

# Appendix for “The New Demographic Transition: Most Gains in Life Expectancy Now Realized Late in Life”

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## Data and Methods

For the countries and regions for which the Human Mortality Database offers civilian-only and total population life tables (e.g. France, England and Wales), we choose total population life tables. The initial observation for each country may be based on fewer than 5 years of data. Similarly, for several countries (e.g., Belgium, France, Italy), LE in 2005-09 is based on fewer than 5 years of data. Specifically, the initial years for each country or region are as follows: Australia, 1921; Belgium, 1841; Canada, 1921; Denmark, 1835; Finland, 1878; France, 1816; Iceland, 1838; Italy, 1872; Netherlands, 1850; Norway, 1846; Spain, 1908; Sweden, 1751; Switzerland, 1876; United Kingdom England & Wales, 1841; UK Scotland, 1855; UK Northern Ireland, 1922; U.S.A., 1933. The final year for each country or region is 2007 except as follows: 2006 for Italy and Spain; 2008 for Denmark, Finland, Iceland, Netherlands, Norway, and Sweden; and 2009 for the UK (England & Wales, Scotland, and Northern Ireland).

To smooth annual changes and account for slight differences in starting and ending dates of the data, the changes in life expectancy at birth use average life expectancy over 5-year periods at the beginning and end of each 20-year interval. Thus, the change for the period 1987-2007 is given by subtracting (LE in 1985-1989) from (LE in 2005-2009).

Data for the US prior to 1933 are from US National Vital Statistics Reports, Vol. 58, No. 21, June 28, 2010 “Table 12. Estimated life expectancy at birth in years, by race and sex: Death-registration states, 1900-1928, and United States, 1929-2006.”

Our discussion of cohort versus period survival to 65 and life expectancy also draws from the Human Mortality Database, especially the cohort life tables for England and Wales [accessed October 20, 2011].

The survival data we use for developing countries not included in the Human Mortality Database (such as China, India, Indonesia, and Brazil in Table 2) comes from the life tables for each country prepared by the International Programs Center of the U.S. Bureau of the Census, which carries out population estimates and projections for all countries of the world in its International Data Base (IDB). Although key results of the IDB are publicly available on the US Census Bureau website, the detailed life tables by gender and year that we use for this analysis are not publicly available. We thank Dr. Judith Banister for assistance with assembling and validating that data. We extend our appreciation and thanks to Loraine West, Daniel Goodkind, and Andrea Miles at the US Bureau of the Census for graciously providing country life tables from the IDB.

We also calculate XLFP, the expected number of years that an individual will be in the labor force if he or she participates at the average LFP rate for each sex and age. We approximate survival  $\pi_{ijt}$  with sex-specific survival to the mid-point of a given age range, using period life tables for each country as

described above. LFP is generally only available for given age groups, so we approximate  $L_{ijt}$  with the average sex-specific LFP rate for a given age group for a given year, assuming LFP before age 15 and after age 75 is zero.

For calculation of XLFP using US Current Population Survey data for 1950-2010, LFP is available for six age ranges: 16-24, 25-34, 35-44, 45-54, 55-64, 65 and older<sup>1</sup>; using ILO data (only available since 1980) for a broader range of countries, LFP is available for five age ranges: 15-24, 25-34, 35-54, 55-64 and 65+. For Table 1, 1900 XLFP calculations use survival data from the 1901 life table for the original death registration states (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan and the District of Columbia) and LFP data from the 1900 census, as reported in Historical Statistics of the US "Series D 29-41: Labor force by age and sex, 1890 to 1970." Because there is no LFP data for 1910, we use a simple average, by gender, of LFP rates in 1901 and 1920. Survival data come from 1910 life table for the original death registration states (all races). XLFP calculations for 1920 use LFP data from the 1920 census and survival data from the 1920 death registration states (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Missouri, Nebraska, Delaware, Maryland, Virginia, North Carolina, South Carolina, Florida, Kentucky, Tennessee, Mississippi, Louisiana, Montana, Colorado, Utah, Washington, Oregon, California and the District of Columbia, white race only). Calculations for XLFP for 1933 use 1930 census LFP age ranges and 1933 survival from the HMD life table; for 1942, we use the 1942 CPS survey LFP rates and 1942 survival from HMD life table (because the 1940 census data methods and age ranges are not comparable to the 1942 and after CPS data).

For the adjustment of US XLFP for work hours, we draw upon the estimates of Hazan (2009), which are conditional on survival to age 5 (and in some cases, older ages). Given our focus on societal expectations about overall worklife, we need to incorporate the dramatic improvements in infant and child survival over the century. Thus, to adjust expected lifetime labor force participation for hours of work, we first multiply Hazan's estimates of expected lifetime work hours by survival to age 5 for the appropriate year or birth cohort. Then we report lifetime work hours as the number of years of full-time work, where full time is 2080 hours per year (40 hours per week, 52 weeks per year). The resulting time series of years of male expected labor force participation, adjusted for the intensive margin of hours worked, shows a 5-year increase between 1900 and 1940, followed by an 8-year decrease by 1970. Adjusting for hours worked therefore leads to an even more dramatic, and earlier, reduction in male expected labor force participation relative to life expectancy.

Data limitations preclude similar calculations for women, but Hazan (2009) does report expected lifetime work hours for the total population up to 1970. Using these numbers, adjusted for survival using the Human Mortality Database (available for the total US population since 1933), yields an estimate of about 29 years of expected labor force participation for the average American, adjusted for hours worked, relatively constant between 1933 and 1970. In other words, for much of the last century, survival gains

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<sup>1</sup> Sources for the US LFP data are Fullerton (1999) [Howard N Fullerton, Jr., 1999. "Labor force participation: 75 years of change, 1950-98 and 1998-2025," Monthly Labor Review December 1999: 3-12] summarizing LFP through 1998 based on historical Current Population Survey data, and subsequent data from the Current Population Survey 2011 Statistical Abstract, "Table 585. Civilian Labor Force and Participation Rates with Projections."

and increased female labor force participation have been offset by declining work hours and reduced male age-specific labor force participation. As a result, the average American's expected years in the labor force have remained constant. Meanwhile, survival has continued to improve. Accordingly, worklife as a fraction of life expectancy for the overall US population fell from 47.5% in the 1930s to 40.7% by 1970.

Looking at data for birth cohorts, rather than period data, reinforces and compresses this finding of shorter worklives. For example, using the Hazan (2009, figure 8) cohort estimates of expected lifetime work hours, the cohort of men born in 1900 would have expected to be in the labor force for 64.7% of their lives; the cohort of men born only 30 years later would expect to be in the labor force for two additional years, but a much shorter share of their lives (53.1%).

Countries may differ in how they account for self-employment and other factors (such as military service) that impact labor force participation rates by age and sex. The ILO attempts to standardize for such differences. Specifically, according to the ILO, "the labor force participation rate is a measure of the proportion of a country's working-age population that engages actively in the labor market, either by working or looking for work; it provides an indication of the relative size of the supply of labor available to engage in the production of goods and services. The breakdown of the labor force by sex and age group gives a profile of the distribution of the economically active population within a country.... The participation rates are harmonized to account for differences in national data collection and tabulation methodologies as well as for other country-specific factors such as military service requirements. The series includes both nationally reported and imputed data and only estimates that are national, meaning there are no geographic limitations in coverage" [<http://kilm.ilo.org/KILMnetBeta/pdf/kilm01EN-2009.pdf>, accessed 30 May 2011].

We compared using single-year survival data to 5-year averages when calculating XLFP for the US and several other countries; the resulting XLFP trends are extremely similar.

## **Appendix Tables and Figures**

Appendix Table 1A. Female life expectancy at birth since 1900, US and 16 other high income countries

	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	52.5	53.9	59.8	54.4	64.1	65.1	67.2	67.7	68.6	70.9	72.2
Belgium	50.4	51.9	53.1	51.6	57.3	58.5	60.6	62.2	61.7	65.6	70.1
Canada	51.0	53.2	55.3	53.6	58.6	59.7	62.4	64.1	66.3	69.0	71.5
Denmark	55.6	57.3	59.6	58.4	61.3	62.5	63.8	65.3	67.7	69.5	72.2
Finland	46.2	48.5	50.6	47.6	53.2	55.3	57.9	59.6	60.2	64.5	69.3
France	49.0	50.7	52.7	50.1	55.9	56.9	59.9	61.9	58.6	65.4	69.9
Iceland	52.4	53.1	57.8	57.8	58.8	61.2	63.8	65.8	67.5	71.3	74.3
Italy	43.3	44.8	48.1	42.0	50.3	52.8	56.7	57.8	57.6	62.6	68.1
Netherlands	51.5	54.4	57.1	55.1	61.2	63.7	66.1	67.8	66.3	68.9	73.1
Norway	56.7	57.7	59.6	57.5	62.2	64.3	66.3	68.1	68.7	71.9	74.4
Spain	36.7	42.2	43.1	40.7	44.7	49.9	52.6	53.3	55.3	62.1	66.4
Sweden	55.3	57.7	59.4	57.3	62.3	63.4	64.9	66.5	69.2	71.0	73.1
Switzerland	50.6	52.6	55.3	55.4	59.5	61.9	63.7	65.3	67.1	68.6	71.6
UK England & Wales	50.4	53.3	55.4	55.0	60.1	61.3	63.1	65.1	66.3	69.8	72.1
UK Scotland	49.3	51.1	53.0	52.5	56.8	58.5	59.9	61.8	62.9	66.4	69.5
UK Northern Ireland	46.9	49.1	51.3	49.7	55.2	56.2	58.7	59.4	61.3	66.2	69.6
<i>Average Female (SD)</i>	49.9(4.9)	52.0(4.3)	54.4(4.7)	52.4(5.3)	57.6(5.0)	59.4(4.3)	61.7(4.0)	63.2(4.1)	64.1(4.4)	67.7(3.1)	71.1(2.2)
<i>CV</i>	0.10	0.08	0.09	0.10	0.09	0.07	0.06	0.07	0.07	0.05	0.03
United States	50.7	53.4	53.2	53.6	58.5	60.2	62.6	63.8	66.8	69.5	71.7
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	73.5	74.2	74.4	75.1	77.0	78.6	79.3	80.6	81.6	82.8	83.8
Belgium	72.1	73.2	73.8	74.7	75.9	77.2	78.5	79.7	80.5	81.3	82.1
Canada	73.2	74.5	75.6	76.6	78.0	79.3	80.1	80.8	81.3	82.1	82.8
Denmark	73.7	74.4	75.2	76.3	77.2	77.5	77.6	77.9	78.5	79.5	80.6
Finland	71.3	72.5	73.3	75.0	76.9	78.3	78.7	79.5	80.6	81.6	82.8
France	72.4	74.1	75.1	76.2	77.6	78.8	80.1	81.4	82.2	83.1	84.1
Iceland	75.4	76.1	76.4	77.2	79.3	79.9	80.1	80.9	81.1	82.4	83.1
Italy	70.6	72.3	73.7	75.1	76.7	78.0	79.5	80.6	81.7	83.0	83.9
Netherlands	74.6	75.7	76.3	77.0	78.3	79.4	79.9	80.2	80.5	80.9	82.0
Norway	75.5	75.9	76.7	77.6	78.4	79.3	79.4	80.1	81.0	81.7	82.7
Spain	69.8	72.2	73.9	75.3	77.1	79.1	80.1	81.1	82.1	83.1	83.8
Sweden	74.6	75.4	76.4	77.6	78.4	79.4	80.1	80.8	81.7	82.2	82.9
Switzerland	73.2	74.4	75.4	76.8	78.5	79.4	80.6	81.3	82.2	83.1	84.0
UK England & Wales	73.5	74.2	74.9	75.4	76.2	77.2	78.0	79.0	79.7	80.8	81.9
UK Scotland	71.3	72.2	73.1	73.8	74.5	75.5	76.3	77.2	78.0	78.9	79.9
UK Northern Ireland	71.8	72.7	73.6	73.8	74.6	75.9	77.2	78.3	79.2	80.4	81.2
<i>Average Female (SD)</i>	72.9(1.7)	74.0(1.4)	74.9(1.2)	75.8(1.2)	77.2(1.4)	78.3(1.3)	79.1(1.2)	79.9(1.3)	80.8(1.3)	81.7(1.3)	82.6(1.2)
<i>CV</i>	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01
United States	73.0	73.6	74.1	75.2	77.0	77.9	78.4	79.0	79.4	79.8	80.5

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. To fill in a few missing values in the early period (Australia, Canada, and UK Northern Ireland in 1900-19; Spain in 1900; and the US in 1905, 1915, and 1925), we use imputed values from sex-specific regressions with year and country fixed effects and country-specific linear time trends.

