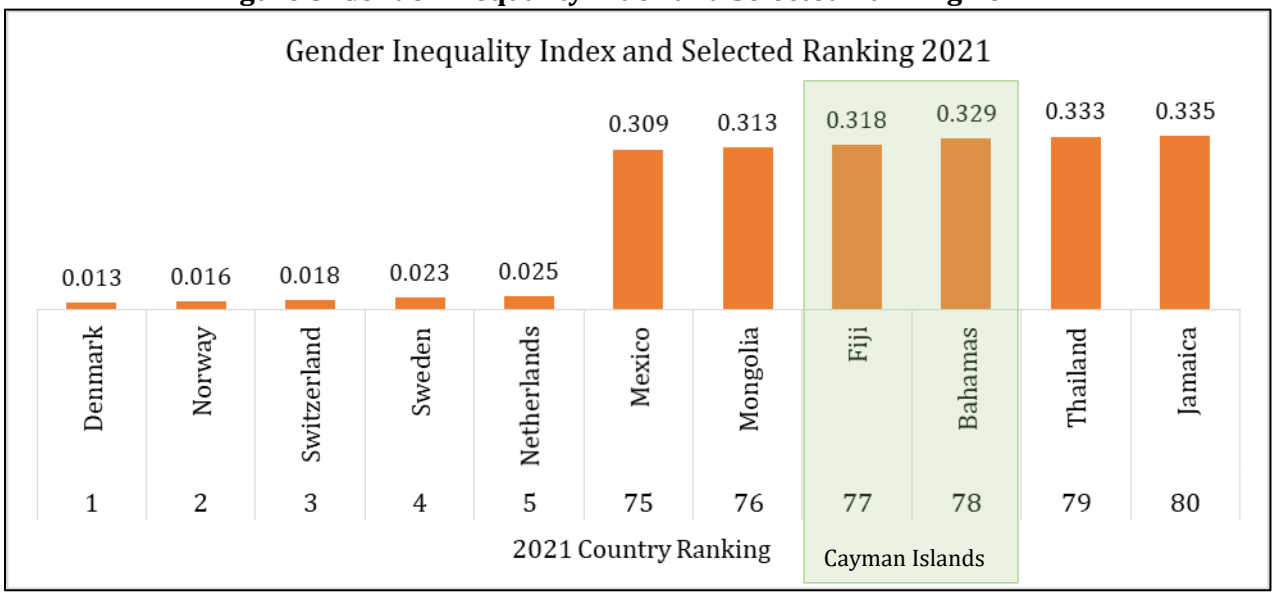
[4] The Cayman Islands 2009 general elections results compared to 2021.

The proportion of the female population with at least secondary education fell slightly to 48.8 percent in 2021 relative to 50.7 percent in 2010[5].

Labour force participation rate (LFPR): The proportion of the working-age population (ages 15 and older) that engages in the labour market, either by working or actively looking for work, expressed as a percentage of the working-age population. The LFPR for women improved from 72.3 percent in 2010 to 78.8 percent in 2021, albeit slightly lower than for men.

As depicted in Figure 5, a comparative ranking of the estimated Gender Inequality Index (GII) for the Cayman Islands would rank between Fiji and the Bahamas, between 77 and 78. Nonetheless, the countries ranked 75 and higher in Figure 5, all recorded lower Human Development Index rankings than the Cayman Islands.

Figure 5: Gender Inequality Index and Selected Ranking 2021



Source: Source: UNDP Human Development Report 2021 and ESO

[5] Census data was used for percentage of women aged 25+ enrolling in secondary level education and to calculate the labour market participation rate and the health index.

