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Chapter 4 Executive Summary: The growing gap in longevity between rich and poor and its impact on redistribution through Social Security

This document summarizes the main findings from Chapter 4 of "Later retirement, inequality in old age, and the growing gap in longevity between rich and poor" by Barry Bosworth, Gary Burtless, and Kan Zhang. To read Chapter 4 in full, download the PDF of the full paper.

A LARGE LITERATURE has established that there are significant differences between the life expectancy of people with low and high socioeconomic status (SES). Recent studies also show that the longevity gap between those with low and high status has been increasing. Bosworth, Burtless, and Zhang created new data sets to examine recent changes in the longevity differential and to evaluate their impact on income redistribution under Social Security.

The information needed to perform this kind of analysis is not easy to assemble. Researchers must obtain reliable indicators of Americans' SES at some common age, preferably in midlife, as well as accurate information about their ages at death. In order to calculate the potential impact of changes in mortality patterns on lifetime Social Security benefits, the researchers will also need to obtain information about workers' benefit entitlements or the factors that determine their retirement benefits.

For this study the three Brookings researchers created two data sets. The bigger one linked household interview information obtained in the Census Bureau's Survey of Income and Program Participation (SIPP) with Social Security Administration records for the same people. The Social Security records included data on workers' lifetime annual earnings, pension benefits, and ages at death if a death occurred by 2012. The smaller file linked interview information from the Health and Retirement Study (HRS)

with Social Security records on lifetime earnings, pension benefits, and ages at death if a death occurred by 2010. The resulting analysis files provide information on 87,000 men and women interviewed in the SIPP and 30,000 men and women interviewed in the HRS who were born between 1910 and 1950.
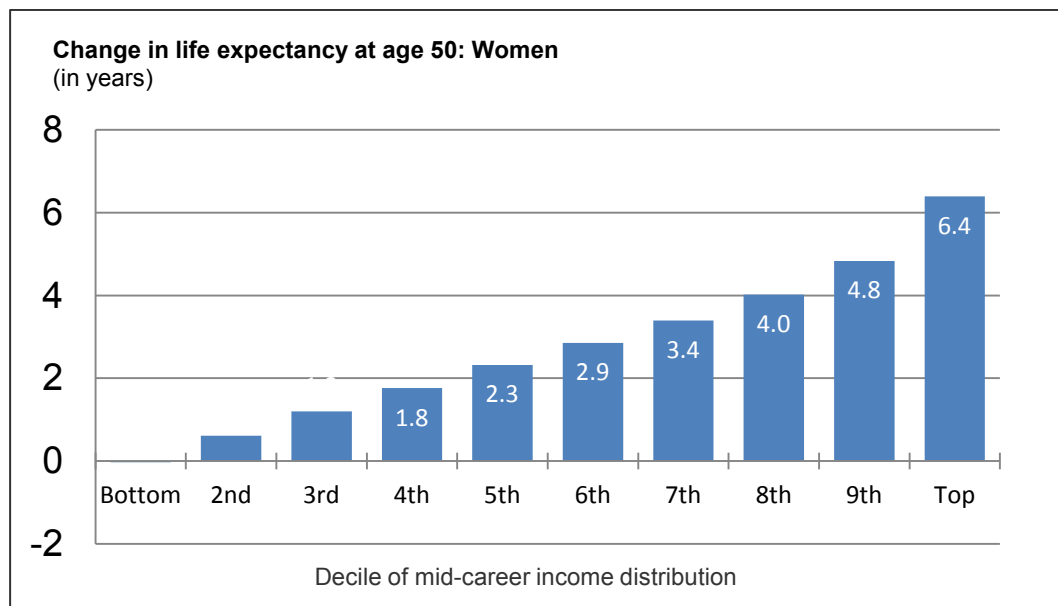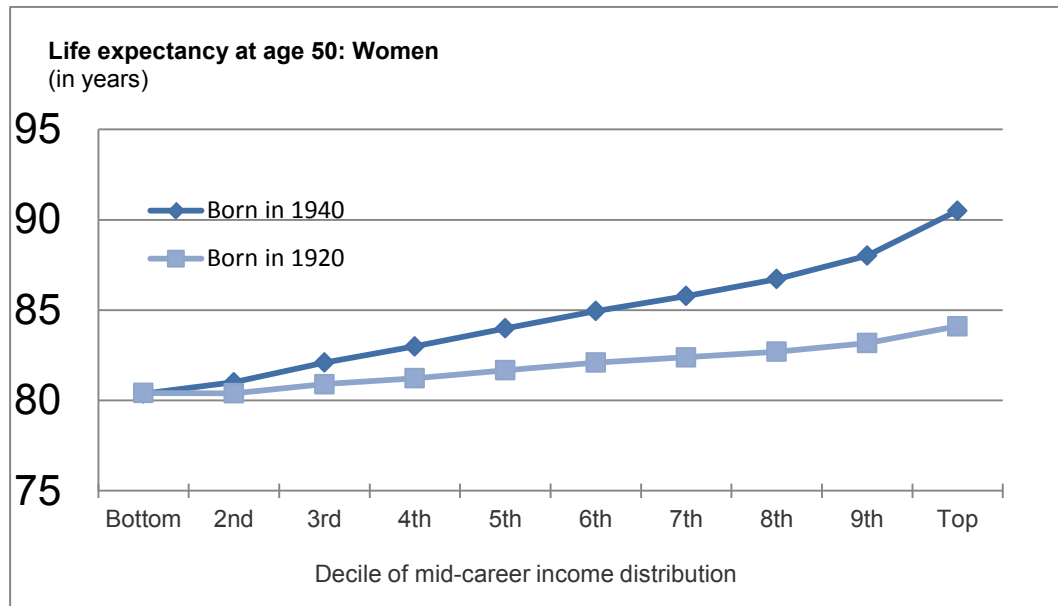
The analysts measured sample members' SES using two kinds of indicators, one based on respondents' level of education as reported in the household survey and a second based on respondents' mid-career earnings as recorded in the Social Security Administration files. In the case of married respondents, the earnings of both spouses were combined (with an adjustment to reflect family size). For both indicators of SES, the researchers were careful to measure respondents' position relative to that of other respondents born within two years of the respondent's birth year. This adjustment is necessary because there have been significant trends in the schooling attainment and mid-career earnings of men and women born between 1910 and 1950.

