How Much Does Access to Health Insurance Influence the Timing of Retirement?

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Abstract: Access to health insurance is a known determinant in the decision of when to retire. What remains unknown, however, is how much retirement behavior will change in response to the set of reforms that will be enacted in 2014 with the Patient Protection and Affordable Care Act (ACA). These reforms include more regulation of the non-group market, subsidies to health insurance for the low- to middle-class households, and Medicaid expansions. This project examines the effect of the state-level reforms that are most similar to those included in the ACA on the timing of retirement. We find that non-group health insurance reform substantially increases the hazard of leaving the labor force. For workers aged 63, the hazards of exiting the labor force increases by 2.2 percentage points, or approximately doubling the exit hazard at that age. For workers who report themselves to be in fair or poor health – those most likely to gain access to the individual market through these regulations, we find that the exit hazard differentially increases at age 64, and the self-reported retirement hazard also increase at age 62. These changes in retirement and labor force participation also lead to a hastening of claiming Social Security at age 63.

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JEL codes:

1. Introduction

The role of health insurance in the decision to retire has been widely studied, but the size of the impact remains debated (see Gruber (2000) and Monk and Munnell (2009) for reviews of the literature). The literature suggests that availability of retiree health insurance increases the odds of early retirement by 20-50 percent, and the hazard rate into retirement by 50-100%. This variation in estimates is largely due to differences in identification strategies, and it is unclear where within these ranges the effects of the Affordable Care Act (ACA) on retirement will fall. Earlier work examined the retirement patterns of those who have or do not have retiree health insurance (or proxy for having retiree health insurance), which may in and of itself be endogenous, as highlighted by Blau and Gilleskie (1997). Structural models try to address this selection issue, but data limitations about the characteristics of retiree health insurance hamper this effort. Gruber and Madrian (1995,1996) use access to continuation of coverage (COBRA) to identify the impact of health insurance on retirement, and find a sizable impact on retirement timing. However, while COBRA extensions are much cheaper than many non-group market insurance plans, their out of pocket premiums may still be higher than many of the subsidized options that will be available after the ACA. If the levels of premiums are important, these estimates from COBRA eligibility may still underestimate the ACA's impact on retirement.

In this paper, we use regulatory changes in the non-group health insurance market to identify the impact of health insurance on retirement and Social Security claiming behavior. These regulations are most like the changes enacted with the ACA, and thus could be particularly useful in predicting the impact of the ACA. The typical state regulations include guaranteed issue, which means individuals cannot be rejected for health insurance, and community rating, which indicates that the price of the insurance policy cannot be based on individual health, but only on certain demographic information. Research has shown that these types of regulations

have had a large impact on the size of the non-group market and the price of policies (Herring and Pauly 2006; Belloff and Cantor 2008; LoSasso 2011).

These state-level changes provide exogenous variation in the access and affordability of health insurance in the non-group health insurance markets. We find that non-group health insurance reform substantially increases the hazards of leaving the labor force. Overall, for workers aged 63, the hazard of exiting the labor force increase by 2.2 percentage points or almost doubles. Workers in fair or poor health, those who most likely gain access to the individual market through these regulatory changes, show even bigger effects. At age 64, the hazard for exiting the labor market increases by 1.1 percentage points, over a 50 percent increase. Further, these sicker individuals display a larger retirement spike at age 62; part of this effect is due to a lower retirement hazard at age 61. At age 62, sicker individuals in states that have regulated the non-group market are 3 percentage points more likely to retire that sicker workers in non-regulated states, representing a 180 percent increase in the retirement hazard at that age. In addition, sicker individuals in these regulated states accelerate their Social Security benefit claiming; they are 1.1 percentage points more likely to claim at age 63, representing a 330 percent increase in claiming at that age.

This paper proceeds as follows. Section 2 provides background on state-based health insurance regulations which we use for identification in this paper. Section 3 describes Social Security changes that we control for in our analysis. We discuss our data and empirical strategy in Sections 4 and 5, and present results in Section 6. Section 7 concludes.