Appendix Table 1B. Male life expectancy at birth since 1900, US and 16 other high income countries

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	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	49.4	54.5	55.8	51.3	60.2	61.2	63.4	63.6	64.6	66.4	66.7
Belgium	47.0	48.6	49.5	48.1	53.7	54.9	56.6	57.9	55.1	60.2	65.1
Canada	49.3	51.3	52.8	48.5	56.4	57.2	59.9	61.4	62.8	65.1	66.6
Denmark	52.2	54.4	56.5	55.8	59.6	60.9	62.0	63.2	65.6	67.2	69.6
Finland	43.5	45.4	47.4	39.3	48.5	50.3	52.8	53.5	42.0	56.3	62.7
France	45.5	46.8	43.8	32.1	51.8	52.5	54.8	56.0	47.6	59.5	64.1
Iceland	48.0	47.1	52.1	52.6	52.3	58.4	59.9	60.7	62.6	67.6	69.9
Italy	42.9	44.1	47.3	32.5	48.9	51.0	54.4	55.0	48.9	58.4	64.4
Netherlands	48.6	52.0	54.9	53.2	59.7	62.2	64.7	66.3	62.6	64.2	70.6
Norway	53.5	55.1	56.3	54.2	59.8	61.5	63.5	64.8	63.2	68.3	70.8
Spain	35.0	40.2	41.1	38.9	42.2	46.8	49.0	45.3	48.5	56.6	61.8
Sweden	52.7	55.4	56.7	54.6	60.0	61.2	62.9	63.9	66.4	68.5	70.3
Switzerland	47.9	49.6	52.0	51.9	56.5	58.6	59.9	61.3	62.8	64.5	67.0
UK England & Wales	46.6	49.5	50.8	40.3	56.1	57.3	59.0	60.8	58.2	63.3	66.9
UK Scotland	46.2	48.3	49.9	49.0	53.4	54.7	56.3	57.8	55.7	61.9	64.9
UK Northern Ireland	47.0	49.0	50.5	46.2	54.3	55.3	57.2	57.7	58.7	63.5	66.0
<i>Average Male(SD)</i>	47.2(4.4)	49.5(4.3)	51.1(4.6)	46.8(7.8)	54.6(5.1)	56.5(4.6)	58.5(4.4)	59.3(5.3)	57.8(7.5)	63.2(4.0)	66.7(2.9)
<i>CV</i>	0.09	0.09	0.09	0.17	0.09	0.08	0.08	0.09	0.13	0.06	0.04
United States	47.9	50.5	49.9	47.5	56.3	56.9	58.8	59.6	61.9	64.2	65.8
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	67.5	67.8	67.7	68.3	70.0	71.7	72.9	74.5	76.0	77.8	79.1
Belgium	66.7	67.3	67.6	68.2	69.3	70.5	71.8	73.0	74.0	75.2	76.5
Canada	67.7	68.4	68.9	69.6	70.7	72.3	73.5	74.6	75.6	77.2	78.2
Denmark	70.4	70.4	70.5	70.9	71.3	71.4	71.8	72.5	73.5	74.9	76.1
Finland	64.6	65.5	65.7	66.5	68.1	70.0	70.6	71.8	73.3	74.8	75.9
France	65.9	67.2	67.6	68.6	69.5	70.6	71.9	73.1	74.4	75.8	77.1
Iceland	71.0	71.1	71.1	71.2	73.4	73.8	75.1	76.2	76.8	78.6	79.5
Italy	66.1	66.9	67.9	69.1	70.1	71.4	72.9	74.0	75.4	77.2	78.5
Netherlands	71.2	71.2	71.0	71.1	71.9	72.8	73.4	74.1	75.0	76.1	77.8
Norway	71.4	71.1	71.2	71.3	72.1	72.6	72.7	74.1	75.4	76.6	78.1
Spain	65.1	67.2	68.5	69.7	71.1	72.8	73.3	73.8	74.9	76.3	77.2
Sweden	71.2	71.5	71.8	72.1	72.3	73.4	74.2	75.3	76.7	77.8	78.8
Switzerland	68.1	68.7	69.6	70.6	71.9	72.7	73.8	74.5	76.1	77.7	79.0
UK England & Wales	67.9	68.2	68.7	69.2	70.0	71.3	72.3	73.6	74.7	76.2	77.7
UK Scotland	65.9	66.2	67.0	67.4	68.2	69.4	70.3	71.5	72.4	73.6	75.1
UK Northern Ireland	67.6	67.8	68.2	67.3	68.0	69.6	71.1	72.6	73.9	75.5	76.4
<i>Average Male(SD)</i>	68.0(2.3)	68.5(1.9)	68.9(1.8)	69.4(1.7)	70.5(1.6)	71.6(1.4)	72.6(1.3)	73.7(1.2)	74.9(1.2)	76.3(1.3)	77.6(1.3)
<i>CV</i>	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
United States	66.6	66.8	66.8	67.5	69.4	70.7	71.3	72.2	73.4	74.5	75.4

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. To fill in a few missing values in the early period (Australia, Canada, and UK Northern Ireland in 1900-19; Spain in 1900; and the US in 1905, 1915, and 1925), we use imputed values from sex-specific regressions with year and country fixed effects and country-specific linear time trends.

Appendix Table 1C. Total life expectancy at birth since 1900, US and 16 other high income countries

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	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	50.9	56.2	57.6	54.1	62.0	63.0	65.3	65.6	66.6	68.5	69.3
Belgium	48.8	50.3	51.3	49.9	55.6	56.8	58.7	60.0	58.2	62.9	67.6
Canada	50.2	52.3	54.0	50.7	57.5	58.5	61.2	62.8	64.5	66.9	69.0
Denmark	54.0	55.9	58.1	57.2	60.5	61.8	63.0	64.3	66.7	68.4	70.9
Finland	44.9	47.0	49.0	43.2	50.9	52.8	55.3	56.5	50.0	60.4	66.1
France	47.3	48.7	47.9	39.5	53.9	54.8	57.4	59.0	52.8	62.5	67.1
Iceland	50.3	50.1	55.0	55.2	55.5	59.9	61.9	63.3	65.0	69.5	72.1
Italy	43.1	44.5	47.8	36.6	49.6	52.0	55.6	56.5	53.0	60.5	66.3
Netherlands	50.0	53.2	56.0	54.2	60.5	62.9	65.4	67.1	64.4	66.5	71.8
Norway	55.1	56.5	58.0	55.9	61.1	62.9	64.9	66.4	65.9	70.1	72.6
Spain	36.0	41.3	42.2	39.8	43.5	48.4	50.8	49.1	51.8	59.4	64.2
Sweden	54.1	56.6	58.1	56.0	61.2	62.3	63.9	65.2	67.8	69.8	71.7
Switzerland	49.2	51.1	53.7	53.7	58.0	60.3	61.8	63.3	65.0	66.6	69.4
UK England & Wales	48.6	51.5	53.2	46.9	58.2	59.4	61.2	63.1	62.2	66.6	69.6
UK Scotland	47.8	49.8	51.6	50.8	55.3	56.7	58.3	59.9	59.5	64.3	67.3
UK Northern Ireland	47.0	49.1	50.9	47.8	54.7	55.8	58.0	58.6	60.0	64.9	67.9
<i>Average Total(SD)</i>	48.6(4.6)	50.9(4.3)	52.8(4.5)	49.5(6.6)	56.1(5.0)	58.0(4.4)	60.2(4.1)	61.3(4.7)	60.8(6.0)	65.5(3.5)	68.9(2.5)
<i>CV</i>	0.10	0.09	0.09	0.13	0.09	0.08	0.07	0.08	0.10	0.05	0.04
United States	49.2	51.9	51.5	50.2	57.4	58.5	60.6	61.6	64.3	66.8	68.6
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	70.4	70.9	71.0	71.6	73.5	75.2	76.2	77.7	78.9	80.5	81.6
Belgium	69.4	70.2	70.7	71.4	72.6	73.8	75.2	76.4	77.4	78.4	79.5
Canada	70.3	71.3	72.1	73.0	74.2	75.8	76.8	77.8	78.6	79.8	80.7
Denmark	72.1	72.4	72.9	73.6	74.3	74.5	74.8	75.3	76.1	77.3	78.5
Finland	68.0	69.1	69.6	70.8	72.6	74.3	74.8	75.7	77.1	78.4	79.5
France	69.3	70.7	71.4	72.4	73.6	74.8	76.2	77.4	78.6	79.7	80.8
Iceland	73.2	73.6	73.7	74.1	76.3	76.8	77.6	78.6	79.0	80.6	81.3
Italy	68.4	69.6	70.8	72.1	73.5	74.8	76.3	77.4	78.8	80.3	81.5
Netherlands	72.9	73.4	73.6	74.0	75.0	76.1	76.7	77.3	77.9	78.7	80.1
Norway	73.5	73.5	73.9	74.4	75.2	75.9	76.0	77.2	78.3	79.3	80.6
Spain	67.6	69.8	71.3	72.6	74.3	76.1	76.8	77.5	78.6	79.8	80.6
Sweden	72.9	73.4	74.1	74.8	75.3	76.4	77.2	78.1	79.3	80.2	81.0
Switzerland	70.7	71.6	72.6	73.7	75.2	76.2	77.3	78.0	79.4	80.6	81.7
UK England & Wales	70.8	71.3	72.0	72.5	73.3	74.5	75.4	76.5	77.4	78.7	80.0
UK Scotland	68.7	69.3	70.1	70.7	71.5	72.6	73.5	74.6	75.4	76.4	77.7
UK Northern Ireland	69.8	70.3	70.9	70.6	71.4	72.9	74.3	75.7	76.8	78.1	78.8
<i>Average Total(SD)</i>	70.5(1.9)	71.3(1.6)	71.9(1.4)	72.6(1.4)	73.9(1.4)	75.0(1.2)	75.9(1.2)	76.9(1.1)	78.0(1.2)	79.2(1.2)	80.2(1.2)
<i>CV</i>	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.01
United States	69.7	70.2	70.6	71.5	73.3	74.6	75.0	75.9	76.6	77.4	78.1

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. To fill in a few missing values in the early period (Australia, Canada, and UK Northern Ireland in 1900-19; Spain in 1900; and the US in 1905, 1915, and 1925), we use imputed values from sex-specific regressions with year and country fixed effects and country-specific linear time trends.