The goal of the statistical analysis was to determine whether the mortality-rate differential between high- and low-SES respondents grew, shrank, or remained roughly unchanged for successive cohorts born between 1910 and 1950. The researchers' basic finding is that the mortality differential between low- and high-SES individuals was significantly greater in younger cohorts compared with the older ones. In other words, the mortality differential is growing over time. This basic conclusion is quite robust, that is, it was confirmed using both indicators of SES (education and mid-career earnings) and using alternative methods for estimating the mortality-rate differential across successive birth cohorts.

The chart on page 3 shows the analysts' results for women in the SIPP sample using one measure of SES—single workers' earnings or the equivalized sum of married spouses' earnings. The results displayed in the top panel show estimates of remaining life expectancy at age 50 for women in two birth cohorts, one born in 1920 and a later one born in 1940. Average life expectancies are calculated for women in each one-tenth of the mid-career income distribution. As expected, life expectancy is higher for women with a higher rank in the mid-career income distribution. Among those born in 1920, a woman in the lowest income group surviving to 50 could expect to live to age 80. A woman in the highest income group could expect to live to age 84. The results

clearly show that gains in life expectancy for the cohort born in 1940 were much faster for women in the top income groups compared with the bottom groups (see lower panel of the following chart).
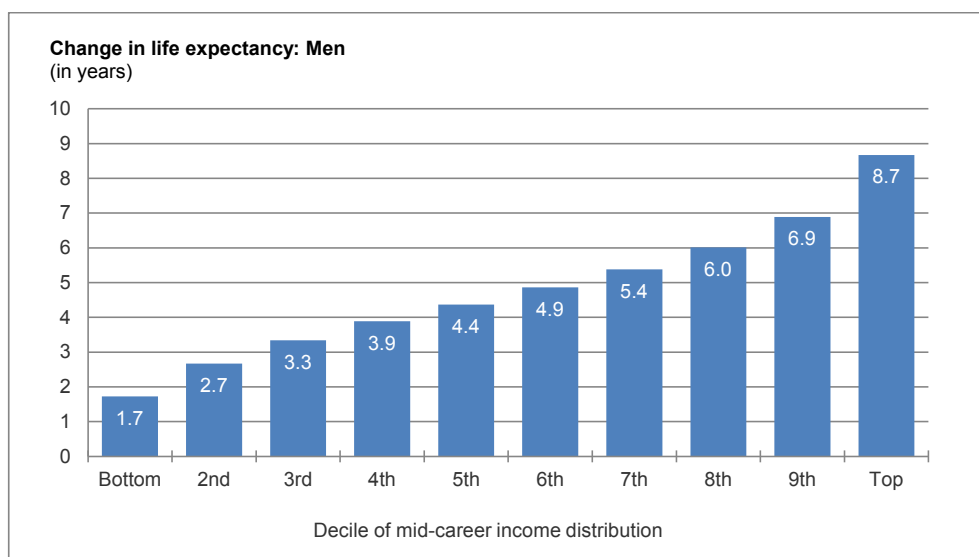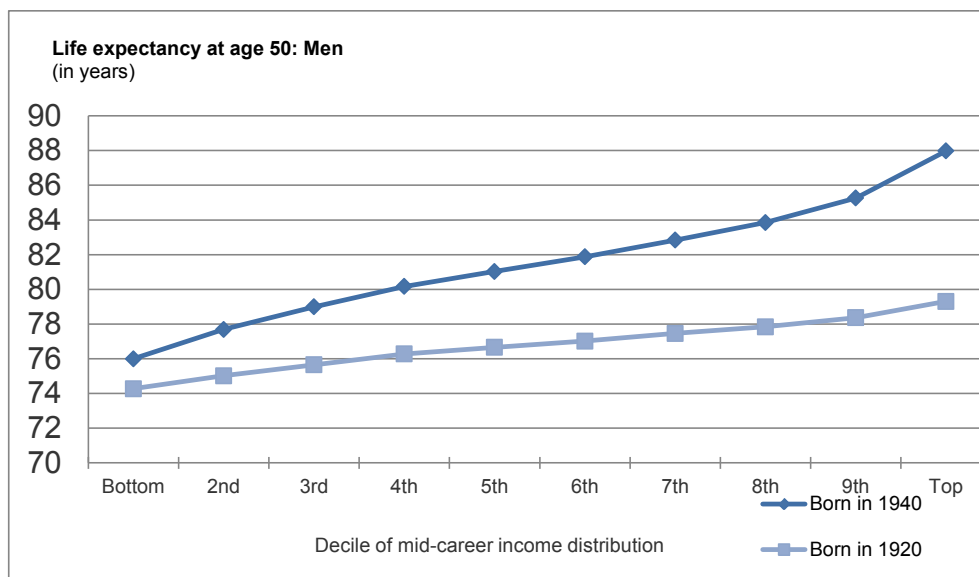
Predicted Life Expectancy at Age 50 for Women Born in 1920 and 1940 and Change in Life Expectancy between the Two Birth Cohorts, by Rank in Mid-Career Income Distribution

Life expectancy at age 50: Women
(in years)

Legend:
— Born in 1940
— Born in 1920

Decile of mid-career income distribution

Change in life expectancy at age 50: Women
(in years)

Decile	Change
Bottom	
2nd	
3rd	
4th	1.8
5th	2.3
6th	2.9
7th	3.4
8th	4.0
9th	4.8
Top	6.4

Decile of mid-career income distribution

Source: Authors' calculations based on estimates obtained using Census SIPP files matched to Social Security Administration lifetime earnings and mortality data.

