Who Lives Longer?

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Economists have long been worried about income inequality and its effects on welfare. For instance, workers with a college degree earn on average much more than those who did not complete high school. This disparity translates into large differences of consumption levels and hence welfare (see, for instance, Heathcote, Violante and Storesletten (2010)). We argue, however, that these welfare differences are dwarfed by the differences in longevity between individuals in different socioeconomic groups, and mainly by differences in longevity between individuals of different educational levels.

In our recent paper "*Heterogeneity in Expected Longevities*," we use the Health and Retirement Study (HRS) to document the expected longevities at age 50 of different population subgroups of white males and white females. In particular, we look at the different expected longevities by educational groups, wealth quintiles, labour market status, and marital status.

Main Results

Figure 1 shows that the most important differences are linked to education, which turns out to be much more important than wealth. At age 50, a college-educated white male expects to live 6.1 more years than a high school dropout; in contrast, a white male in the top quintile of the wealth distribution expects to live 3.8 more years than a white male in the bottom quintile. Very similar differentials hold for women.

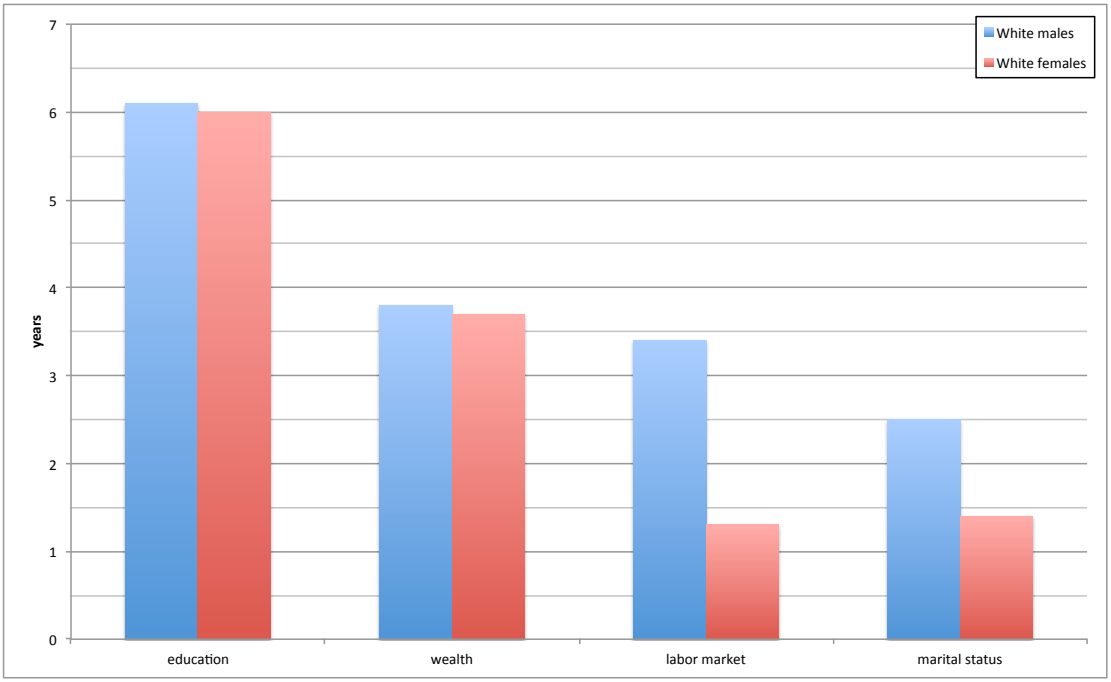

Figure 1. Differentials in expected longevities at age 50 between different population subgroups.

In addition, we find that a white male fully attached to the labour market (as a fulltime worker or as an unemployed worker actively looking for a job) expects to live 3.4 more years than an inactive individual; and a married white male expects to live 2.5 more years than an unmarried one. The differentials for women are substantially smaller but still large.