Appendix Table 2A. Female life expectancy at age 65 since 1900, US and 16 other high income countries

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	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	12.9	13.0	13.2	13.0	14.0	14.0	14.3	14.2	14.3	14.7	14.9
Belgium	11.9	11.8	12.1	11.7	12.5	12.5	12.9	13.1	13.0	13.8	14.2
Canada	12.8	13.0	13.2	13.0	13.7	13.5	14.0	14.1	14.2	14.9	15.3
Denmark	12.9	12.9	13.2	13.0	12.9	12.9	13.0	13.1	13.4	14.1	14.4
Finland	11.7	12.0	12.2	11.4	12.3	12.5	12.7	12.4	12.7	13.2	13.2
France	11.5	11.5	11.8	11.7	12.4	12.4	12.9	13.1	12.6	14.1	14.6
Iceland	13.1	13.1	13.7	13.4	13.4	15.0	15.6	14.9	15.2	16.0	16.5
Italy	10.8	11.0	11.4	10.9	11.8	12.0	12.8	12.6	12.4	13.6	14.1
Netherlands	12.2	12.3	12.7	12.3	12.8	12.9	13.3	13.4	13.1	14.0	14.8
Norway	14.3	14.3	14.5	14.1	14.6	14.7	14.8	14.8	15.3	15.7	15.9
Spain	10.2	10.5	10.7	10.7	11.2	11.9	12.3	12.2	12.8	14.2	14.4
Sweden	13.5	13.7	13.8	13.6	13.9	13.8	13.8	13.6	14.2	14.3	14.6
Switzerland	10.5	10.6	11.0	11.0	11.5	11.9	12.3	12.6	13.2	13.5	14.3
UK England & Wales	11.7	11.9	12.4	12.2	13.0	12.8	13.2	13.4	13.9	14.5	14.6
UK Scotland	11.7	12.1	12.2	12.1	12.5	12.4	12.7	12.7	13.2	13.6	13.6
UK Northern Ireland	11.5	11.7	11.9	11.6	12.1	12.3	12.4	12.4	12.9	13.6	13.8
<i>Average Female</i>	12.1(1.1)	12.2(1.1)	12.5(1.0)	12.2(1.0)	12.8(0.9)	13.0(1.0)	13.3(1.0)	13.3(0.8)	13.5(0.9)	14.2(0.8)	14.6(0.8)
<i>CV</i>	0.09	0.09	0.08	0.08	0.07	0.07	0.07	0.06	0.07	0.05	0.06
United States	12.2	12.5	12.0	12.5	12.8	13.3	13.4	13.4	13.9	14.7	15.4
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	15.4	15.8	15.9	16.3	17.4	18.2	18.5	19.3	20.1	20.9	21.7
Belgium	14.7	14.9	15.1	15.6	16.2	17.0	17.9	18.7	19.3	19.8	20.5
Canada	15.9	16.4	17.1	17.6	18.4	19.0	19.3	19.8	20.0	20.6	21.2
Denmark	15.1	15.3	15.9	16.8	17.4	17.7	17.9	17.8	17.9	18.4	19.2
Finland	13.6	13.8	14.0	15.1	16.3	17.2	17.5	18.1	18.9	19.8	20.9
France	15.3	15.9	16.4	16.9	17.7	18.4	19.3	20.3	20.8	21.5	22.3
Iceland	16.6	16.6	16.7	17.4	18.9	18.7	19.0	19.5	19.5	20.4	20.6
Italy	14.7	15.2	15.6	16.3	16.8	17.4	18.4	19.2	20.0	20.8	21.4
Netherlands	15.3	15.9	16.4	16.8	17.7	18.5	18.8	19.0	19.1	19.4	20.3
Norway	16.1	16.0	16.5	16.9	17.6	18.2	18.5	18.8	19.4	20.0	20.7
Spain	14.7	15.5	15.9	16.2	17.1	18.2	18.8	19.6	20.2	20.9	21.4
Sweden	15.2	15.6	16.2	17.1	17.6	18.3	18.8	19.3	19.8	20.2	20.7
Switzerland	14.8	15.4	15.8	16.7	17.8	18.4	19.3	19.9	20.4	21.1	21.7
UK England & Wales	15.1	15.4	15.9	16.2	16.6	17.1	17.5	18.1	18.5	19.3	20.2
UK Scotland	14.0	14.4	14.9	15.4	15.8	16.2	16.4	16.9	17.4	18.1	18.9
UK Northern Ireland	14.3	14.7	15.2	15.3	15.9	16.4	16.9	17.7	18.1	18.9	19.8
<i>Average Female</i>	15.0(0.8)	15.4(0.7)	15.8(0.8)	16.4(0.8)	17.2(0.9)	17.8(0.8)	18.3(0.9)	18.9(0.9)	19.3(1.0)	20.0(1.0)	20.7(0.9)
<i>CV</i>	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.04
United States	15.8	16.2	16.5	17.1	18.2	18.6	18.7	19.1	19.2	19.4	20.1

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. To fill in a few missing values in the early period (Australia, Canada, and UK Northern Ireland in 1900-19; Spain in 1900; and the US in 1905, 1915, and 1925), we use imputed values from sex-specific regressions with year and country fixed effects and country-specific linear time trends.

Appendix Table 2B. Male life expectancy at age 65 since 1900, US and 16 other high income countries

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	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	10.8	11.0	11.2	11.0	12.3	12.3	12.6	12.4	12.3	12.4	12.3
Belgium	10.8	10.7	10.8	10.9	11.4	11.3	11.7	11.7	11.3	12.3	12.4
Canada	12.1	12.2	12.4	12.2	13.0	12.7	13.1	13.1	12.9	13.3	13.5
Denmark	11.7	12.0	12.3	12.5	12.7	12.6	12.7	12.6	13.0	13.6	13.8
Finland	10.8	10.9	11.0	9.9	10.9	10.8	11.1	10.9	10.7	11.1	11.1
France	10.5	10.3	10.5	10.4	11.0	10.8	11.1	11.0	10.4	12.0	12.1
Iceland	10.9	11.3	12.2	12.0	11.5	13.3	13.5	12.9	13.8	14.8	14.7
Italy	10.7	10.8	11.2	10.7	11.5	11.4	12.0	11.9	11.4	12.8	13.0
Netherlands	11.6	11.7	12.1	11.7	12.4	12.5	12.9	12.9	12.5	13.2	14.1
Norway	13.4	13.5	13.5	13.3	13.7	13.8	13.9	13.8	14.3	14.8	14.8
Spain	9.2	10.0	10.0	9.7	10.1	10.4	10.8	10.2	10.7	12.0	12.4
Sweden	12.6	12.9	12.9	12.8	13.3	13.2	13.2	13.0	13.5	13.6	13.7
Switzerland	10.1	10.0	10.2	10.2	10.7	10.9	11.2	11.3	11.7	12.0	12.5
UK England & Wales	10.6	10.7	11.0	10.6	11.4	11.2	11.4	11.5	11.8	12.2	11.8
UK Scotland	10.5	10.8	10.8	10.4	10.9	10.8	11.1	11.0	11.4	11.9	11.5
UK Northern Ireland	11.0	11.0	11.2	10.9	11.5	11.6	11.6	11.5	11.9	12.4	12.3
<i>Average Male(SD)</i>	11.1(1.0)	11.2(1.0)	11.5(1.0)	11.2(1.1)	11.8(1.0)	11.8(1.1)	12.1(1.0)	12.0(1.0)	12.1(1.2)	12.8(1.1)	12.9(1.1)
<i>CV</i>	0.09	0.09	0.09	0.10	0.09	0.09	0.08	0.08	0.10	0.08	0.09
United States	11.5	11.3	11.2	11.3	12.2	11.9	12.0	11.9	12.2	12.7	12.9
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	12.4	12.4	12.2	12.5	13.3	14.0	14.6	15.5	16.4	17.6	18.6
Belgium	12.6	12.5	12.2	12.3	12.5	13.1	13.7	14.5	15.1	15.9	16.8
Canada	13.5	13.6	13.7	13.8	14.2	14.7	15.1	15.7	16.1	17.2	18.0
Denmark	13.9	13.6	13.5	13.7	13.8	13.8	14.1	14.2	14.6	15.4	16.3
Finland	11.4	11.5	11.3	11.7	12.3	13.0	13.4	14.1	14.8	15.9	16.9
France	12.4	12.7	12.7	13.1	13.5	14.2	14.9	15.8	16.2	17.1	17.9
Iceland	14.9	15.1	14.8	14.8	16.1	15.5	15.9	16.4	16.5	17.8	18.2
Italy	13.1	13.1	13.0	13.3	13.3	13.8	14.6	15.3	15.9	16.9	17.7
Netherlands	14.1	14.1	13.8	13.6	13.7	14.0	14.2	14.5	14.9	15.7	16.8
Norway	14.7	14.2	14.0	13.9	14.2	14.3	14.4	14.9	15.5	16.4	17.4
Spain	12.6	13.0	13.2	13.4	14.0	14.8	15.3	15.8	16.2	16.9	17.4
Sweden	13.9	13.8	13.9	14.1	14.1	14.5	15.0	15.6	16.2	17.0	17.7
Switzerland	12.8	12.9	13.0	13.5	14.1	14.6	15.2	15.7	16.5	17.5	18.3
UK England & Wales	11.9	12.0	12.1	12.3	12.6	13.1	13.6	14.3	15.1	16.3	17.5
UK Scotland	11.5	11.4	11.6	11.6	11.9	12.4	12.7	13.3	14.0	15.1	16.2
UK Northern Ireland	12.3	12.3	12.3	12.0	12.3	12.6	13.1	13.9	14.6	15.8	16.9
<i>Average Male(SD)</i>	13.0(1.1)	13.0(1.0)	13.0(1.0)	13.1(0.9)	13.5(1.0)	13.9(0.9)	14.4(0.9)	15.0(0.9)	15.5(0.8)	16.5(0.8)	17.4(0.7)
<i>CV</i>	0.08	0.08	0.07	0.07	0.08	0.06	0.06	0.06	0.05	0.05	0.04
United States	13.0	12.9	12.9	13.1	13.9	14.3	14.7	15.3	15.8	16.5	17.3

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. To fill in a few missing values in the early period (Australia, Canada, and UK Northern Ireland in 1900-19; Spain in 1900; and the US in 1905, 1915, and 1925), we use imputed values from sex-specific regressions with year and country fixed effects and country-specific linear time trends.