2. Health Insurance Availability and State-Level Reforms

Prior to age 65, most workers get their health insurance through their employer. According to the Kaiser Family Foundation, approximately 56 percent of the non-elderly got

3

their health insurance coverage from an employer in 2012.[1] For these individuals, leaving their

job could mean the loss of health insurance in addition to the loss of wages. Access to health

insurance after retirement and before gaining Medicare eligibility at age 65 may be limited

and/or expensive. There are four primary sources.

- <u>Retiree health insurance from previous job or union.</u> Retiree health insurance from a
  job or union may be the cheapest source of insurance for individuals with access.
  Premiums are set at the company/union level.

- <u>Spouse's employer</u>. Married individuals who have a working spouse with employer-
  sponsored health insurance can usually join their spouse's plan. The cost is the
  premium difference between the individual plan and the two-adult or family plan, and
  is employer-specific.

- <u>COBRA</u> (Consolidated Omnibus Budget Reconciliation Act, 1985) coverage is
  available for up to 18 months, but costly: retirees pay 102 percent of the full group
  premium, not just the portion they paid as active employees, leading to take-up of
  only 20-25 percent (Kapur and Marquis 2003).

- <u>Individual market</u>. In the individual market, unlike in group coverage, insurers are
  able to charge higher premiums and may even be able to deny coverage due to pre-
  existing conditions.

With regard to the individual (non-group) private health insurance market, regulation is

done at the state-level. These regulations vary with respect to the ability of an individual to

obtain health insurance and the ability of insurance companies to charge differential rates, which

impact the price and access to non-group health insurance. The two most common regulations –

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[1] Obtained from Kaiser State Health Facts, http://kff.org/other/state-indicator/nonelderly-0-64/, on September 12, 2014.

and the ones we focus on in this paper – are "guaranteed issue" and "community rating."

Guaranteed issue means that insurers have to offer every applicant a policy, but there are no

limitations on the price of the policy. Community rating legislation limits the ability of the

insurer to use individual characteristics for underwriting insurance policies.[2] These regulations

greatly affect non-group market prices and access, with differential impacts based on individual

health risk. Unregulated markets have lower premiums for healthy individuals and higher

premiums for sick individuals. While the success of the regulations varies, the general consensus

is that regulated markets expand access for the least healthy individuals – they are more likely to

be covered in the non-group market and less likely to be uninsured under strict-regulation

regimes (Buckmueller and DiNardo 2002, Herring and Pauly 2006, Belloff and Cantor 2008,

LoSasso and Lurie 2009, LoSasso 2011).

Since 1990, many states have made changes to how they regulate the individual (or non-

group) health insurance market. We compiled historical state-level data on health insurance

regulations.[3] Figure 1 shows the variation in strict health insurance regulation during our

sample period. Interestingly, states moved both into and out of this category during our period,

so identification comes from both the introduction and the removal of regulation.

We hypothesize that these individuals in states with strictly regulated health insurance

markets are more likely to retire prior to age 65 than individuals who live in more loosely

regulated states due to the greater affordability of individual health insurance in these states. We

also hypothesize that this effect will be largest for individuals who are sick and individuals who

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[2] We follow Herring and Pauly (2006) and combine the presence of guaranteed issue and community rating
regulation into one variable for "strict" regulation since these regulations are highly correlated.
[3] Data on state regulations of health insurance were compiled from The Henry J. Kaiser Family Foundation (2010a;
2010b), Georgetown University Health Policy Institute (2004), and Wachenheim and Leida (2007).

do not have other means of accessing potentially cheaper health insurance, such as a retiree

policy or through a spouse.

