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An Empirical Evaluation of Recent Social Security Reforms: Dissertation Summary

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Chapter 1

Do Better-Informed Workers Make Better Retirement Choices? A Test Based on the Social Security Statement

Economic models of retirement implicitly assume that workers know their future benefits as a function of their retirement age and are able to compare future streams of benefits. Empirical evidence, however, suggests that these are strong assumptions. When asked, only around 50 percent provide an estimate of their expected Social Security benefits (Bernheim and Levin 1989; Gustman and Steinmeier 2001).[1] Gustman and Steinmeier (2001) show that less than 30 percent of respondents are able to estimate their future benefits to within about $1,500 per year. Moreover, Lusardi and Mitchell (2006) show that financial illiteracy is widespread among older Americans. Only half of the age 50+ respondents can correctly answer two simple questions regarding interest compounding and inflation. Is it then reasonable to assume that those same respondents are able to compute their retirement incentives, which typically involve relatively complex calculations?

Despite very little knowledge about retirement incentives, the fact that people seem to respond to incentives when making their retirement decisions has been called by Chan and Stevens (2003) an "important empirical puzzle in the retirement literature."

Gustman and Steinmeier (2001) try to test the robustness of retirement models when a measure of knowledge about benefits is added to the retirement regression. They find that knowledge does not affect workers' responsiveness to incentives. Chan and Stevens (2003) go one step further and analyze how the interaction of knowledge and accruals affects workers' decisions. The authors find that the responsiveness to pension incentives is entirely driven by the 20 percent of workers who perceive them correctly.[2] The validity of using measures of knowledge in the regressions, however, is questionable as knowledge is endogenous: workers gather information when they approach their expected retirement age.

We make use of a unique natural experiment to shed light on these issues: In 1995, the Social Security Administration started sending out the annual Social Security Statement. The statement is a concise, easy-to-read personal record of past earnings and a summary of the estimated benefits for the worker and his or her family as a function of his or her retirement age. The statement has been sent out in phases, starting with workers who were 60 years and older. In later years it has been sent according to the following (year, age) combinations: (1996, 58+), (1997, 53+), (1998, 47+), (1999, 44+), (2000, 25+).

The introduction of the statement provides an exogenous source of variation in the information about Social Security benefits. This change is used to analyze workers' retirement and claiming decisions. First, we model how workers gather information about their Social Security benefits. The empirical evidence is consistent with a model of retirement where information is costly. The statement allows us to look at the effect of moving from a system in which information is freely available (but the worker has to show some initiative and either call the Social Security Administration or learn the Social Security benefit rules to know about the Social Security incentives he or she faces) to a system where the cost of gathering information is basically zero. We show that these two systems produce significantly different levels of knowledge.[3] We identify workers who know little or nothing about their future Social Security benefits before they receive the statement and find that they benefit the most from the information contained within. We find that, for these workers, the effect of the statement on knowledge is strong even when they are close to their retirement date.

Respondents from the Health and Retirement survey are less likely to say that they don't know their benefits, and their expected benefits are closer to the actual benefits that they end up getting in later waves. Uninformed workers, though, are a very selective sample of the population. In order to value the information, workers need to be able to use the information and need to be free to choose their retirement age. It is known that workers who face health problems or are liquidity constraints tend to retire as soon as possible. Consistent with this, we find that wealthier and healthier workers are significantly more likely to get informed. A more puzzling finding is that even after controlling for labor market experience, occupation, wealth, and health, black workers and workers with low levels of education are significantly less likely to know their benefits. One possible explanation for this persistent gap is that these workers are also more likely to be financially illiterate (Lusardi and Mitchell 2006).

Later, we measure how the additional information about Social Security incentives affects retirement and claiming behavior. We look at changes in workers' expectations about their claiming age, and we find only limited evidence that receiving the first statement generally induces some workers to update their expectations.

Then we use the exogenous variation in information to test whether retirement and claiming decisions become more sensitive to Social Security incentives. Workers who are not well informed before receiving the statement, namely blacks and low-educated workers, are also the ones for whom Social Security accruals play the smallest role in claiming decisions. But this is not necessarily inconsistent with the theory,

because those workers are also more likely to be liquidity constraints and in bad health.

The introduction of the statement, instead, generates mixed results. Low-educated workers show a small and insignificant increase in the responsiveness to the Social Security incentives, but black workers show a large and significant reduction. This finding and two other findings are puzzling, namely that 1) workers whose spouses are eligible to receive dependent benefits become more likely to take these additional benefits into consideration when deciding about retirement (this may be due to the lack of information about the existence of spouse's and survivor's benefits, an additional piece of information contained in the statement); and 2) workers aged 62 and 65—the two ages at which the retirement benefits are reported in the statement—become less sensitive to Social Security incentives. This is puzzling and suggests that some people retiring at 62 and 65 make this decision based on simple rules of thumb and not Social Security incentives).

