Labor supply effects of the recent social security benefit cuts: Empirical estimates using cohort discontinuities ☆

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ABSTRACT

In response to a "crisis" in Social Security financing two decades ago Congress implemented an increase in the Normal Retirement Age (NRA) of 2 months per year for cohorts born in 1938 and after. These cohorts began reaching retirement age in 2000. This paper studies the effects of these benefit cuts on recent retirement behavior. The evidence suggests that the mean retirement age of the affected cohorts has increased by about half as much as the increase in the NRA. If older workers continue to increase their labor supply in the same way, there might be important implications for the estimates of Social Security trust fund exhaustion that have played such a major role in recent discussions of Social Security reform.

1. Introduction

In 1983, the U.S. Congress implemented an increase in the Normal Retirement Age (NRA) of 2 months per year, an increase that started in 2000. Each two-months increase in the NRA translates into a little less than a 1 percentage point reduction in Social Security benefits.[1] This reform is likely to influence two important decisions that workers face at the end of their careers: (1) when to start collecting Social Security benefits, and (2) when to retire. Since benefits are adjusted actuarially with respect to the entitlement age, the long-term solvency of the Social Security trust fund depends more on retirement decisions than on claiming decisions. An increase in labor force participation generates more contributions, which are the trust fund's main source of revenue.

This paper studies the effects of an increase in the NRA on recent retirement behavior, providing an ex-post evaluation of the reform.[2] The identification is based on the assumption that after controlling for labor and financial market conditions, and for several worker characteristics, any observed trend-discontinuity in the average retirement age between workers born before and after January 1938 is due to the corresponding change in the NRA.

The evaluation yields both substantive evidence to inform future reforms and a guide to the calibration of structural models of retirement decisions. The results also raise serious questions about how best to improve the models on which earlier research was based. Using the change in the NRA to estimate the effect of Social Security incentives on labor supply provides additional benefits: the exact change in benefits is known, it is not prone to measurement error, and it is exogenous.

Two recent papers have analyzed how the change in the NRA affects labor force participation Pingle (2006) and Blau and Goodstein (2007).[3]

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[2] Coile and Gruber (2002), Panis et al. (2002), Fields and Mitchell (1984), Gustman and Steinmeier (1985) use pre-reform data to simulate the effect of an increase in the NRA on labor supply. Gustman and Steinmeier (2008) use more recent data from the Health and Retirement Survey to simulate what the labor force participation rates would have been in the absence of an increase in both, NRA and DRC, but the variation used by the authors to estimate the structural model is not just the variation driven by the DRC and the NRA. They find that the combined changes increase full time work by those 65 to 67 by about 9% between 1992 and 2004.

[3] Duggan et al. (2007) look at how the increase in the NRA has influenced disability recipiency.
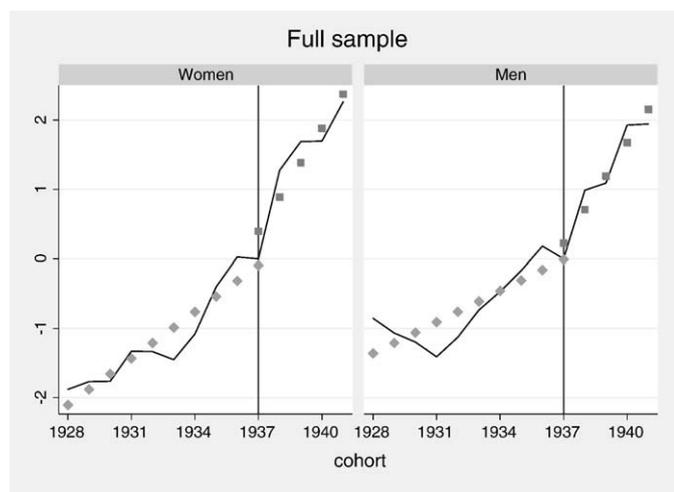
Fig. 1. Change in the average retirement age (in months) with respect to the 1937 birth cohort (solid line) and its piecewise linear fit (dots). Full sample. NOTE.— Based on individuals between ages 62 and 65.
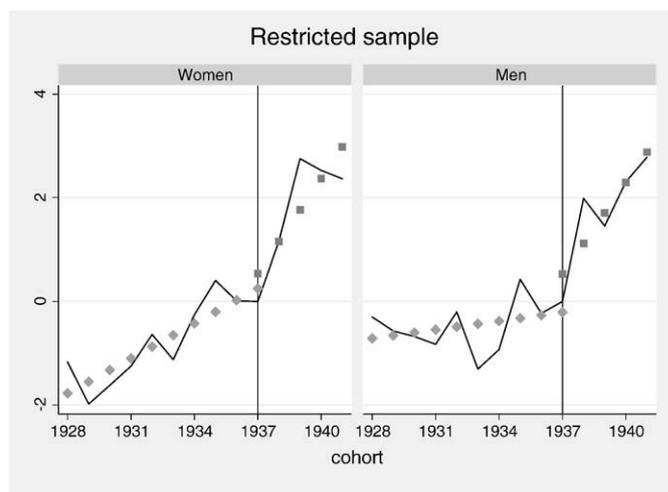
Fig. 2. Change in the average retirement age (in months) with respect to the 1937 birth cohort (solid line) and its piecewise linear fit (dots). Restricted sample. NOTE.— Based on individuals between ages 62 and 65.