5. Detailed Life Tables

Life Table Based on Deaths and Population: 2021 All Persons

Age, x	Width, n	nMx	nax	nqx	lx	ndx	nLx	5Px	Tx	ex
0	1	0.00842	0.075	0.00835	100,000	835	99,227	0.99177	8,210,319	82.1
1	4	0.00000	1.719	0.00000	99,165	0	396,659	0.99920	8,111,091	81.8
5	5	0.00027	2.500	0.00135	99,165	134	495,488	0.99932	7,714,433	77.8
10	5	0.00000	2.500	0.00000	99,030	0	495,152	1.00000	7,218,945	72.9
15	5	0.00000	2.500	0.00000	99,030	0	495,152	0.99719	6,723,793	67.9
20	5	0.00113	2.500	0.00562	99,030	556	493,762	0.99490	6,228,640	62.9
25	5	0.00092	2.500	0.00458	98,474	451	491,244	0.99623	5,734,879	58.2
30	5	0.00059	2.500	0.00295	98,023	289	489,394	0.99641	5,243,635	53.5
35	5	0.00085	2.500	0.00422	97,734	413	487,639	0.99535	4,754,241	48.6
40	5	0.00102	2.500	0.00508	97,321	495	485,371	0.99404	4,266,602	43.8
45	5	0.00137	2.500	0.00684	96,827	662	482,479	0.99198	3,781,231	39.1
50	5	0.00185	2.500	0.00922	96,165	886	478,608	0.98872	3,298,752	34.3
55	5	0.00269	2.500	0.01336	95,278	1,273	473,209	0.97583	2,820,145	29.6
60	5	0.00715	2.500	0.03512	94,005	3,301	461,774	0.95204	2,346,935	25.0
65	5	0.01264	2.500	0.06128	90,704	5,558	439,625	0.93264	1,885,161	20.8
70	5	0.01534	2.500	0.07385	85,146	6,288	410,011	0.88599	1,445,536	17.0
75	5	0.03417	2.500	0.15738	78,858	12,411	363,264	0.79735	1,035,525	13.1
80	5	0.05881	2.500	0.25637	66,447	17,035	289,648	0.72772	672,262	10.1
85	5	0.06884	2.500	0.29368	49,412	14,511	210,782	0.57010	382,614	7.7
90	5	0.18088	2.500	0.62277	34,901	21,735	120,166	0.35003	171,831	4.9
95	5	0.22601	2.500	0.72206	13,166	9,506	42,062	0.18588	51,665	3.9
100	+	0.38103	2.624	1.00000	3,659	3,659	9,603		9,603	2.6

ex = Life expectancy at age x.
nMx = Age-specific central death rate.
nax = Average person-years lived by those who die between ages x and x+n.
nqx = Probability of dying between exact ages x and x+n (age-specific mortality rate).
lx = Number of survivors at age x.
ndx = Number of deaths occurring between ages x and x=n.
nLx = Number of person-years lived between ages x and x+n.
5Px = Survival ratio for persons aged x to x+5 surviving 5 years to ages x+5 to x+10 = 5Lx+5/5Lx (first 5Px = 5L0/5l0, second 5Px= 5L5/5L0, last 5Px = Tx+5/Tx).
Tx = Number of person-years lived after age x.
ex = Life expectancy at age x.
Note:
nMx values were smoothed for ages 15+ based on a moving average of the logs: smoothed 5Mx = 1/3 [5Mx-5+5Mx+5Mx+5]