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Identical results for men are displayed in the chart below. Male life expectancy is lower than it is for women, but the improvement in male life expectancy for the cohort born in 1940 compared to the one born in 1920 was greater. Another difference between the results for men and women is that men in the lowest income group experienced some gain in life expectancy, whereas the researchers found no gain at all among women in the lowest income group. For both sexes the researchers find the same basic result: Those in the lowest income group saw the smallest improvement in life expectancy.
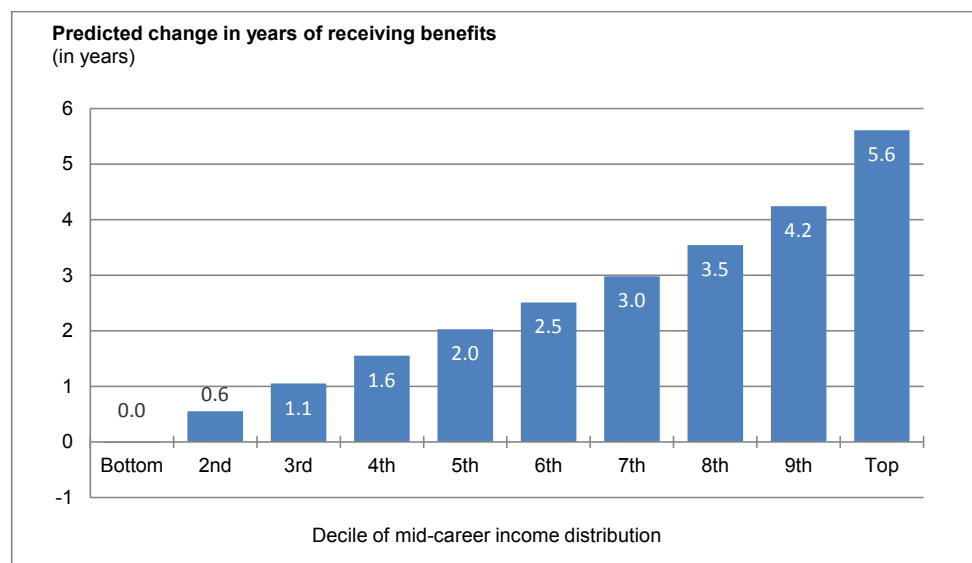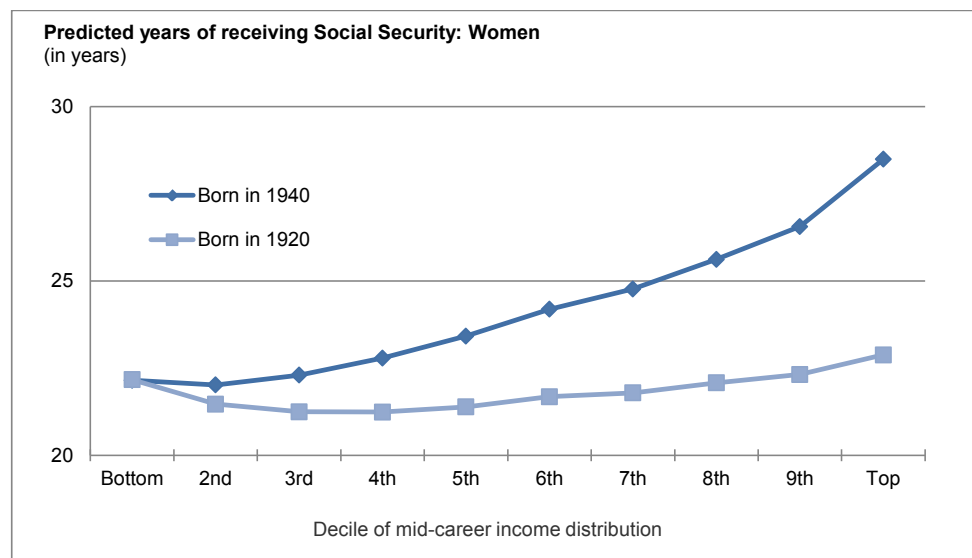
Predicted Life Expectancy at Age 50 for Men Born in 1920 and 1940 and Change in Life Expectancy between the Two Birth Cohorts, by Rank in Mid-Career Income Distribution

Life expectancy at age 50: Men
(in years)

Decile of mid-career income distribution

Born in 1940
Born in 1920

Change in life expectancy: Men
(in years)

Decile	Value
Bottom	1.7
2nd	2.7
3rd	3.3
4th	3.9
5th	4.4
6th	4.9
7th	5.4
8th	6.0
9th	6.9
Top	8.7

Decile of mid-career income distribution

Source: Authors' calculations based on estimates obtained using Census SIPP files matched to Social Security Administration lifetime earnings and mortality data.