To obtain these differentials, we did not compute life expectancies. Instead, we estimated a hazard model for survival, with the socioeconomic characteristic of interest and (self-assessed) health status as stochastic endogenous covariates. Then, we used these estimates to compute expected life durations at age 50 for each group. Our methodology allows us to bypass the two problems associated with the use of life expectancy. The first problem is that people's socioeconomic characteristics evolve over the life cycle (except for education), and hence so do the relevant mortality rates. For instance, one third of white women who are married at age 50 become divorced or widowed before age 70. The second problem is that mortality rates tend to decline over time, and this may happen at different rates for people in different socioeconomic groups.

Decomposition

When we look at these longevity differences in more detail, we learn that they must be due to factors that evolve slowly with age. In particular, we use our estimates to decompose the differentials in expected longevity into three components: (a) differences in health among socioeconomic types already present at age 50, (b) different evolution of health conditional on socioeconomic status, and (c) different mortality rates by individuals with identical health but

different socioeconomic status.

As Figure 2 (males) and Figure 3 (females) show, the differences in longevity are mainly due to the health-protecting nature of good socioeconomic conditions over the years, which is found both in the health differences at age 50 and in the different evolution of health afterwards. In contrast, differences in mortality matter very little. For instance, the difference in the initial distribution of health between college graduates and high school dropouts generates 1.7 years of life expectancy difference for males and 1.1 for females. Then, the fact that health deteriorates less for highly educated individuals generates a life expectancy gap of 4.7 years for males and 4.9 for females. Finally, the effect of education-specific mortality is very small: 0.0 years for males and 0.3 years for females.