Summing up, it seems that for some groups, namely low-educated workers, the lack of knowledge is the product of a maximization process, while for others, mostly blacks, lack of knowledge is more difficult to be justified.

Chapter 2

Labor Supply Effects of the Recent Social Security Benefit Cuts: Empirical Estimates Using Cohort Discontinuities

In 1983, the U.S. Congress implemented an increase in the Normal Retirement Age (NRA) of two months per year. Each two-month increase in the NRA translates into a little more than a 1-percentage-point reduction in Social Security benefits. 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.

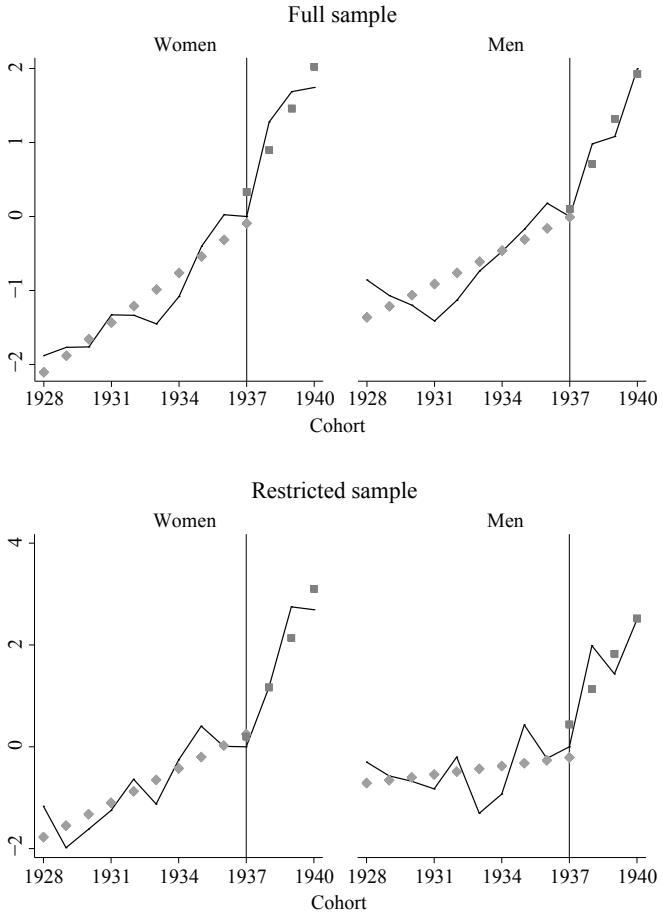
This paper studies the effects of an increase in the NRA on recent retirement behavior, providing the first ex-post evaluation of the reform.[4] The evaluation yields both substantive evidence to inform future reforms and a guide to the calibration of structural models of retirement decisions. The results 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.

Due to the timing of the reform, workers born before 1938 are the control group and workers born on or after 1938, those who experience a reduction in benefits, are the treatment group. The analysis uses monthly Current Population Survey (CPS) data from January 1989 to January 2006.

Figure 1 shows the changes in average retirement age with respect to the 1937 cohort. Because of censoring, I focus on workers younger than 66, which leaves three treated cohorts: 1938, 1939, and 1940. 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.[5]

The most obvious cause of this change is the increase in the NRA. Point estimates imply an increase in the actual age of retirement of about 50 percent of the increase in the NRA for both men and women. These results do not change when

Figure 1 Change in the Average Retirement Age (in months) with Respect to the 1937 Birth Cohort (Solid Line) and Its Piecewise Linear Fit (dots)



NOTE: Based on individuals between ages 62 and 65.

controlling for changes in socioeconomic characteristics.

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. Mastrobuoni (2006) shows that the distribution of the age at which treated workers claim their Social Security benefits no longer spikes at age 65, but rather at the NRA.

Second, given that benefits are a function of past earnings, estimates based on these models may suffer from endogeneity bias. 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. Using a simple intertemporal model of retirement, I show that this can generate larger changes in the average retirement age than would otherwise be expected.[6]

The fourth problem is that in order to construct Social Security wealth, a component of all forward-looking incentives to retire, the researcher needs detailed information about past and future earnings, family structure (because of the dependent spouse and child benefits and the survivors benefits), interest rates, and preferences; in short, measurement error may be an issue. The increase in the NRA generates a reduction in Social Security wealth that is exogenous and free of measurement error.

Despite the 1983 reform, the trust fund is projected to become insolvent in less than 40 years. While this date of insolvency is often portrayed by the news media as certain, it is only an estimate. One of the most important sources of uncertainty is the behavior of future workers and retirees (Anderson, Lee, and Tuljapurkar 2003). The NRA is scheduled to reach age 66 for the 1943 birth cohort, stay at that level for 12 years, and later resume the increase until it reaches age 67. To make better predictions, it is important to understand how these changes affect retirement behavior.