3. Social Security: Relevant Programmatic Changes

Since we are examining retirement and Social Security claiming behavior, we also must

account for changes in the Social Security system that occur at the same time. In order to

address an immediate and long-term funding problem, the Social Security Amendments of 1983

gradually increased the FRA by birth cohort. Individuals born through 1937 have the traditional

FRA of 65, while the FRA increases by 2 months for every year for successive birth cohorts.

The FRA plateaus at age 66 for individuals born between 1943 and 1954.[4] The increase in the

FRA is essentially a benefit cut; an individual born in 1943 would have to work 1 year longer for

the same benefit amount as an individual with identical earnings born in 1937. Given this

benefit reduction, and if leisure is a normal good, retirement ages should increase among the

younger cohorts with higher FRAs.

In addition to the increase in the FRA, other changes to the Social Security program

eliminated the financial incentive to retire at age 65 that was evident for earlier cohorts. First,

the 1983 Amendments increased the delayed retirement credit (DRC) – the increase in benefits

one receives if they postpone claiming until after their FRA. This could lead some to postpone

retirement and/or claiming benefits. Fortunately from a research design perspective, the DRC

increases at a different rate than the FRA; only every other birth-year experiences an increase in

the DRC.

Second, in 2000, the earnings test was eliminated for individuals working beyond their

FRA. This legislative change could increase the claiming hazard right at the FRA since workers

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[4] The FRA again increases by 2 months for each birth year until it reaches 67 for people born in or after 1960, but these birth cohorts have not yet reached FRA and thus are outside of our analysis.

would no longer be tempted to delay claiming in order to avoid this "tax." Fortunately, there is not complete overlap between the cohorts impacted by the earnings test removal and the FRA increases – the 1935-1937 cohorts were not subject to the earnings test above their FRA, which was still at 65 – allowing researchers to identify the effects separately (Song and Manchester 2009; Behaghel and Blau 2012). These changes provide cohort-by-cohort variation in Social Security benefits, but the "kink" in the benefit formula at age 65, present for older cohorts, has been eliminated for the cohorts we study.

There is an additional Social Security change we must control for in our model. In 2008, Social Security changed the manner in which the field representatives presented the claiming decision, and no longer presented the information as a "break-even" calculation. This "frame" emphasizes the minimum number of years one would need to live, in order for the nominal sum of the incremental monthly payments that arise from delaying claiming to offset the income forgone during the delay. Previous work has documented that the change in the frame, from the break-even to the more neutral presentation, could lead to significant claiming delays of 15 months, on average (Brown, Kapteyn and Mitchell 2011).

We include controls for all three of these programmatic changes in our empirical specification in order to insure that we are not confounding Social Security changes and health insurance access changes. Further, as can be seen in the appendix, we can closely replicate the results of Behaghel and Blau (2012), which focused on the impact of these Social Security changes on labor force and Social Security claiming decisions. Importantly, these Social Security changes are cohort-specific and universal across the states. Only the last concern – the change in the frame of benefits – is year-specific, like our changes in health insurance regulation variation we wish to exploit. However, since it is universal across all states and the health insurance regulation changes are state-specific, we can separately identify the different effects by

using year-fixed effects. If anything, not accounting for these Social Security changes would bias our estimates downwards.

4. Data

This paper uses the *Health and Retirement Study* (HRS) in order to estimate the effect of access to health insurance on the Social Security benefits claiming age, employment, and the retirement age, exploiting exogenous changes in state regulations of the individual insurance market. We linked the HRS to the restricted geographic identifiers in order to correctly match respondents to their state of residence.

The HRS is a biennial household survey of individuals over the age of 50 and their spouses. The survey began in 1992 with the 1931-1941 birth cohorts, with additional cohorts added over time. This study uses data from Waves 3 through 10, corresponding to surveys administered in 1996-2010, on individuals born between 1931 and 1944. We restrict to different sets of ages in our empirical specifications as described in the next section.