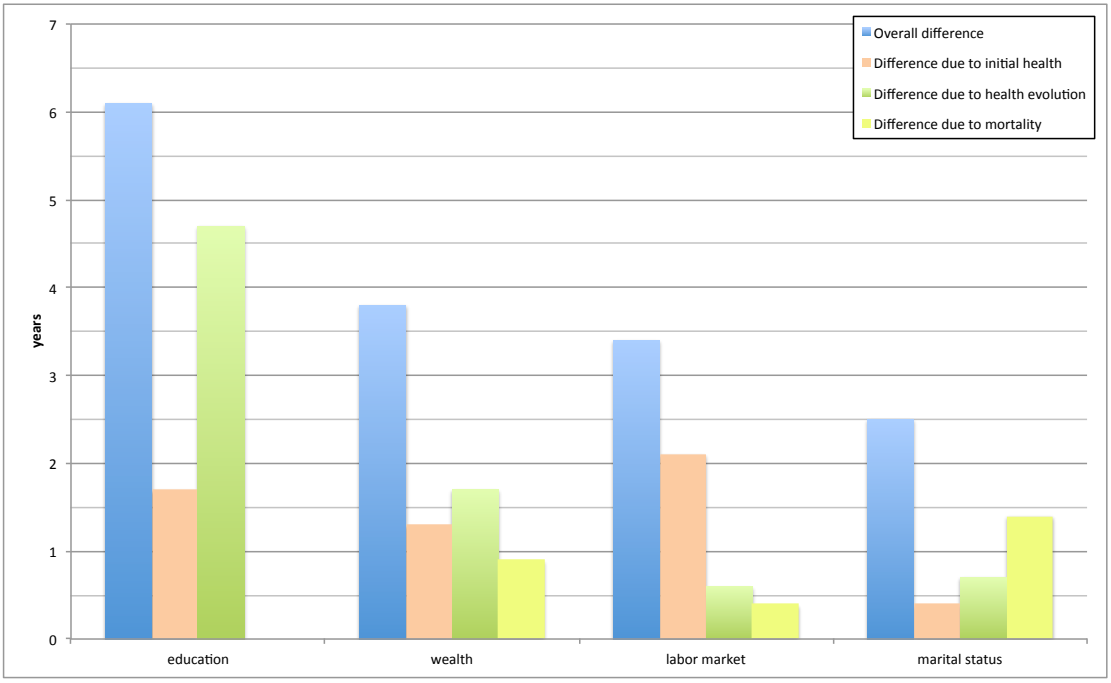

Figure 2. Decomposition of longevity differentials, white males

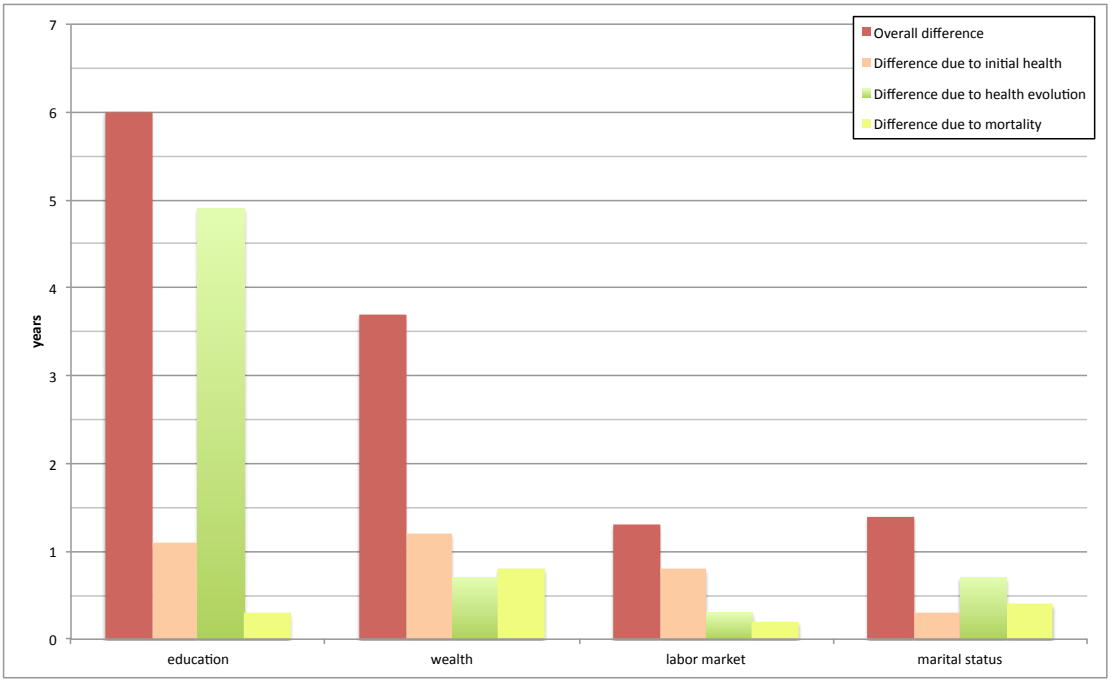

Figure 3. Decomposition of Longevity Differentials, White Females

Time Trends

We obtained our results with the pooled HRS data, which range from 1992 to 2010. The large temporal span of the HRS can be used to obtain some information about how these differentials in expected longevity have evolved over time. Previous estimates document large increases in life expectancy differences between education groups (see, for instance, Preston and Elo (1995), Meara et al. (2008), and Olshansky et al. (2012)). Consistently, we find that the differentials for education have increased, between 1992 and 2008, by 1.8 years for males and 1.7 years for females. In addition, we also document important increases for wealth (1.4 years for males, 0.7 for females), for labor market attachment (0.7 and 0.6 years), and for marital status (1.0 and 1.5 years).

These large increases happened during a time period when there was a sizeable increase in income and wealth inequality. Although we do not want to make any causal statement, it is hard to avoid thinking that the increase in income inequality lurks behind the increase in the socioeconomic gradient of longevity. If so, we should conclude that the upsurge of income inequality in the recent decades has had welfare implications much stronger than previously thought. Our results also show, however, that education seems to matter more than wealth. Therefore, it might very well be that the increase in the socioeconomic gradient of longevity is also tightly related to selection: over the years, the pool of less educated or unmarried individuals has become worse off in terms of their ability to survive.

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