Appendix Table 2C. Total life expectancy at age 65 since 1900, US and 16 other high income countries

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	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	11.8	12.0	12.2	12.0	13.1	13.1	13.5	13.4	13.3	13.6	13.6
Belgium	11.4	11.3	11.5	11.3	12.0	12.0	12.4	12.4	12.2	13.1	13.4
Canada	12.4	12.6	12.8	12.6	13.4	13.1	13.6	13.6	13.5	14.1	14.4
Denmark	12.4	12.5	12.8	12.8	12.8	12.8	12.8	12.9	13.2	13.9	14.1
Finland	11.3	11.5	11.7	10.8	11.7	11.8	12.0	11.8	11.8	12.3	12.4
France	11.0	10.9	11.3	11.1	11.8	11.7	12.1	12.2	11.7	13.3	13.5
Iceland	12.1	12.4	13.1	12.8	12.6	14.3	14.7	14.0	14.6	15.5	15.8
Italy	10.8	10.9	11.3	10.8	11.6	11.8	12.5	12.3	12.0	13.2	13.6
Netherlands	11.9	12.0	12.4	12.0	12.6	12.7	13.1	13.1	12.8	13.6	14.5
Norway	13.9	14.0	14.0	13.8	14.2	14.3	14.4	14.3	14.8	15.3	15.4
Spain	9.8	10.3	10.4	10.3	10.7	11.3	11.6	11.3	11.9	13.3	13.5
Sweden	13.1	13.4	13.4	13.3	13.7	13.5	13.5	13.3	13.9	13.9	14.2
Switzerland	10.3	10.4	10.6	10.7	11.1	11.5	11.8	12.1	12.6	12.8	13.5
UK England & Wales	11.2	11.4	11.8	11.5	12.3	12.1	12.5	12.6	13.0	13.6	13.5
UK Scotland	11.2	11.6	11.6	11.4	11.9	11.8	12.1	12.0	12.5	12.9	12.7
UK Northern Ireland	11.2	11.4	11.5	11.3	11.8	12.0	12.0	12.0	12.4	13.1	13.2
<i>Average Total(SD)</i>	11.6(1.0)	11.8(1.0)	12.0(1.0)	11.8(1.0)	12.3(0.9)	12.5(1.0)	12.8(0.9)	12.7(0.8)	12.9(1.0)	13.6(0.8)	13.8(0.9)
<i>CV</i>	0.09	0.09	0.08	0.09	0.08	0.08	0.07	0.07	0.08	0.06	0.06
United States	11.9	11.9	11.6	11.9	12.5	12.6	12.7	12.7	13.1	13.7	14.2
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	13.9	14.2	14.1	14.5	15.6	16.4	16.8	17.6	18.5	19.6	20.4
Belgium	13.7	13.8	13.8	14.0	14.6	15.3	16.0	16.9	17.6	18.2	19.0
Canada	14.7	15.0	15.3	15.7	16.4	17.0	17.4	18.0	18.3	19.2	19.9
Denmark	14.5	14.5	14.7	15.3	15.7	15.9	16.1	16.2	16.4	17.2	18.0
Finland	12.7	12.8	12.9	13.6	14.7	15.5	15.9	16.4	17.3	18.2	19.2
France	14.1	14.5	14.8	15.3	15.9	16.6	17.5	18.5	18.9	19.7	20.6
Iceland	15.8	15.9	15.9	16.2	17.6	17.2	17.5	18.0	18.1	19.2	19.6
Italy	14.0	14.3	14.4	14.9	15.2	15.8	16.7	17.5	18.3	19.2	20.0
Netherlands	14.8	15.1	15.1	15.3	15.8	16.4	16.7	17.0	17.3	17.8	18.9
Norway	15.5	15.1	15.3	15.5	15.9	16.4	16.6	17.1	17.7	18.4	19.3
Spain	13.8	14.4	14.7	15.0	15.7	16.8	17.3	17.9	18.5	19.1	19.6
Sweden	14.6	14.8	15.1	15.7	16.0	16.6	17.1	17.6	18.3	18.8	19.4
Switzerland	13.9	14.3	14.6	15.3	16.1	16.8	17.5	18.1	18.8	19.6	20.4
UK England & Wales	13.8	14.0	14.3	14.6	14.9	15.5	15.9	16.6	17.1	18.1	19.2
UK Scotland	12.9	13.1	13.5	13.8	14.2	14.6	15.0	15.5	16.1	16.9	17.8
UK Northern Ireland	13.4	13.6	13.9	13.9	14.3	14.8	15.3	16.1	16.7	17.7	18.5
<i>Average Total(SD)</i>	14.1(0.8)	14.3(0.8)	14.5(0.8)	14.9(0.8)	15.5(0.9)	16.1(0.8)	16.6(0.8)	17.2(0.8)	17.7(0.8)	18.6(0.9)	19.4(0.8)
<i>CV</i>	0.06	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.04
United States	14.4	14.6	14.9	15.3	16.3	16.7	17.0	17.5	17.8	18.2	18.9

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. To fill in a few missing values in the early period (Australia, Canada, and UK Northern Ireland in 1900-19; Spain in 1900; and the US in 1905, 1915, and 1925), we use imputed values from sex-specific regressions with year and country fixed effects and country-specific linear time trends.

Appendix Table 3A. Percent of female cohort surviving to age 65 since 1900, US and 16 other high income countries

	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	52.8%	55.3%	57.9%	54.6%	64.2%	65.7%	69.1%	69.9%	71.6%	75.0%	77.3%
Belgium	46.1%	48.2%	50.1%	47.2%	55.5%	57.1%	60.1%	62.5%	61.8%	68.3%	75.7%
Canada	46.1%	48.9%	51.9%	49.0%	57.0%	58.7%	62.1%	64.7%	68.3%	72.3%	76.4%
Denmark	53.0%	55.6%	58.5%	56.1%	60.7%	62.7%	64.5%	67.1%	71.1%	73.9%	78.9%
Finland	41.4%	44.0%	46.3%	41.8%	49.6%	51.6%	55.1%	57.8%	59.3%	66.6%	74.3%
France	43.2%	44.9%	48.2%	44.4%	52.4%	54.0%	58.1%	60.9%	56.3%	68.3%	74.7%
Iceland	46.8%	49.2%	55.3%	54.8%	57.5%	58.8%	62.2%	67.7%	69.6%	74.8%	80.5%
Italy	38.3%	40.1%	44.8%	35.7%	47.6%	51.2%	56.4%	58.2%	58.3%	65.7%	74.0%
Netherlands	48.2%	51.8%	55.8%	52.1%	60.7%	64.3%	67.8%	70.7%	69.1%	73.7%	80.7%
Norway	53.2%	54.6%	57.0%	53.8%	61.0%	64.0%	67.6%	70.8%	72.3%	77.8%	82.2%
Spain	27.8%	34.9%	37.3%	32.8%	39.7%	46.0%	50.1%	50.7%	54.1%	63.6%	70.5%
Sweden	52.7%	55.6%	57.9%	54.2%	62.1%	63.5%	65.9%	68.6%	73.2%	76.3%	80.3%
Switzerland	43.4%	46.0%	50.4%	49.7%	56.4%	60.2%	63.6%	66.6%	70.2%	72.8%	77.8%
UK England & Wales	43.7%	47.7%	51.2%	50.8%	58.8%	60.8%	63.3%	66.5%	68.6%	74.3%	78.1%
UK Scotland	40.1%	42.7%	46.7%	46.6%	53.0%	55.6%	58.2%	61.0%	63.1%	68.5%	73.3%
UK Northern Ireland	35.7%	39.0%	42.5%	40.1%	47.3%	49.5%	54.3%	55.7%	59.7%	67.6%	73.5%
<i>Average Female(SD)</i>	44.5(7.0)%	47.4(6.3)%	50.7(6.2)%	47.7(7.1)%	55.2(6.6)%	57.7(5.9)%	61.1(5.4)%	63.7(5.9)%	65.4(6.3)%	71.2(4.2)%	76.8(3.3)%
<i>CV</i>	0.16	0.13	0.12	0.15	0.12	0.10	0.09	0.09	0.10	0.06	0.04
United States	43.25%	46.4%	46.44%	46.5%	54.30%	56.3%	59.9%	62.0%	67.1%	71.6%	75.4%
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	79.9%	80.7%	80.7%	81.8%	84.2%	86.5%	87.6%	89.2%	90.4%	91.5%	92.3%
Belgium	79.0%	80.8%	81.5%	82.5%	84.0%	85.5%	87.2%	88.3%	89.1%	89.7%	90.3%
Canada	79.2%	81.1%	82.2%	83.4%	84.9%	86.6%	87.7%	88.7%	89.4%	90.2%	90.8%
Denmark	81.2%	82.4%	82.9%	83.4%	84.1%	83.8%	83.7%	84.4%	85.6%	87.6%	88.8%
Finland	77.9%	80.0%	81.6%	83.8%	86.0%	87.9%	88.3%	89.2%	90.3%	90.7%	91.0%
France	78.7%	81.2%	82.4%	84.0%	85.7%	87.2%	88.5%	89.5%	90.3%	90.9%	91.5%
Iceland	82.7%	84.4%	84.2%	84.5%	86.8%	88.6%	88.6%	89.2%	90.2%	91.1%	92.3%
Italy	77.6%	79.8%	81.7%	83.6%	85.7%	87.3%	88.8%	89.9%	91.0%	92.1%	92.9%
Netherlands	83.3%	84.8%	85.2%	85.9%	87.1%	88.1%	88.5%	88.8%	89.1%	89.5%	90.5%
Norway	84.4%	85.3%	86.0%	87.2%	87.8%	88.5%	88.1%	89.0%	90.0%	90.5%	91.4%
Spain	76.0%	79.4%	81.9%	84.0%	86.3%	88.6%	89.7%	90.5%	91.6%	92.5%	93.0%
Sweden	82.9%	84.4%	85.6%	86.5%	87.3%	88.3%	89.1%	89.7%	90.7%	91.2%	91.9%
Switzerland	80.7%	82.7%	84.2%	85.8%	87.6%	88.5%	89.6%	90.1%	91.0%	91.8%	92.4%
UK England & Wales	80.5%	81.4%	82.1%	82.6%	83.4%	84.7%	85.8%	87.4%	88.5%	89.5%	90.4%
UK Scotland	76.4%	77.7%	78.9%	79.2%	79.8%	81.4%	82.9%	84.4%	85.8%	86.9%	87.9%
UK Northern Ireland	77.5%	79.2%	80.2%	80.3%	80.9%	82.7%	84.6%	86.2%	87.9%	89.2%	89.7%
<i>Average Female(SD)</i>	79.9(2.5) %	81.6(2.2)%	82.6(2.0)%	83.6(2.1)%	85.1(2.3)%	86.5(2.3)%	87.4(2.1)%	88.4(1.9)%	89.4(1.7)%	90.3(1.5)%	91.1(1.4)%
<i>CV</i>	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
United States	77.8%	78.6%	79.2%	80.4%	82.7%	83.9%	84.6%	85.4%	86.1%	86.7%	87.3%

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix Table 1.

Appendix Table 3B. Percent of male cohort surviving to age 65 since 1900, US and 16 other high income countries