Chapter 3

The Social Security Earnings Test Removal: Money Saved or Money Spent by the Trust Fund?

Beneficiaries of Social Security face restrictions on how much they can earn without incurring the earnings test. Before 2000, the benefits above the annual exempt amount were subject to a 50 percent tax for those below age 65 and were subject to a 33 percent tax for those between age 65 and 70. On April 7, 2000, President Clinton signed the "Senior Citizens Freedom to Work Act of 2000," which eliminated the 33 percent earnings test.[7] Although benefits that are taxed away are actuarially adjusted and later returned to the beneficiary as soon as she either reaches age 70 or her earnings fall below the earnings test, empirical evidence seems to suggest that workers perceive the tax to be permanent (Gruber and Orszag 2003).

The earnings test removal (ETR) was seen as an opportunity to increase the number of retired people going back to work. Since the trust fund is projected to become insolvent in about 40 years, policymakers' main concern was that the ETR might worsen the long-term finances of the fund. Fifteen years ago, Honig and Reimers (1989) estimated the cost of a complete removal to be close to $2 billion or a 2.3 percent increase in the present discounted value of the stream of benefits, the so-called Social Security Wealth. A few years later, Gustman and Steinmeier (1991) estimated the budgetary cost of an ETR for beneficiaries above age 65 considering different behavioral assumptions. The largest estimated cost is equal to $92 billion when workers and retirees time their applications to maximize the Social Security Wealth. The cost drops to $43 billion if liquidity constraints force workers to claim benefits as soon as they retire, and to −$12 billion, in which case the administration actually saves money, if workers claim at age 65, meaning as soon as they are not subject to the earnings test.

Following the 2000 ETR, several papers have analyzed its effect on labor supply, but despite the difficult financial situation of the trust fund, its effect on the SSA's finances is still unknown. Using intermediate assumptions in terms of both real interest rates and mortality rates, I find that for the 1935 cohort the trust fund increased its spending by about $4 billion as a result of the ETR. However, because of increasing life expectancy, higher actuarial adjustments for late claiming, and increasing NRA, these effects are decreasing over time, and for workers born in 1943, the additional cost is probably close to zero. At the same time, the ETR is believed to have significantly increased earnings and therefore contributions between the NRA and age 69. Using estimates from Loughran and Haider (2005), I find that each cohort contributes an additional $0.20 billion as a result of the ETR. Nevertheless, the trust fund appears to have increased its liabilities toward the first workers who were subject to the ETR. But for workers born after 1941 the trust fund actually seems to have saved money. If workers maximize their family utility functions, by a revealed preference argument, the ETR has been for workers born after 1941 Pareto-improving. There are two reasons that suggest that removal of the remaining part of the earnings test (between age 62 and the NRA) is unlikely to produce larger costs. First, if we believe that after age 62 disutility from work is increasing with age, labor supply between age 62 and the NRA is going to respond even more strongly to an ETR. Second, mortality between age 62 and the NRA is low, especially because the additional removal would affect much younger cohorts, and the actuarial adjustments are high. Thus, most workers are

better off claiming around the NRA. For these workers, earlier claiming is likely to produce lower long-term spending for the trust fund. These results suggest benefits for repealing the remaining portion of the earnings test.

Notes

1. In our data that focus on workers aged 55 and above, two-thirds of workers are able to provide an estimate.
2. Chan and Stevens (2003) do not find any link between knowledge and Social Security incentives, which they consider a result of data limitations. The first limitation is that they can measure if workers correctly perceive their Social Security benefits, but not if they correctly perceive their Social Security accruals. The second limitation is that the match between the Health and Retirement Survey and the administrative records is available only up to the 1992 survey year, and is likely to introduce measurement error in the benefit calculations for the subsequent years.
3. Duflo and Saez (2003) is similar in spirit to our analysis in that it also deals with the endogeneity problem of information. The authors use a randomized experiment to study the role of information in the employees' decisions to enroll in a Tax Deferred Account retirement plan. They conclude that "the important decision about how much to save for retirement can be affected by small shocks such as a very small financial reward and/or the influence of peers, and thus does not seem to be the consequence of an elaborate decision process."
4. Coile and Gruber (2007), Fields and Mitchell (1984), Gustman and Steinmeier (1985), and Panis et al. (2002) use prereform data to simulate the effect of an increase in the NRA on labor supply.
5. As first noted by Quinn (1999), the early retirement trend has reversed and is now decreasing.
6. Benefit increases instead may generate smaller reductions in labor supply when workers learn about them too late (Burtless 1986).
8. The legislation, effective retroactively to January 1, 2000, still requires that the test's higher exempt amount be applied to beneficiaries' earnings in the year they attain their normal retirement age.

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