

## **Why Are Women's and Men's Work Lives Converging? Demography, Human Capital Investments, and Lifetime Earnings**

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In this paper, employing fifty years of annual U.S. Census Annual Demographic File data combined with Vital Statistics demographic data, we estimate long-run relationships between life expectancy, birth rates, human capital investments, and actual and expected labor market outcomes for men and women. We calculate lifetime real earnings to consider what the lifetime payoff is for labor market participation, and show that these numbers converged between women and men over the period 1964 to 2013. For women, lifetime earnings have risen both due to higher hourly earnings rates and higher lifetime hours worked; lifetime hours have risen both due to extended years of labor force participation and more hours worked per year of participation.

We consider the relationships that may have driven these increased amounts of lifetime work and earnings for women, both absolutely and relative to men. In our model, changes in technology can affect outcomes through two main pathways: 1) effects on demographics, where we differentiate between effects on life expectancy and effects on family structure; 2) effects on household productivity. We argue that as technology has increased productivity, this has increased the returns to investments in human capital of both earnings and work experience, thus raising earnings and increasing hours of lifetime work. In addition, through the demographic pathway, both genders have higher payoffs to investment in human capital

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through having more years in which to utilize it, and also then increase their hours of lifetime work. The lowered fertility rate has a similar effect of raising payoffs for women as they can now spend more time in the labor market, but would be expected to have less effect on men.

We contribute new insights to the literature on gender differences in work patterns on several dimensions: First, we employ individual-level data over a long time-span and estimate returns to experience and college, real hourly earnings and expected lifetime outcomes. Other papers employing a time-series approach to study gender differences in work patterns have used aggregated annual data series; without calculating the marginal returns to human capital investment and accounting for selection. Second, we include information on life expectancy, one of the most important trends over the past century or more in human demography.

While this paper addresses themes of long-held interest in the area of the economics of gender, its focus on lifetime work patterns differentiates it from other work in this area. In addition, we focus on increased life expectancy as a main potential avenue for change, while earlier papers in this vein have mainly focused on reduced birth rates. We argue that longer life expectancies have led to fundamental changes in how both women and men approach paid work and that this avenue is at least as important in explaining changing work patterns over the past fifty years as drops in the birth rate.

Consistent with our hypotheses, our model estimations suggest a long-run interrelationship between the model's variables for women, while for men, changes in birth rates do not matter. In addition, shocks to demography, human capital investments and real hourly earnings have permanent effects on women's lifetime earnings while for men only one type of shock - a change in the return to college - has a long-run impact on lifetime earnings.