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	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	45.3%	47.5%	49.3%	42.7%	56.0%	57.6%	61.4%	61.0%	62.6%	65.2%	65.5%
Belgium	39.0%	41.3%	42.6%	41.2%	49.3%	50.4%	52.5%	53.9%	48.3%	56.3%	63.8%
Canada	44.5%	46.7%	48.5%	42.0%	54.7%	55.6%	58.8%	60.1%	61.9%	64.5%	66.3%
Denmark	46.4%	49.2%	52.4%	52.0%	58.7%	60.8%	62.1%	63.8%	67.7%	69.8%	73.3%
Finland	35.8%	36.6%	38.1%	24.8%	38.1%	39.1%	41.8%	42.5%	26.3%	46.3%	56.8%
France	36.1%	36.5%	32.1%	16.0%	43.5%	43.9%	46.5%	47.2%	34.9%	55.9%	61.6%
Iceland	38.2%	37.9%	43.8%	43.8%	42.5%	54.7%	56.0%	58.2%	60.7%	69.0%	73.0%
Italy	36.7%	38.0%	42.7%	20.8%	44.5%	47.1%	51.4%	52.3%	42.0%	56.8%	65.2%
Netherlands	43.5%	47.8%	52.2%	48.8%	58.9%	62.8%	66.4%	68.7%	62.4%	64.8%	75.3%
Norway	48.1%	50.3%	51.5%	48.3%	56.7%	59.1%	62.7%	65.0%	61.8%	71.2%	75.4%
Spain	23.6%	31.1%	32.9%	28.5%	33.8%	38.5%	42.0%	34.1%	38.8%	51.6%	60.5%
Sweden	47.9%	51.0%	52.7%	49.5%	58.1%	59.8%	62.3%	63.8%	67.8%	71.3%	74.5%
Switzerland	36.9%	38.6%	42.1%	41.7%	48.8%	51.9%	54.0%	57.1%	60.3%	63.6%	67.7%
UK England & Wales	36.4%	40.3%	42.5%	27.4%	51.0%	52.7%	55.2%	57.3%	52.9%	60.9%	66.4%
UK Scotland	34.2%	37.6%	41.0%	40.1%	47.1%	49.2%	51.7%	53.3%	49.2%	57.9%	61.6%
UK Northern Ireland	37.9%	40.4%	42.5%	36.1%	47.5%	49.4%	52.5%	53.4%	55.0%	62.0%	65.3%
<i>Average Male(SD)</i>	39.4(6.3)%	41.9(6.0)%	44.2(6.5)%	37.7(11.0)%	49.3(7.6)%	52.0(7.4)%	54.8(7.3)%	55.7(8.9)%	53.3(12.4)%	61.7(7.2)%	67.0(5.7)%
<i>CV</i>	0.16	0.14	0.15	0.29	0.15	0.14	0.13	0.16	0.23	0.12	0.09
United States	38.7%	40.8%	40.3%	36.2%	50.66%	0.50075	52.0%	53.0%	56.3%	59.5%	62.2%
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	67.2%	67.3%	67.0%	68.4%	71.7%	75.3%	77.9%	80.9%	83.4%	85.8%	87.1%
Belgium	66.4%	66.6%	67.2%	68.7%	70.9%	73.2%	75.9%	78.3%	79.8%	81.2%	82.8%
Canada	67.8%	68.7%	69.4%	70.4%	72.2%	75.7%	78.2%	80.3%	82.5%	84.4%	85.4%
Denmark	74.2%	73.8%	73.6%	73.7%	74.2%	73.9%	74.6%	76.4%	78.5%	80.9%	82.5%
Finland	60.1%	60.9%	61.0%	62.6%	65.8%	70.1%	71.7%	74.6%	77.7%	79.9%	80.5%
France	64.1%	65.9%	66.6%	68.5%	69.9%	71.7%	73.8%	75.8%	78.3%	80.4%	81.9%
Iceland	74.7%	74.0%	74.1%	73.5%	76.6%	78.6%	81.5%	83.6%	84.8%	87.2%	88.4%
Italy	66.8%	67.6%	69.2%	71.2%	72.5%	74.6%	77.3%	79.4%	82.2%	84.9%	86.8%
Netherlands	75.6%	74.8%	74.0%	74.2%	75.9%	77.7%	79.2%	80.9%	82.6%	84.4%	86.6%
Norway	75.7%	75.0%	74.8%	75.0%	76.1%	77.0%	77.0%	80.1%	82.8%	84.7%	86.6%
Spain	66.1%	69.3%	71.2%	72.9%	74.8%	77.3%	77.9%	78.4%	80.2%	82.3%	83.6%
Sweden	75.9%	76.4%	76.7%	76.9%	77.0%	78.6%	80.4%	82.4%	84.8%	86.4%	87.5%
Switzerland	69.5%	70.2%	72.3%	74.1%	76.1%	77.4%	79.4%	80.8%	83.3%	85.5%	87.0%
UK England & Wales	68.1%	68.6%	69.7%	70.8%	72.4%	74.8%	77.1%	79.7%	81.8%	83.7%	85.2%
UK Scotland	63.3%	63.4%	65.2%	66.1%	67.4%	69.7%	72.0%	75.0%	76.5%	78.1%	80.4%
UK Northern Ireland	67.8%	67.5%	68.5%	66.5%	67.5%	70.6%	73.9%	77.5%	80.4%	82.6%	83.1%
<i>Average Male(SD)</i>	69.0(4.9)%	69.4(4.4)%	70.0(4.2)%	70.8(3.8)%	72.6(3.5)%	74.8(3.0)%	76.7(2.9)%	79.0(2.6)%	81.2(2.5)%	83.3(2.6)%	84.7(2.6)%
<i>CV</i>	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03
United States	63.8%	64.0%	63.7%	65.3%	69.1%	71.8%	73.1%	74.6%	77.0%	78.7%	79.4%

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix Table 1.

Appendix Table 3C. Percent of total cohort surviving to age 65 since 1900, US and 16 other high income countries

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	1900-1904	1905-1909	1910-1914	1915-1919	1920-1924	1925-1929	1930-1934	1935-1939	1940-1944	1945-1949	1950-1954
Australia	48.9%	51.2%	53.4%	48.0%	59.9%	61.4%	65.0%	65.2%	67.0%	70.0%	71.4%
Belgium	42.5%	44.7%	46.3%	44.2%	52.4%	53.8%	56.3%	58.2%	54.8%	62.1%	69.7%
Canada	45.3%	47.8%	50.2%	45.0%	55.9%	57.2%	60.4%	62.4%	65.0%	68.3%	71.2%
Denmark	49.8%	52.5%	55.6%	54.1%	59.8%	61.9%	63.4%	65.5%	69.4%	71.8%	76.1%
Finland	38.6%	40.3%	42.3%	32.6%	43.9%	45.4%	48.4%	50.0%	40.4%	56.6%	65.9%
France	39.6%	40.6%	39.5%	27.2%	48.1%	49.0%	52.3%	54.0%	44.8%	62.3%	68.4%
Iceland	42.7%	43.7%	49.6%	49.4%	50.1%	56.8%	59.1%	63.0%	65.1%	71.8%	76.6%
Italy	37.6%	39.1%	43.8%	27.1%	46.1%	49.2%	54.0%	55.3%	49.5%	61.2%	69.6%
Netherlands	45.8%	49.9%	54.0%	50.5%	59.8%	63.6%	67.1%	69.7%	65.7%	69.1%	78.0%
Norway	50.7%	52.5%	54.4%	51.1%	58.9%	61.6%	65.2%	67.9%	66.9%	74.5%	78.8%
Spain	25.7%	33.0%	35.1%	30.7%	36.8%	42.3%	46.1%	41.6%	46.1%	57.7%	65.8%
Sweden	50.4%	53.3%	55.4%	51.9%	60.1%	61.7%	64.2%	66.2%	70.5%	73.8%	77.4%
Switzerland	40.2%	42.3%	46.3%	45.7%	52.7%	56.2%	58.9%	62.0%	65.4%	68.3%	72.9%
UK England & Wales	40.1%	44.0%	46.9%	37.6%	55.0%	56.9%	59.4%	62.1%	60.8%	67.5%	72.4%
UK Scotland	37.2%	40.2%	44.0%	43.5%	50.2%	52.6%	55.1%	57.3%	56.5%	63.4%	67.7%
UK Northern Ireland	37.0%	39.9%	42.6%	37.8%	47.4%	49.5%	53.5%	54.6%	57.4%	64.9%	69.5%
<i>Average Total(SD)</i>	42.0(6.5)%	44.7(5.9)%	47.4(6.1)%	42.3(9.0)%	52.3(6.8)%	54.9(6.4)%	58.0(6.2)%	59.7(7.4)%	59.1(9.5)%	66.5(5.5)%	72.0(4.3)%
<i>CV</i>	0.16	0.13	0.13	0.21	0.13	0.12	0.11	0.12	0.16	0.08	0.06
United States	40.9%	43.4%	43.2%	40.7%	52.5%	53.2%	55.7%	57.2%	61.4%	65.3%	68.7%
	1955-1959	1960-1964	1965-1969	1970-1974	1975-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009
Australia	73.5%	74.0%	73.8%	75.0%	77.9%	80.8%	82.9%	85.2%	86.8%	88.5%	89.6%
Belgium	72.5%	73.6%	74.3%	75.6%	77.5%	79.4%	81.6%	83.3%	84.4%	85.4%	86.5%
Canada	73.3%	74.8%	75.7%	76.9%	78.5%	81.4%	83.1%	84.4%	85.9%	87.3%	88.0%
Denmark	77.7%	78.1%	78.3%	78.5%	79.2%	78.9%	79.2%	80.3%	82.0%	84.2%	85.6%
Finland	69.3%	70.7%	71.5%	73.5%	76.0%	79.1%	80.0%	81.9%	83.9%	85.3%	85.9%
France	71.8%	73.8%	74.5%	76.2%	77.9%	79.7%	81.3%	82.7%	84.7%	85.7%	86.5%
Iceland	78.6%	79.0%	79.0%	78.8%	81.5%	83.4%	84.9%	86.3%	87.5%	89.1%	90.3%
Italy	72.2%	73.8%	75.5%	77.5%	79.2%	81.1%	83.3%	84.8%	86.7%	88.6%	89.8%
Netherlands	79.4%	79.7%	79.5%	80.0%	81.5%	83.0%	83.9%	84.9%	85.9%	87.0%	88.6%
Norway	80.1%	80.1%	80.4%	81.0%	82.0%	82.8%	82.6%	84.5%	86.4%	87.6%	88.9%
Spain	71.3%	74.7%	77.0%	79.0%	81.2%	83.3%	83.9%	84.5%	85.9%	87.5%	88.4%
Sweden	79.3%	80.4%	81.1%	81.6%	82.1%	83.3%	84.6%	86.0%	87.6%	88.8%	89.6%
Switzerland	75.3%	76.7%	78.5%	80.1%	82.0%	83.0%	84.6%	85.5%	87.2%	88.6%	89.7%
UK England & Wales	74.5%	75.1%	76.3%	76.8%	78.0%	79.8%	81.6%	83.6%	85.1%	86.5%	87.7%
UK Scotland	70.0%	70.8%	72.3%	72.9%	73.8%	75.7%	77.5%	79.8%	81.2%	82.5%	84.1%
UK Northern Ireland	72.7%	73.5%	74.6%	73.4%	74.3%	76.8%	79.4%	81.9%	84.1%	85.8%	86.1%
<i>Average Total(SD)</i>	74.5(3.5)%	75.6(3.1)%	76.4(2.9)%	77.3(2.7)%	78.9(2.7)%	80.7(2.4)%	82.2(2.2)%	83.7(1.9)%	85.3(1.9)%	86.8(1.9)%	87.8(1.8)%
<i>CV</i>	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02
United States	70.9%	71.5%	72.1%	73.4%	76.4%	78.7%	79.3%	80.6%	81.9%	83.0%	83.3%

CV = Coefficient of variation. Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix Table 1.

Appendix Table 4A. Change in female life expectancy at birth, US and 16 other high income countries

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	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	11.2	13.3	5.8	5.8	3.5	3.5	4.9	4.6	4.5
Belgium	6.7	10.7	7.1	9.9	8.2	3.8	4.6	4.7	3.7
Canada	6.5	10.6	9.3	9.1	6.6	4.8	4.5	3.3	2.8
Denmark	5.3	7.0	7.0	8.4	5.7	3.5	2.4	1.2	3.0
Finland	6.8	12.0	9.2	11.7	8.9	5.6	5.4	3.7	4.0
France	6.3	11.8	8.5	10.5	9.7	5.2	5.0	4.6	4.0
Iceland	8.1	8.0	10.1	9.6	5.2	3.9	3.7	1.8	2.9
Italy	8.1	15.8	9.7	12.8	11.1	6.1	5.8	5.1	4.4
Netherlands	9.3	12.7	5.2	6.7	7.4	3.7	3.6	2.2	2.1
Norway	6.6	10.5	7.6	7.5	4.8	2.9	2.7	2.6	3.3
Spain	7.7	12.7	12.2	16.5	11.8	7.3	6.1	5.0	3.7
Sweden	5.6	9.2	7.6	8.1	5.4	3.8	3.6	3.3	2.9
Switzerland	9.3	9.8	6.7	8.0	6.8	5.2	5.1	3.7	3.4
UK England & Wales	8.0	10.1	8.5	8.4	5.1	2.6	3.1	3.6	3.9
UK Scotland	7.4	9.3	8.0	9.5	6.7	3.2	3.2	3.5	3.6
UK Northern Ireland	7.0	9.7	10.0	12.4	7.4	2.8	3.6	4.6	4.1
<i>Average Female</i>	7.5	10.8	8.3	9.7	7.1	4.2	4.2	3.6	3.5
<i>Standard Deviation</i>	1.5	2.2	1.8	2.7	2.3	1.3	1.1	1.2	0.7
<i>CV</i>	0.20	0.20	0.21	0.28	0.32	0.31	0.27	0.32	0.19
	1901-1920	1910-1933	1920-1947						
United States	7.8	9.3	11.0	9.2	4.6	4.1	4.2	2.3	2.2

CV = Coefficient of variation.

