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DIFFERENTIAL MORTALITY AND RETIREMENT BENEFITS IN THE *HEALTH AND RETIREMENT STUDY*

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The U.S. Social Security System has been raising the age for receipt of full retirement benefits as an offset to increased life expectancy. The higher retirement age is seen as an important means of stabilizing the long-term costs of the Old Age, Survivors, and Disability Insurance (OASDI) program. If the retirement age were increased in proportion to life expectancy so that the length of retirement remains a constant share of the average work life, the current system's finances would be largely sustainable over future decades.

However, prior research on trends in mortality has established a strong relationship between individuals' life expectancy and measures of socioeconomic status (SES) such as income and education. Furthermore, recent studies using career earnings (Waldron, 2007), and education (Meara, Richards, and Cutler, 2008) as measures of SES have found evidence for large increases in differential mortality. If gains in expected life spans are increasingly concentrated among the well-to-do, it seems unfair to ask the less affluent to bear the main burden of an aging society. The objective of this study is to investigate the magnitude of the increase in differential mortality and its impact on the progressivity of the retirement system.

In our analysis, we began with the first five cohort samples of the *Health and Retirement Study* (HRS) spanning the birth years from 1900 to 1953, which provide a total of 30,671 respondents and 9,914 deaths through 2011. In addition, about 65 percent of the respondents granted permission to match their information with their Social Security earnings and benefit records. For those with an earnings record, we computed a measure of career earnings as the average of nonzero reported earnings, expressed in 2005 values, over the age range of 41 to 50.

We then estimated a proportional hazard model of mortality risk that related mortality to a vector of potential determinants of mortality risk. Those determinants included age, household career earnings, educational attainment (less than college degree, or college degree and above), race (black was the only significant racial indicator), and birth year. Most noteworthy is the finding that both career earnings and education are highly significant correlates of mortality. Birth year was included to measure cohort effects – separate from age – and it implies that mortality is falling for later cohorts of men.

We then examine the extent to which these differences affect the redistribution inherent in Social Security. The amount of progressivity lost to differential mortality found in past research varies widely, depending on whether disability and survivor benefits are included, and whether income is measured on a household or an individual basis (since the benefits of low-earning spouses appear highly redistributive on an individual level).

Within our sample, three-fourths of the respondents (22,995) reported receiving OASDI benefits at some time over the 10 HRS survey waves. We use the estimated mortality equation to calculate lifetime benefits by summing the product of probability of survival at a given age times the annual benefit over ages 55 to 100. While the distribution of annual benefits is highly progressive relative to career earnings, we find that much of the progressivity of lifetime benefits is offset by differential mortality, especially for men.

To understand the effects of trends in differential mortality on the distribution of lifetime benefits, we compare the lifetime benefits of a cohort born in 1920 with one born in 1940. Over that period, the average years of benefit receipt rises from 18.5 to 22.4 for men, with the gain accruing almost entirely to the upper deciles. For women, gains in mortality are small but the increase in differential mortality is significant, leading to losses in benefit years among the lower deciles and slight gains at the top.

A policy of increasing the retirement age in line with gains in life expectancy makes sense only if the gain in life span is experienced equally by the rich and poor. Though the redistribution of the current system is extensive enough to absorb the effects of differential mortality, the disproportionate share of life span improvement concentrated among the affluent suggests that raising the retirement age may be too blunt an instrument to correct for the increased costs of improvement in average life expectancy.

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