

**How Does Raising Women's Full Retirement Age Affect
Labor Supply, Income, and Mortality? Evidence from Switzerland**

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Between 1960 and 2010, the average life expectancy at age 65 in the United States increased by 4.5 years for men and 4.2 years for women. Over the same period, the average effective retirement age has declined by approximately three years. These forces have substantial fiscal ramifications for the Social Security program. Reacting to mounting financial pressure, the United States and other countries have implemented reforms aimed at delaying the labor force exit of older workers. One of the most discussed and implemented policy measures is an increase in the retirement age. However, there is surprisingly little evidence on the impact of this measure on labor force participation and well-being of older workers.

This project examines the causal impact of a Swiss increase in the full retirement age (FRA) for women on labor force participation, income, and health. We exploit exogenous variation in the FRA, which was generated by a major pension reform that became effective in 1997 and increased the FRA for women from age 62 to age 64 in two stages. The reform increased the FRA by one year for women born between 1939 and 1941, and by an additional year for women born after 1942 by introducing a penalty of 3.4 percent for women claiming retirement before the FRA. This penalty was increased to 6.8 percent for women born in 1948 or after.

Studying the Swiss case is interesting from several points of view. First, similar to the United States, there is no mandatory retirement in Switzerland. In contrast to the United States, individuals can both draw retirement benefits and continue working; there is no earnings test. Thus, changes in retirement behavior are due to a pure wealth effect, rather than both wealth and substitution effects. Second, we have access to the Swiss Social Security Administration database (SSSD) covering the complete labor market and earnings histories of 25 percent of workers and their spouses in Switzerland. With this database, we can study whether an increase in the FRA has spillover effects into other social insurance programs and whether there is an effect on the labor supply of women's spouses (to whom the FRA increase does not apply). Third, the database contains detailed information on mortality allowing us to explore the health effects of an increase in the FRA.

Adopting a regression discontinuity design, we exploit the sharp discontinuities in the FRA by birthdate to identify the effects of raising the FRA. The Swiss pension reform generates stronger and more drastic effects compared to previous studies. For example, Blau and Goodstein (2010) and Mastrobuoni (2009) study how an increase in the FRA implemented by the

1983 Social Security Amendments affected labor force participation of older workers in the United States. Similar to the Swiss reform, the 1983 Social Security Amendments increased the FRA by two years, but this increase was phased in very gradually in two-month increments over 12 birth cohorts. Strong variation in FRA yields precise estimates of the impact of the FRA.

Our regression discontinuity design relies on the fact that the FRA was increased to 63 for women born in 1939, while the FRA was 62 for their counterparts born in 1938. We estimate the causal effects of increasing the FRA by comparing women who are born after December 31, 1938 (treated group) with those who are born on December 31, 1938 or before (control group). A similar discontinuity in the birthdate can be exploited to examine the second increase in the FRA for women from 63 to 64. We estimate the causal effect of increasing the FRA in the following regression discontinuity model:

$$y_i = \alpha + \beta * D_i + \gamma_0(1 - D_i)f(Z_i - c) + \gamma_1f(Z_i - c) + X_i'\delta + \varepsilon_i$$

where i denotes individual, D_i is a dummy that is equal to 1 if a woman is born after December 31, 1938 and 0 otherwise, Z_i denotes a woman's birth date, c is the cut-off date for the FRA increase (January 1, 1939), and f is a function of the difference between a woman's birth date and January 1, 1939. The coefficient of interest is β , which measures the impact of the increase in the FRA on the outcome variable y_i .

Our first set of results examines the impact of the FRA on labor market exit and benefit claiming. Here y_i denotes the age of labor force exit and the age of benefit claiming, respectively. We run similar regressions to examine the impact on spousal labor supply where y_i denotes the age of labor force exit (benefit claiming) of the husband. The second set of results examines the labor market effects in more detail, in particular spillover effects into other social insurance programs. In this case, y_i is a dummy for whether a woman is employed, unemployed, or receiving disability benefits at a particular age. Finally, to examine the impact of an increase in the FRA on health, the outcome variable denotes death by a certain age.

Our empirical analysis yields the following insights. First, raising the FRA strongly affects women's labor supply. We find that a one-year increase in the FRA delays labor market exit by a bit more than half a year (0.51-0.66 years) and increases the claiming age of retirement benefits by a bit less (0.41-0.55 years). Women prolong their working lives mainly by working

one additional year until they reach the new FRA. More specifically, we find that employment rates at the old FRA (62 for the first and 63 for the second FRA increase) increase by 23.2-34.1 percentage points. Interestingly, women already work more one year before the old FRA (6.6 to 10.9 percentage points) in anticipation of the reform. Second, we find evidence that some women responded to the FRA increase by seeking benefits from other social insurance programs, in particular the unemployment and disability insurance programs, but the amount of benefit substitution is relatively modest. Third, there are no effects on labor supply and benefit claiming of women's spouses, suggesting that husbands and wives do not coordinate retirement dates. Fourth, we find some suggestive evidence that raising the FRA increases mortality in the short-run somewhat but the effect is not very precisely estimated. There might be a stronger effect in the long run, but we cannot provide an answer to this question given that our data end in 2012. Fifth, we find that the social security benefits of women who are affected by an increase in the FRA by a penalty on early claiming are slightly lower than before the reform, an effect that is imprecisely estimated. This is because most women delay claiming early to avoid any reduction in benefits. However, there is substantial reduction in social security wealth. The reason is that social security wealth not only looks at pension benefits (which decrease only marginally), but also at the duration of benefit receipt (which decreases due to the later claiming).

In conclusion, our work suggests that increasing the FRA is an effective policy, delaying both labor market exit and claiming of retirement benefits. For each year of increasing the FRA, the exit and claiming ages increase by around 0.5 years. Hope for an “added worker” effect are, however, not substantiated: spouses of women affected by the reform do not increase their labor supply. Two key policy concerns are that an FRA increase might reduce health or lower income. We do find an imprecisely estimated negative effect on health, but no effect on social security benefits, a key component of retirement income. We are confident that these findings inform the debate on using increases in the FRA in the United States and other countries.

References

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