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix Table 1.

Appendix Table 4B. Change in male life expectancy at birth, US and 16 other high income countries

9/20

	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	6.6	12.3	5.2	3.9	1.4	2.5	5.2	6.0	6.3
Belgium	6.3	9.8	5.3	8.9	7.5	2.6	4.1	4.8	4.8
Canada	5.9	12.9	7.9	6.3	3.9	3.0	4.5	5.0	4.7
Denmark	6.6	7.3	6.3	7.3	3.3	0.9	1.3	2.2	4.3
Finland	4.9	14.2	6.1	11.1	9.4	3.5	4.8	5.2	5.3
France	5.7	23.8	7.0	10.0	8.1	3.6	4.3	4.9	5.2
Iceland	11.3	8.2	9.2	10.2	3.5	2.4	4.0	3.4	4.4
Italy	7.0	22.6	7.4	11.0	9.5	4.1	5.0	5.3	5.6
Netherlands	10.2	13.2	2.1	4.9	6.8	0.7	2.4	3.1	4.4
Norway	6.3	10.6	6.8	6.6	2.9	0.7	1.5	3.3	5.4
Spain	6.6	6.4	9.8	19.9	11.9	6.0	4.8	3.8	3.9
Sweden	5.9	9.4	7.3	7.2	3.3	1.2	2.4	4.3	4.6
Switzerland	9.0	9.4	6.0	6.8	5.1	3.8	4.2	4.3	5.2
UK England & Wales	7.7	20.5	6.0	7.1	5.4	2.2	3.6	4.7	5.4
UK Scotland	6.4	8.8	7.2	8.2	5.1	2.3	3.4	4.2	4.8
UK Northern Ireland	6.3	11.5	8.2	9.9	4.7	0.4	2.9	5.9	5.4
<i>Average Male</i>	7.0	12.5	6.7	8.7	5.7	2.5	3.7	4.4	5.0
<i>Standard Deviation</i>	1.7	5.3	1.8	3.6	2.9	1.5	1.2	1.0	0.6
<i>CV</i>	0.24	0.42	0.27	0.42	0.50	0.61	0.34	0.24	0.12
	1901-1920	1910-1933	1920-1947						
United States	8.5	8.9	7.8	7.0	2.6	2.8	4.6	4.1	4.1

CV = Coefficient of variation.

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix Table 1.

Appendix Table 4C. Change in total life expectancy at birth, US and 16 other high income countries

9/20

	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	6.9	11.5	5.5	4.8	2.4	3.1	5.2	5.4	5.4
Belgium	6.5	10.2	6.1	9.4	7.8	3.2	4.5	4.9	4.3
Canada	6.2	12.0	8.5	7.5	5.2	3.9	4.7	4.4	3.9
Denmark	5.9	7.1	6.6	7.8	4.5	2.2	1.9	1.8	3.7
Finland	5.8	13.3	7.6	11.6	9.2	4.5	5.2	4.6	4.7
France	6.1	19.4	7.8	10.3	8.9	4.4	4.8	5.0	4.7
Iceland	9.8	8.1	9.6	9.9	4.2	3.1	3.9	2.7	3.7
Italy	7.5	19.9	8.5	11.9	10.3	5.1	5.5	5.3	5.2
Netherlands	9.7	12.9	3.6	5.8	7.1	2.2	3.1	2.9	3.4
Norway	6.4	10.5	7.2	7.0	3.8	1.7	2.2	3.1	4.5
Spain	7.1	9.2	11.0	18.5	11.9	6.7	5.5	4.3	3.8
Sweden	5.7	9.2	7.5	7.6	4.3	2.5	3.1	4.0	3.8
Switzerland	9.2	9.6	6.4	7.4	6.0	4.5	4.7	4.1	4.4
UK England & Wales	7.9	16.2	7.2	7.8	5.4	2.4	3.4	4.2	4.6
UK Scotland	6.9	9.1	7.6	8.8	5.8	2.8	3.4	3.9	4.1
UK Northern Ireland	6.6	10.9	9.1	11.1	6.0	1.6	3.3	5.4	4.5
<i>Average Total</i>	7.1	11.8	7.5	9.2	6.4	3.4	4.0	4.1	4.3
<i>Standard Deviation</i>	1.3	3.8	1.7	3.2	2.6	1.4	1.1	1.0	0.6
<i>CV</i>	0.19	0.32	0.23	0.35	0.40	0.41	0.29	0.25	0.13
	1901-1920	1910-1933	1920-1947						
United States	8.2	9.1	9.3	8.1	3.8	3.6	4.5	3.3	3.1

CV = Coefficient of variation.

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix Table 1.

Appendix Table 5A. Change in years lived past 65 for females, US and 16 other high income countries

9/20

	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	2.0	2.9	1.9	2.3	1.8	2.4	3.5	3.4	3.7
Belgium	1.4	2.6	2.3	3.4	2.9	2.0	3.3	3.6	2.9
Canada	1.6	2.8	2.8	3.4	3.3	3.0	2.9	2.3	2.3
Denmark	0.9	1.5	2.3	3.5	2.8	2.4	1.8	0.6	2.0
Finland	1.2	2.4	2.4	3.5	2.6	3.4	4.0	3.0	3.6
France	1.5	2.8	3.0	4.0	3.8	3.2	3.6	3.6	3.3
Iceland	2.4	2.7	3.1	3.6	2.2	2.7	2.7	1.1	2.2
Italy	1.8	3.5	2.7	4.0	3.8	2.9	3.6	3.8	3.6
Netherlands	1.9	3.0	2.0	3.3	3.6	2.7	2.7	1.6	1.7
Norway	1.6	2.8	2.9	3.2	2.0	1.8	2.0	2.0	2.6
Spain	1.8	2.7	3.5	5.0	4.0	3.5	3.9	3.8	3.0
Sweden	1.1	1.9	2.1	3.3	3.0	2.8	2.8	2.6	2.3
Switzerland	2.3	2.9	2.6	3.5	3.5	3.6	4.0	3.0	2.8
UK England & Wales	2.1	2.7	3.0	3.2	2.3	1.6	2.0	2.5	3.2
UK Scotland	1.7	2.1	2.4	2.9	2.5	1.9	1.8	2.4	3.0
UK Northern Ireland	1.5	2.2	3.1	4.2	3.0	1.7	2.1	3.1	3.4
<i>Average Female</i>	1.7	2.6	2.6	3.5	2.9	2.6	2.9	2.7	2.9
<i>Standard Deviation</i>	0.4	0.5	0.5	0.6	0.7	0.7	0.8	1.0	0.6
	1901-1920	1910-1933	1920-1947						
United States	1.6	2.4	3.6	4.0	2.5	2.7	2.7	1.5	1.7

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix tables 2 and 3.



Appendix Table 5B. Change in years lived past 65 for males, US and 16 other high income countries

9/20

	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	1.8	2.9	1.0	0.8	0.1	1.2	3.2	4.1	4.8
Belgium	1.3	1.8	1.2	2.0	1.3	0.5	2.2	3.2	3.5
Canada	1.3	2.8	1.5	1.3	0.9	1.1	2.3	3.0	3.6
Denmark	1.8	1.6	1.8	2.2	0.4	-0.1	0.6	1.2	3.0
Finland	0.3	2.2	0.9	2.2	1.8	1.2	2.7	3.4	4.0
France	1.0	3.5	2.0	2.8	1.7	1.5	2.6	3.2	3.7
Iceland	3.0	2.3	3.0	3.6	0.7	1.2	1.9	1.6	3.2
Italy	1.3	4.0	1.9	2.6	1.8	0.9	2.3	3.4	4.1
Netherlands	2.2	3.1	0.7	1.8	1.7	-0.3	1.0	1.9	3.3
Norway	1.3	2.5	2.4	2.2	-0.1	-0.4	0.7	2.1	3.9
Spain	0.9	0.7	2.2	4.9	3.2	2.1	2.5	2.6	2.7
Sweden	1.3	2.0	1.8	2.3	1.0	0.3	1.3	2.9	3.5
Switzerland	1.8	2.2	2.0	2.4	1.8	1.8	2.7	3.0	3.9
UK England & Wales	1.5	3.7	1.6	1.5	1.0	1.0	2.1	3.2	4.4
UK Scotland	1.3	1.7	1.5	1.4	0.7	0.8	1.6	2.7	3.9
UK Northern Ireland	1.3	2.2	2.0	2.2	0.8	-0.1	1.3	3.4	4.4
<i>Average Male</i>	1.5	2.4	1.7	2.3	1.2	0.8	1.9	2.8	3.7
<i>Standard Deviation</i>	0.6	0.9	0.6	1.0	0.8	0.7	0.8	0.8	0.6
	1901-1920	1910-1933	1920-1947						
United States	1.7	1.7	1.4	2.0	0.6	1.3	2.5	2.5	3.0

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix tables 2 and 3.

Appendix Table 5C. Change in years lived past 65 for total population, US and 16 other high income countries

9/20

	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	1.9	3.0	1.5	1.5	0.9	1.9	3.5	3.9	4.4
Belgium	1.4	2.2	1.7	2.7	2.1	1.3	2.9	3.6	3.4
Canada	1.5	2.8	2.1	2.3	2.0	2.1	2.8	2.9	3.1
Denmark	1.3	1.5	2.1	2.9	1.5	1.2	1.2	1.1	2.6
Finland	0.7	2.4	1.6	2.9	2.2	2.3	3.5	3.3	3.8
France	1.3	3.6	2.5	3.5	2.8	2.3	3.2	3.6	3.6
Iceland	2.7	2.5	3.0	3.6	1.4	1.9	2.4	1.5	2.8
Italy	1.5	3.9	2.3	3.3	2.8	1.9	3.0	3.8	4.0
Netherlands	2.1	3.1	1.3	2.6	2.6	1.2	2.0	2.0	2.7
Norway	1.5	2.7	2.6	2.7	0.9	0.7	1.4	2.2	3.4
Spain	1.4	1.6	2.9	5.2	3.7	2.9	3.2	3.1	2.9
Sweden	1.2	1.9	1.9	2.8	2.0	1.5	2.2	2.9	3.0
Switzerland	2.1	2.6	2.3	3.0	2.6	2.7	3.4	3.2	3.4
UK England & Wales	1.9	3.5	2.3	2.4	1.7	1.4	2.1	2.9	3.8
UK Scotland	1.5	1.9	2.0	2.2	1.6	1.4	1.8	2.6	3.4
UK Northern Ireland	1.4	2.3	2.6	3.2	1.9	0.8	1.8	3.5	3.8
<i>Average Total</i>	1.6	2.6	2.2	2.9	2.1	1.7	2.5	2.9	3.4
<i>Standard Deviation</i>	0.5	0.7	0.5	0.8	0.7	0.7	0.7	0.8	0.5
	1901-1920	1910-1933	1920-1947						
United States	1.7	2.1	2.4	3.0	1.7	2.2	2.7	2.1	2.3

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix tables 2 and 3.