Pingle's analysis focuses on how changes in the delayed retirement credit (DRC), the actuarial adjustment of social security benefits received for delaying claiming past the NRA affects labor force participation, but he also finds that the increase in the NRA increases labor supply among workers aged 60 to 64 and, similar to me, not among those aged 65 to 69. His results are very sensitive to the specification, which is probably driven by the low number of workers born after 1937 in his sample and by the use of a data set that is not aimed at producing official statistics on labor force participation. Due to the timing of the reform, workers born before 1938 are the control group and workers born in or after 1938, those who experience a reduction in benefits, are the treatment group. Pingle uses SIPP data up to 2003, which is when the first "treated" cohort is 65 years old. Instead, my analysis uses monthly Current Population Survey (CPS) data from January 1989 to January 2007. Unlike Pingle, this paper controls for censoring by focussing on workers younger than 66. There are, therefore, four treated cohorts distributed over the age range of 61 to 65: 1938, 1939, 1940, and 1941.

Blau and Goodstein (2007), on the other hand, aggregate CPS and SIPP data based on age, calendar year, and education. The resulting cohorts are matched with their average lifetime earnings and their average Social Security benefits using administrative records from the SSA. Such a strategy does not isolate the exogenous change in benefits that is due to the reforms. This might be why the authors find that an increase in Social Security benefits *increase* labor force participation when birth cohort effects are added to the regression. Conditional on cohort effects changes in Social Security benefits are no longer exogenous. The authors attribute the whole recent increase in the labor force participation rate of older men to the increase in education. While I do find that education explains the trend toward late retirement, the effect of education started before the increase in the NRA, and cannot explain the *change* in the trend. This trend discontinuity is visible in Figs. 1 and 2. The figures show the changes in average retirement age with respect to the 1937 cohort. The dotted lines show piecewise-linear fits. In all plots there is a clear break in the trend toward later retirement between the 1937 and the 1938 birth year, and the break is even more evident when a restricted sample is used to correct for measurement error in the year of birth variable.[4]

In two other closely related papers Manchester and Song (2006) and Benitez-Silva and Yin (2007) look at how the increase in NRA influences social security benefit claiming. Benitez-Silva and Yin find significant effects of the removal of the earnings test and the increase

in the NRA, but very small effects as a result of the increases in the DRC, though the results are hard to quantify. Manchester and Song also find significant changes at ages 62 to 65 but not at later ages. Their estimated change in the average claiming age are close to mine, which is not surprising given that retirement and benefit claiming most often happen around the same time (Coile et al., 2002).

Point estimates imply an increase in the actual age of retirement of about 50% of the increase in the NRA for both men and women. The estimated trend-discontinuity does not change significantly when controlling for: i) other reforms that happen contemporaneously (the delayed retirement credit and the earnings test removal), ii) changes in the cost of living adjustments, iii) changes in local labor demand (unemployment rate and average number of hours worked), iv) changes in the stock market index, and v) changes in socioeconomic factors. All these changes do not happen at exactly the same time as the increase in the NRA, allowing me to identify them separately. The sample starts with workers born in 1928, but the estimated trend-discontinuity is robust to choosing later initial cohorts. Also, almost all estimates of "placebo" trend discontinuity in years before or after the reform happened are not significantly different from zero.

Previous studies, using out-of-sample predictions, have estimated much smaller effects on labor force participation. Four major factors may have biased previous estimates, arguably toward zero. First, projections do not capture possible changes linked to norms that are related to the NRA. Evidence suggests that some workers look at the NRA as a focal point. For example, Mastrobuoni (2006) shows that the distribution of the age at which treated workers claim their Social Security benefits no longer spikes at the month workers turn age 65, but at the month of their NRA (65 and 2 months for workers born in 1938, 65 and 4 months for those born in 1939, etc), even if there is no discontinuity in the incentives to claim at that age.[5]

Second, given that benefits are a function of past earnings, estimates based on these models may suffer from endogeneity bias (Krueger and Meyer, 2002). The third source of bias is that these models, since they are estimated using cross-sectional variation in Social Security benefits and retirement status, may capture long-term effects, while the 1983 benefit cuts may have been unexpected. Individuals are not always well aware of government program incentives. For example, in a recent paper (Chetty and Saez, 2009) find that providing EITC recipients with more information increases their tax refunds. Similarly, the 2007 Retirement Confidence Survey of the Employee Benefit Research

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[4] As first noted by Quinn (1999) the early retirement trend has reversed and is now decreasing.

[5] This also suggests that Medicare, whose eligibility age remained 65, has a limited effect on labor force participation.