To the HRS, we merge state-level health insurance regulatory changes: namely guarantee issue and community rating in the non-group market. Following Herring and Pauly (2006), we combine the presence of guaranteed issue and community rating regulation into one variable for "strict" regulation since these regulations are highly correlated. During our study period, Kentucky, Maine, Massachusetts, New Hampshire, New Jersey, New York, Vermont, were strictly regulated at least some point. Massachusetts introduced the regulation in 1997; Kentucky repealed their regulations in 2001 and New Hampshire followed suit in 2002. Since we included state fixed effects in our model, we identify off variation in these regulations within state; it is important to note that we are identifying off both the introduction and the repeal of these regulations.

5. Empirical Strategy

We compare the retirement and claiming behavior of those impacted by state-level reforms of health insurance to those in non-reform states using a hazard model framework that controls for observable characteristics, such as health and lifetime earnings. Following Behaghel and Blau (2012), we estimate different retirement patterns for the treatment and control groups using difference-in-differences methodology:

$$P_{ias} = \alpha HI_{ias} + \rho X_{ias} + \beta_a + \gamma_s + \varepsilon_{ias} \tag{1}$$

where P_{ias} is one of three outcomes of interest for person i in state s currently at age a: claiming Social Security retirement benefits, exiting the labor force, or reporting that he or she is retired. The unit of observation is the person-month between the individual's 60th birthday and either failure (claiming, exiting, or retiring) or censoring (death, survey attrition, or reaching age 65 or calendar year 2010 without failure). Exiting the labor market and retirement are treated as absorbing states, and coded as 1 as the first time after age 59 and 11 months in which the individual indicates that the event occurred. We stop the model at age 65 due to the near-universal access to Medicare at that age.

HI_{ias} is a vector representing access to health insurance for individual i at age a in state s, proxied with a binary variable that equals 1 in a strict regulation regime. The vector X_{ias} is a set of individual-level controls. We include race, sex, marital status, education, health, pension coverage, pension type, household wealth, average hourly earnings, and measures of cognitive capability, planning horizon, and risk aversion. We also include binary variables for the month

9

in which someone's age is equal to the full retirement age, breakeven year and earnings test

changes to control for Social Security program changes, as mentioned previously. β_a and γ_s

represent a full set of age (in months) and state dummies, respectively. Finally, we also include

binary variables for the birth month of each respondent, calendar month dummies, and HRS

cohort dummies. The estimated coefficients on the HI vector are the key measures in

determining the average responsiveness to the change in health insurance access.

To this main estimating equation, we add interaction terms in order to test for different

responses to health insurance access. The hypothesized likely margins of sensitivity include

health status and the availability of other sources of health insurance, namely a spouse with

employer-sponsored health insurance and access to retiree health insurance. We interact these

indicators with the HI vector and test whether the effects are statistically distinguishable across

these groups.

We select a sample of individuals between the ages of 60 and 65 with observable labor

market status and perform our analysis separately by age. The sample consists of 119,422

person-month observations, among which 12,560 observations are in a strictly-regulated state in

at least some of the years. Summary statistics are shown in Table 1. Approximately 55 percent

of the sample has employer-sponsored health insurance that may be lost if they were to exit the

labor force. Seventeen percent of the sample reports being in poor or fair health status and may

be most likely to gain from the ability to purchase non-group health insurance at a lower cost. In

contrast, 27 percent of the sample has a spouse with their own employer-sponsored health

insurance. We expect this subset to be less likely to be sensitive to the regulation regime based

on their alternative sources of health insurance.