Appendix Table 6A. Change in years lived past 65 as a percentage of change in life expectancy at birth for females, US and 16 other high income countries

9/20

	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	17.7%	21.4%	31.9%	40.4%	50.5%	67.2%	71.0%	75.4%	83.0%
Belgium	21.5%	24.5%	31.9%	34.8%	35.5%	54.4%	70.4%	76.7%	80.2%
Canada	24.7%	26.1%	30.1%	37.9%	49.5%	63.3%	65.7%	68.1%	82.0%
Denmark	17.3%	21.1%	33.3%	41.6%	48.5%	68.7%	73.6%	52.5%	69.0%
Finland	17.6%	20.1%	25.7%	29.5%	29.4%	60.9%	75.2%	81.3%	88.3%
France	24.2%	23.6%	35.3%	38.6%	39.5%	60.6%	71.7%	78.6%	82.1%
Iceland	29.3%	34.1%	31.2%	37.9%	41.8%	70.5%	72.3%	60.8%	76.1%
Italy	21.8%	21.9%	28.2%	31.6%	34.5%	48.5%	61.5%	75.8%	81.5%
Netherlands	20.5%	23.7%	38.6%	49.2%	49.0%	72.2%	76.4%	73.8%	78.1%
Norway	23.7%	26.9%	37.6%	42.2%	40.7%	63.1%	76.8%	78.2%	79.3%
Spain	23.6%	21.4%	28.8%	30.3%	33.8%	48.2%	63.2%	76.7%	80.7%
Sweden	20.1%	21.1%	27.6%	40.5%	55.6%	73.5%	78.2%	77.3%	78.9%
Switzerland	24.5%	29.8%	39.0%	44.4%	51.5%	69.4%	78.1%	81.2%	82.0%
UK England & Wales	26.1%	26.8%	35.5%	38.4%	44.1%	63.2%	64.6%	71.2%	83.2%
UK Scotland	23.6%	22.5%	30.6%	31.0%	36.7%	59.3%	56.8%	66.4%	82.9%
UK Northern Ireland	21.8%	23.0%	31.0%	34.0%	40.8%	61.2%	59.4%	67.2%	84.2%
<i>Average Female</i>	22.4%	24.2%	32.3%	37.6%	42.6%	62.8%	69.7%	72.6%	80.7%
<i>Standard Deviation</i>	3.3%	3.7%	4.0%	5.5%	7.5%	7.6%	6.9%	7.8%	4.2%
	1901-1920	1910-1933	1920-1947						
United States	20.9%	26.2%	33.0%	43.4%	54.7%	67.6%	64.9%	62.5%	77.8%

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix tables 1-3.

Appendix Table 6B. Change in years lived past 65 as a percentage of change in life expectancy at birth for males, US and 16 other high income countries

	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	27.7%	23.2%	20.0%	19.4%	4.4%	49.4%	62.1%	68.8%	77.0%
Belgium	20.1%	18.8%	23.3%	23.0%	17.1%	21.0%	53.9%	66.7%	74.0%
Canada	22.9%	21.4%	19.2%	20.4%	23.2%	37.7%	51.0%	60.5%	76.9%
Denmark	26.9%	21.2%	29.1%	31.0%	12.4%	-6.9%	44.6%	56.0%	69.6%
Finland	5.6%	15.4%	14.6%	19.9%	18.8%	35.8%	56.3%	65.6%	75.6%
France	17.0%	14.9%	28.6%	27.8%	21.4%	41.2%	59.9%	66.4%	70.5%
Iceland	26.2%	27.8%	32.4%	35.2%	21.4%	49.9%	48.6%	48.4%	72.8%
Italy	18.5%	17.6%	25.4%	23.3%	18.5%	22.3%	44.9%	64.7%	73.6%
Netherlands	21.8%	23.8%	35.4%	37.6%	24.6%	-39.5%	43.2%	62.1%	76.2%
Norway	21.2%	24.0%	35.6%	33.1%	-4.3%	-56.8%	44.2%	63.1%	72.4%
Spain	13.7%	11.1%	22.0%	24.5%	27.1%	35.3%	51.8%	66.8%	67.9%
Sweden	22.4%	21.2%	24.6%	31.2%	30.4%	25.6%	56.6%	66.4%	74.7%
Switzerland	19.8%	23.7%	33.7%	35.7%	34.1%	48.5%	63.8%	70.2%	73.8%
UK England & Wales	20.0%	18.0%	26.1%	21.8%	18.5%	45.1%	57.0%	69.1%	81.6%
UK Scotland	19.9%	18.9%	21.6%	17.2%	13.4%	33.7%	47.5%	64.2%	81.4%
UK Northern Ireland	20.2%	19.2%	24.0%	22.0%	16.0%	-16.7%	43.9%	58.2%	81.0%
<i>Average Male</i>	20.3%	20.0%	26.0%	26.4%	18.6%	20.3%	51.8%	63.6%	74.9%
<i>Standard Deviation</i>	5.3%	4.2%	6.1%	6.6%	9.4%	32.9%	6.9%	5.6%	4.1%
	1901-1920	1910-1933	1920-1947						
United States	20.5%	19.5%	17.7%	27.9%	24.9%	47.5%	55.4%	62.7%	73.6%

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix tables 1-3.

Appendix Table 6C. Change in years lived past 65 as a percentage of change in life expectancy at birth for total population, US and 16 other high income countries

	1907-1927	1917-1937	1927-1947	1937-1957	1947-1967	1957-1977	1967-1987	1977-1997	1987-2007
Australia	27.7%	25.8%	26.4%	31.4%	38.4%	61.1%	67.1%	72.8%	80.2%
Belgium	21.1%	21.8%	28.1%	29.3%	26.8%	41.2%	63.4%	73.0%	77.8%
Canada	24.0%	23.5%	24.8%	30.3%	38.9%	53.7%	59.8%	65.6%	79.9%
Denmark	22.5%	21.2%	31.6%	36.6%	34.7%	52.5%	65.4%	58.6%	70.0%
Finland	12.4%	17.9%	21.2%	25.4%	24.4%	51.9%	67.7%	72.9%	80.5%
France	21.1%	18.4%	32.7%	33.9%	31.4%	52.8%	66.7%	72.6%	76.7%
Iceland	28.0%	31.0%	31.4%	36.5%	32.6%	61.7%	60.2%	53.8%	74.4%
Italy	20.3%	19.5%	27.1%	27.9%	27.2%	38.2%	54.7%	70.9%	78.1%
Netherlands	21.3%	23.8%	37.6%	44.3%	37.1%	54.1%	63.9%	69.6%	78.5%
Norway	22.6%	25.6%	36.6%	37.8%	22.9%	38.9%	65.9%	71.6%	75.8%
Spain	19.3%	17.0%	26.1%	27.8%	30.9%	42.9%	58.0%	72.7%	74.2%
Sweden	21.2%	21.0%	26.0%	36.1%	46.0%	62.2%	70.5%	72.4%	77.1%
Switzerland	22.4%	27.0%	36.7%	40.5%	44.2%	61.2%	72.9%	76.3%	77.3%
UK England & Wales	23.4%	21.7%	31.8%	31.3%	32.1%	56.9%	61.6%	70.5%	82.4%
UK Scotland	22.1%	21.0%	26.6%	25.0%	27.0%	50.3%	54.1%	66.2%	82.0%
UK Northern Ireland	21.0%	21.0%	28.0%	28.9%	31.2%	53.0%	54.5%	63.9%	82.9%
<i>Average Total</i>	21.9%	22.3%	29.5%	32.7%	32.9%	52.0%	62.9%	69.0%	78.0%
<i>Standard Deviation</i>	3.5%	3.7%	4.7%	5.5%	6.7%	8.0%	5.7%	6.0%	3.4%
	1901-1920	1910-1933	1920-1947						
United States	20.7%	22.7%	26.0%	36.8%	45.8%	60.5%	61.3%	64.3%	76.0%

Source: Human Mortality Database, and US Vital Statistics for US data before 1933. See Appendix tables 1-3.

Appendix Table 7. Decomposition of Changes in U.S. Expected Labor Force Participation, 1900 to 2007

Year	Decomposition 1A: 1900 LFP Rates			Decomposition 1B: 2007 LFP Rates		
	Female XLFP1A	Male XLFP1A	Total LFP1A	Female XLFP1B	Male XLFP1B	Total LFP1B
1900	6.43	29.96	18.53	22.66	25.71	24.23
1910	6.80	31.54	19.59	24.09	27.10	25.64
1920	7.40	35.62	21.77	26.25	30.41	28.37
1933	7.93	37.79	23.26	28.25	32.31	30.34
1942	8.41	39.92	24.69	30.08	34.09	32.16
1950	8.74	41.71	25.79	31.33	35.60	33.56
1960	8.92	42.53	26.34	31.98	35.60	34.22
1970	8.98	42.66	26.48	32.19	36.35	34.38
1980	9.15	44.15	27.22	32.83	37.44	35.23
1990	9.23	44.85	27.56	33.11	37.92	35.60
2000	9.28	45.88	27.58	33.30	38.68	35.99
2007	9.33	46.23	27.78	33.51	39.00	36.25
Change (years)	2.91	16.27	9.26	10.84	13.29	12.02
% of Actual Change	10.73%	179.99%	52.21%	40.05%	146.96%	67.83%

Year	Decomposition 2A: 1900 Survival			Decomposition 2B: 2007 Survival		
	Female XLFP2A	Male XLFP2A	Total LFP2A	Female XLFP2B	Male XLFP2B	Total LFP2B
1900	6.43	29.96	18.53	9.34	46.33	28.15
1910	7.00	29.72	18.68	10.16	45.92	28.35
1920	7.58	29.48	18.84	10.97	45.52	28.54
1933	8.14	29.09	18.91	11.81	44.98	28.69
1942	10.94	29.72	20.59	15.89	45.67	31.03
1950	12.30	29.57	20.88	18.01	45.40	31.49
1960	13.94	28.82	21.20	20.70	44.07	31.97
1970	16.24	28.00	21.95	23.96	42.67	32.94
1980	19.64	27.20	23.33	28.55	41.04	34.55
1990	21.97	26.53	24.20	32.03	39.95	35.85
2000	23.61	27.03	25.32	34.43	40.57	37.50
2007	22.66	25.69	24.17	33.50	38.99	36.24
Change (years)	16.23	-4.27	5.65	24.16	-7.34	8.09
% of Actual Change	59.93%	-47.26%	31.85%	89.22%	-81.18%	45.64%

LFP = Labor force participation. XLFP = Expected Labor Force Participation.

Source: Author calculations based on survival data from the Human Mortality Database (and US Vital Statistics for US data before 1933) and labor force participation data from decennial censuses and the Current Population Survey. The table reports decompositions of the XLFP trend series for the US into two different effects: (1) the effect of improving survival, holding age-specific LFP rates constant at their 1900 or 2007 values (decompositions 1A and 1B, respectively); and (2) the effect of changing LFP, holding survival to each age constant at 1900 or 2007 levels (decompositions 2A and 2B, respectively). Each decomposition is calculated separately for men and women, and then for the total population.