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The Brookings researchers combined information about changes in longevity with information about SIPP respondents' Social Security pensions and claiming behavior to obtain estimates of the impact of changing life expectancy on lifetime Social Security benefits.The chart below shows estimates of these impacts for women born in 1920 and 1940. The top panel shows predictions of the number of years workers will collect Social Security benefits depending on their years of birth and their position in the mid-career income distribution.

Predicted Years of Receiving Social Security Benefits for Women Born in 1920 and 1940 and Change in Years of Benefit Receipt between the Two Birth Cohorts, by Rank in Mid-Career Income Distribution

Predicted years of receiving Social Security: Women
(in years)

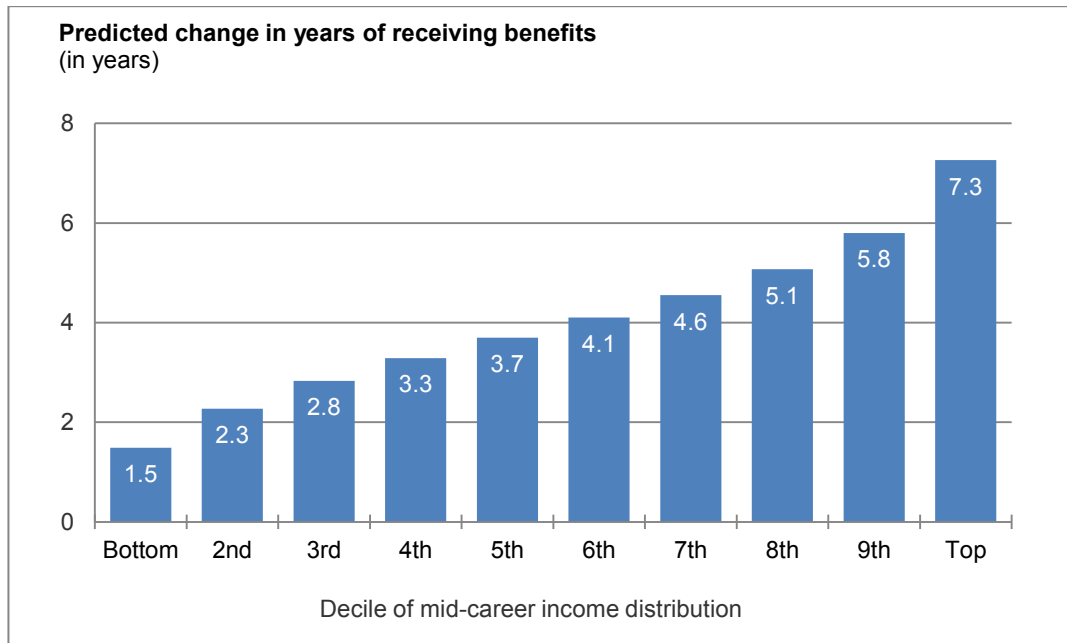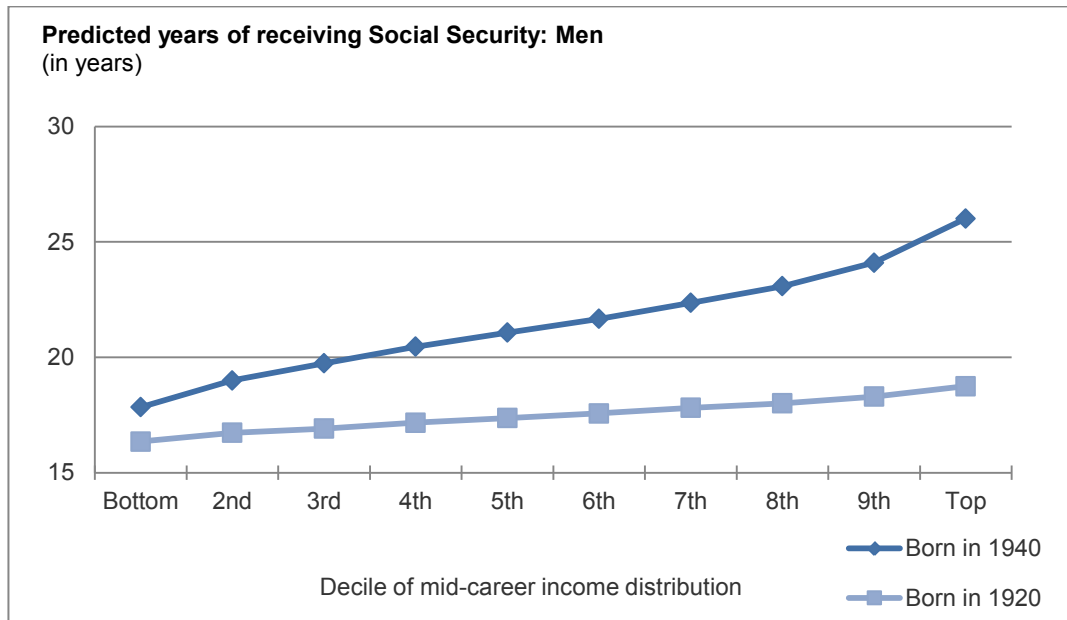**Predicted change in years of receiving benefits**
(in years)