Life Table Based on Deaths and Population: 2021 **Male**

Age, x	Width, n	nMx	nax	nqx	lx	ndx	nLx	5Px	Tx	ex
0	1	0.00985	0.071	0.00976	100,000	976	99,093	0.99037	8,044,019	80.4
1	4	0.00000	1.830	0.00000	99,024	0	396,094	0.99852	7,944,927	80.2
5	5	0.00054	2.500	0.00267	99,024	265	494,456	0.99866	7,548,832	76.2
10	5	0.00000	2.500	0.00000	98,759	0	493,795	1.00000	7,054,376	71.4
15	5	0.00000	2.500	0.00000	98,759	0	493,795	0.99729	6,560,581	66.4
20	5	0.00109	2.500	0.00542	98,759	536	492,455	0.99271	6,066,787	61.4
25	5	0.00184	2.500	0.00917	98,223	900	488,865	0.99396	5,574,332	56.8
30	5	0.00058	2.500	0.00288	97,323	280	485,915	0.99582	5,085,467	52.3
35	5	0.00110	2.500	0.00549	97,043	533	483,882	0.99372	4,599,552	47.4
40	5	0.00142	2.500	0.00706	96,510	682	480,845	0.99354	4,115,669	42.6
45	5	0.00117	2.500	0.00586	95,828	561	477,738	0.99211	3,634,824	37.9
50	5	0.00200	2.500	0.00994	95,267	947	473,968	0.98508	3,157,086	33.1
55	5	0.00403	2.500	0.01996	94,320	1,882	466,895	0.96625	2,683,117	28.4
60	5	0.00980	2.500	0.04781	92,438	4,420	451,139	0.93915	2,216,223	24.0
65	5	0.01548	2.500	0.07454	88,018	6,561	423,688	0.92159	1,765,083	20.1
70	5	0.01723	2.500	0.08260	81,457	6,729	390,464	0.89167	1,341,396	16.5
75	5	0.02927	2.500	0.13637	74,729	10,191	348,165	0.80715	950,931	12.7
80	5	0.05931	2.500	0.25824	64,538	16,666	281,022	0.68544	602,766	9.3
85	5	0.09704	2.500	0.39048	47,871	18,693	192,625	0.51337	321,744	6.7
90	5	0.19014	2.500	0.64438	29,179	18,802	98,888	0.29284	129,119	4.4
95	5	0.31666	2.500	0.88371	10,376	9,170	28,958	0.04212	30,231	2.9
100	+	0.94772	1.055	1.00000	1,207	1,207	1,273		1,273	1.1

ex = Life expectancy at age x.

Life Table Based on Deaths and Population: 2021 **Female**

Age, x	Width, n	nMx	nax	nqx	lx	ndx	nLx	5Px	Tx	ex
0	1	0.00705	0.071	0.00700	100,000	700	99,349	0.99310	8,373,220	83.7
1	4	0.00000	1.722	0.00000	99,300	0	397,198	0.99990	8,273,870	83.3
5	5	0.00000	2.500	0.00000	99,300	0	496,498	1.00000	7,876,672	79.3
10	5	0.00000	2.500	0.00000	99,300	0	496,498	1.00000	7,380,174	74.3
15	5	0.00000	2.500	0.00000	99,300	0	496,498	0.99709	6,883,676	69.3
20	5	0.00117	2.500	0.00582	99,300	578	495,053	0.99708	6,387,178	64.3
25	5	0.00000	2.500	0.00000	98,722	0	493,608	0.99849	5,892,124	59.7
30	5	0.00061	2.500	0.00302	98,722	298	492,862	0.99704	5,398,516	54.7
35	5	0.00058	2.500	0.00289	98,423	284	491,405	0.99706	4,905,654	49.8
40	5	0.00060	2.500	0.00299	98,139	293	489,961	0.99456	4,414,249	45.0
45	5	0.00159	2.500	0.00790	97,846	773	487,296	0.99181	3,924,288	40.1
50	5	0.00170	2.500	0.00848	97,073	823	483,306	0.99258	3,436,991	35.4
55	5	0.00128	2.500	0.00636	96,250	612	479,720	0.98538	2,953,685	30.7
60	5	0.00464	2.500	0.02294	95,638	2,194	472,706	0.96392	2,473,965	25.9
65	5	0.01016	2.500	0.04953	93,444	4,628	455,651	0.94268	2,001,259	21.4
70	5	0.01355	2.500	0.06551	88,816	5,819	429,534	0.88059	1,545,608	17.4
75	5	0.03886	2.500	0.17709	82,998	14,698	378,244	0.78781	1,116,073	13.4
80	5	0.05841	2.500	0.25486	68,300	17,407	297,983	0.76347	737,830	10.8
85	5	0.04741	2.500	0.21194	50,893	10,786	227,500	0.61152	439,847	8.6
90	5	0.17658	2.500	0.61250	40,107	24,566	139,120	0.37156	212,347	5.3
95	5	0.20131	2.500	0.66957	15,541	10,406	51,691	0.29410	73,227	4.7
100	+	0.23845	4.194	1.00000	5,135	5,135	21,536		21,536	4.2

ex = Life expectancy at age x.