Appendix Table 8A. Expected labor force participation as percentage of life expectancy at birth for females, US and 14 high-income comparators, 1980 to 2007

	1980	1990	2000	2007
Australia	30.81%	35.92%	37.91%	40.69%
Belgium	26.27%	27.37%	32.44%	35.22%
Canada	33.93%	39.96%	40.83%	43.82%
Denmark	44.33%	47.50%	45.60%	46.48%
Finland	43.03%	44.15%	43.43%	43.72%
France	33.71%	34.05%	34.86%	37.58%
Iceland	51.43%	53.62%	53.24%	51.93%
Italy	24.40%	26.16%	26.55%	28.47%
Netherlands	27.33%	30.43%	38.46%	43.18%
Norway	39.68%	43.51%	45.59%	45.97%
Spain	19.90%	24.33%	29.44%	34.49%
Sweden	46.22%	49.00%	44.40%	46.24%
Switzerland	40.39%	41.60%	42.24%	43.98%
UK	35.69%	40.57%	40.59%	41.33%
<i>Average Female</i>	35.51%	38.44%	39.68%	41.65%
<i>Standard Deviation</i>	9.16%	9.04%	7.11%	6.01%
United States	36.06%	40.24%	43.12%	41.61%

Appendix Table 8B. Expected labor force participation as percentage of life expectancy at birth for males, US and 14 high-income comparators, 1980 to 2007

	1980	1990	2000	2007
Australia	57.28%	54.21%	51.05%	51.64%
Belgium	50.48%	45.42%	44.94%	45.36%
Canada	56.95%	54.00%	50.82%	51.54%
Denmark	57.30%	57.21%	53.25%	53.58%
Finland	54.32%	51.98%	49.55%	48.87%
France	54.32%	48.13%	45.27%	46.07%
Iceland	64.27%	61.39%	62.20%	59.64%
Italy	53.58%	50.10%	45.05%	44.45%
Netherlands	51.84%	50.67%	52.00%	53.31%
Norway	58.40%	55.51%	53.50%	52.14%
Spain	56.65%	50.64%	48.61%	49.19%
Sweden	57.29%	55.51%	49.57%	51.76%
Switzerland	61.25%	59.68%	55.91%	54.78%
UK	59.85%	56.86%	52.33%	51.71%
<i>Average Male</i>	56.70%	53.67%	51.00%	51.00%
<i>Standard Deviation</i>	3.67%	4.46%	4.63%	4.03%
United States	56.04%	54.18%	54.34%	51.76%

Appendix Table 8C. Expected labor force participation as percentage of life expectancy at birth for total population, US and 14 high-income comparators, 1980 to 2007

	1980	1990	2000	2007
Australia	43.06%	44.78%	44.10%	45.91%
Belgium	37.93%	36.06%	38.42%	40.05%
Canada	45.03%	46.66%	45.54%	47.43%
Denmark	50.54%	52.09%	49.27%	49.85%
Finland	48.23%	47.71%	46.24%	46.06%
France	43.55%	40.68%	39.76%	41.49%
Iceland	57.22%	57.62%	57.39%	55.81%
Italy	38.15%	37.54%	35.35%	36.08%
Netherlands	39.60%	40.22%	45.00%	47.97%
Norway	48.70%	49.44%	49.33%	48.83%
Spain	37.42%	36.94%	38.64%	41.57%
Sweden	51.73%	52.29%	46.77%	48.79%
Switzerland	50.24%	50.14%	48.65%	49.01%
UK	47.19%	48.25%	46.12%	46.26%
<i>Average Total</i>	45.61%	45.74%	45.04%	46.08%
<i>Standard Deviation</i>	5.98%	6.59%	5.65%	4.93%
United States	45.31%	46.65%	48.32%	46.49%

Source: Author calculations based on survival data from the Human Mortality Database and labor force participation data from the International Labor Organization (except for the US; see note to appendix table 7).

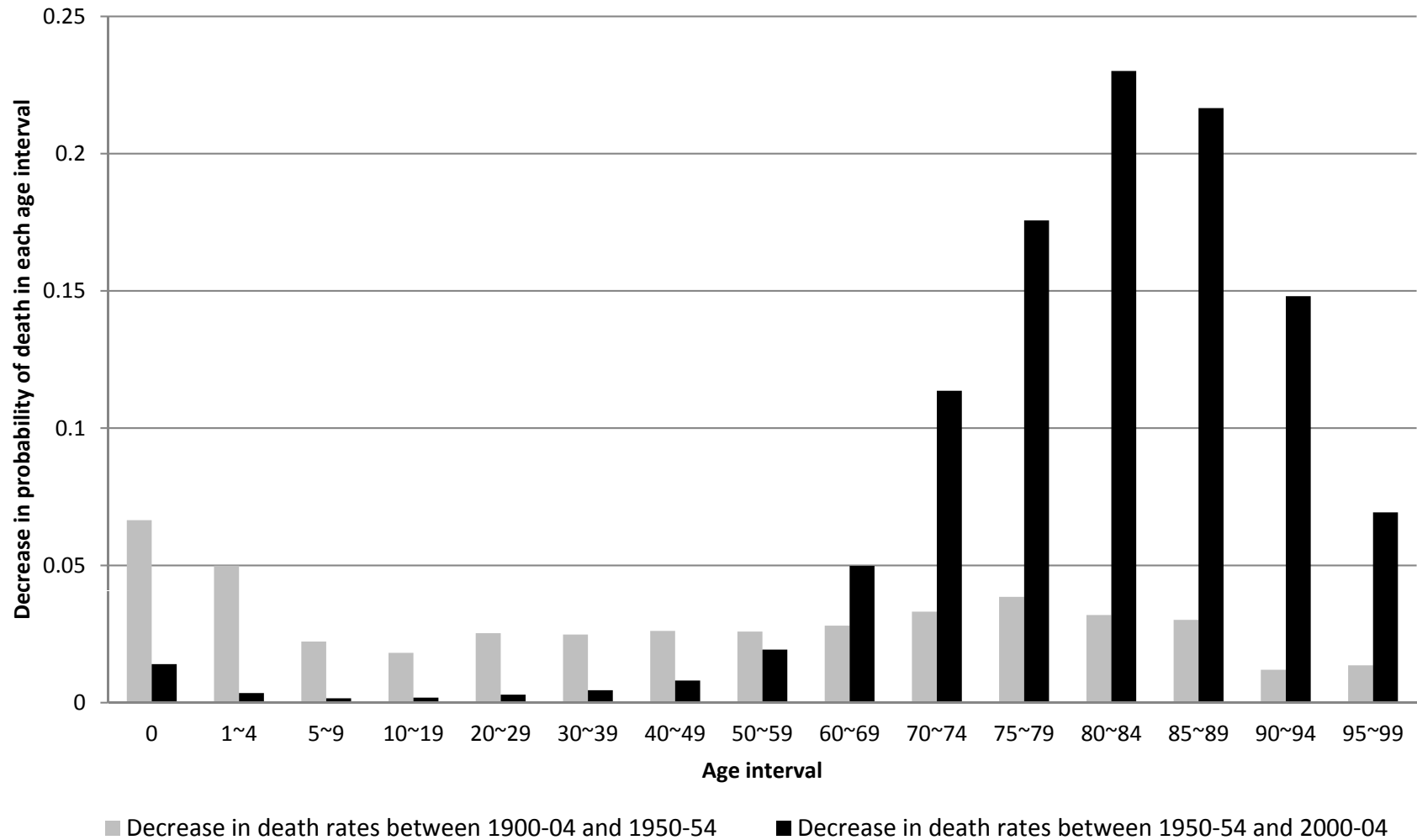


**Appendix Table 9. Male Expected Labor Force Participation as a Percentage of Life Expectancy at Birth in Asia and Select Developing Countries, 2007**

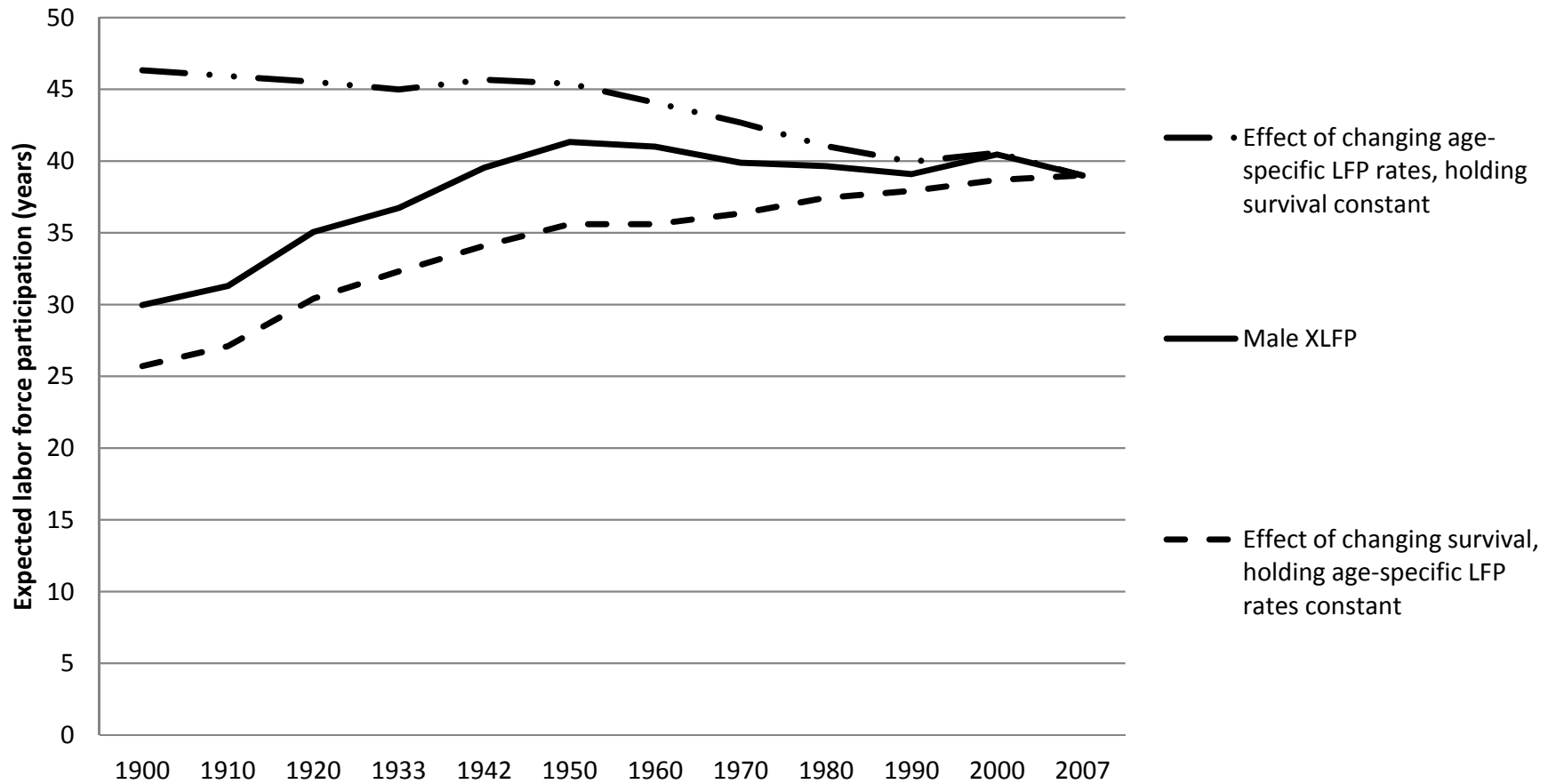
Country	Male XLFP/LE <sub>0</sub> in 2007
Japan	54.1%
South Korea	52.0%
China	57.6%
Philippines	59.6%
Indonesia	64.5%
Brazil	59.1%
Vietnam	54.6%
India	60.0%
Bangladesh	60.9%

Note: The Expected Labor Force Participation (XLFP) estimates should be considered indicative only and interpreted with caution, given questions about comparability of labor force participation data. The estimates are author calculations based on International Labor Organization estimates of age-sex-specific labor force participation for each country. Survival data are from the life tables for each country prepared by the International Programs Center of the U.S. Bureau of the Census in its International Data Base.

**Appendix Figure 1. Decrease in death rates by age group in Sweden, 1900-04 to 2000-04**



## Appendix Figure 2A: Decomposition of Changes in US Male Expected Labor Force Participation, Since 1900



### Appendix Figure 2B: Decomposition of Changes in US Female Expected Labor Force Participation, Since 1900