Source: Authors' calculations based on estimates obtained using Census SIPP files matched to Social Security Administration lifetime earnings and mortality data.

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Note that workers with shorter life expectancy may nonetheless obtain benefits for a greater number of years if they claim benefits at an earlier age than workers who have longer life expectancy. Given the out-size gains in life expectancy for high-income women, the analysts find that expected years of benefit collection go up much faster among high-income compared with low-income women.

Similar results for men are displayed in the chart on page 7. Although the pattern of change is the same for men as it is for women, in the case of low-income men there is a positive change in the number of years of Social Security benefit collection. Because the years of benefit receipt rise for low- as well as high-income men, expected lifetime benefits also increase. However, the magnitude of the lifetime benefit increase varies considerably. Expected lifetime benefits increase about 10 percent for men in the lowest decile but by approximately 40 percent in the top decile. Thus, the increase in differential mortality leads to a substantial widening of the disparity of lifetime benefits. For the 1940 birth cohort, lifetime benefits of men in the top decile of earners are 3.3 times those of men in the bottom decile, compared to a multiple of just 2.6 for the 1920 birth cohort.

One implication of these findings is that a proportional cut in the monthly benefits of all Social Security pensioners over the next few decades will have a disproportionate impact on the lifetime benefits of low-income retired workers. (The scheduled increase in the full retirement age from 66 to 67 by the end of the next decade is approximately the same as a proportional cut in benefits.) For workers in low income groups, who are expected to enjoy negligible or small increases in life expectancy, the percent reduction in lifetime benefits will be roughly the same as the percent cut in monthly benefits. For workers in high income groups, the percent reduction in lifetime benefits will be significantly smaller than the percent cut in monthly benefits. For high-income workers, the cut in monthly pensions will be partly offset by an increase in longevity, which increases the number of months well-off workers will collect a pension.

Predicted Years of Receiving Social Security Benefits for Men Born in 1920 and 1940 and Change in Years of Benefit Receipt between the Two Birth Cohorts, by Rank in Mid-Career Income Distribution

Predicted years of receiving Social Security: Men
(in years)

Decile of mid-career income distribution

— Born in 1940
— Born in 1920

Predicted change in years of receiving benefits
(in years)

Decile	Change
Bottom	1.5
2nd	2.3
3rd	2.8
4th	3.3
5th	3.7
6th	4.1
7th	4.6
8th	5.1
9th	5.8
Top	7.3

Decile of mid-career income distribution

Source: Authors' calculations based on estimates obtained using Census SIPP files matched to Social Security Administration lifetime earnings and mortality data.

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