6. Results

6.1 Main Results

Table 2 presents the coefficients of interest from our primary estimating equations. Each cell represents a different regression coefficient. Each column presents the results for each age (60-64). Each panel presents a different outcome; panel A presents exiting the labor market, panel B presents self-reporting that one is retired or partially retired; and panel C presents claiming Social Security benefits at that age.[5]

Overall, we find little impact of having strictly regulated health insurance markets on labor market exits, self-reported retirement, or on the claiming Social Security decision. Exiting the labor market, which requires leaving a current employer which may have health insurance tied to it, is the most responsive margin. We find evidence of 60 year olds postponing exiting the labor market in strictly regulated states, with a decrease in the exit hazard of 1.6 percentage points, relative to a base of 1.5 percentage points. This is a counter-intuitive finding as we would expect earlier retirements in strictly regulated markets where non-group health insurance can be obtained more cheaply. It could be that the price of the non-group policy, which has been shown to increase under strictly-regulated regimes, keep individuals working longer. Future work will explore potential reasons for this finding.

We find increased exit hazards at age 63 as a result of a strictly regulated non-group insurance market, with an increase of 2.2 percentage points relative to a mean exit hazard of 2.2 percentage points. This finding is more in-line with expectations: individuals near traditional retirement age may be more likely to leave the labor market when they no longer need to remain employed to gain health insurance. In addition, the fact that this is occurring only 2 years prior to Medicare eligibility makes intuitive sense – even in regulated markets, the premiums for

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[5] Note that most people do not have access to Social Security benefits before their 62nd birthday, thus we do not estimate these relationships for age 60 or 61.

individual health insurance are high and thus younger individuals are less likely to respond by losing wages and facing higher premiums for a long period of time.

6.2 Interaction Effects

Poor and Fair Health. We hypothesize that individuals in fair or poor health would be the most likely to respond to the gain in health insurance access through changing their labor market behavior. The reasons for this hypothesis are three-fold. First, they are more likely to be on the margin of continuing to work, given their health condition. Second, the difference in their premiums in non-regulated markets and regulated markets is expected to be greater since regulated markets prevent insurers from incorporating their health condition in their premiums. Third, they likely place a higher value on health insurance, and thus are more likely to value the health insurance options.

Table 3 presents the age-specific estimates for both the baseline impact of being in a strictly regulated state, and the interaction term for also reporting being in fair or poor health. The format of Table 3 is otherwise identical to Table 2.

The baseline results for exiting the labor market remain unchanged; overall there is an impact on the exit hazard at age 60 and 63, with no differential effect for sicker individuals. However, we find that 64-year olds who report themselves to be in fair or poor health are 1.2 percentage points more likely to exit the labor market in strictly regulated states relative to those in better health. Thus the differential effect we hypothesized seems to be concentrated among individuals right before their Medicare eligibility age.

However, we find that sicker individuals in strictly regulated states have larger peaks of self-reported retirement behavior at age 62, due to both a delay in retirement at age 61 (1 percentage point) and an increase in retirement at age 62 (3 percentage points). This suggests that sicker individuals in strictly regulated states become much more responsive to the

12

availability of Social Security in their retirement decision. However, we find an increase in Social Security claiming behavior at age 63 (1.1 percentage point), not at age 62.

Potential Access to Health Insurance through a Spouse. Individuals who could potentially go on their spouse's employer-sponsored health insurance plan are hypothesized to be less responsive to strict regulation of health insurance markets because they already have a potential source of coverage outside of their own employer, which is likely cheaper than a non-group plan. Table 4 presents the coefficient estimates from the regressions that include an interaction term between strictly regulated states and potential access to employer-sponsored health insurance through a spouse. The format is identical to Table 3. Here we expect the main effect of health insurance regulation to be positive, and the interaction term to be negative, which would suggest that those with health insurance access through a spouse are less likely to respond to non-group regulation than those without health insurance access through a spouse.

We confirm the earlier, and counter-intuitive findings that at age 60, individuals in strictly regulated states postpone exiting the labor market, by 1.7 percentage points. However, this effect seems to hold for all individuals, even those with access to health insurance from a spouse.

The rest of the results for exiting the labor market are more in-line with expectations. While significance varies, the main effect of being in a strictly regulated state appears to lead to more exits from the labor market at ages 61-63, although only statistically significant at age 63. In addition, those with access to spousal health insurance are less responsive, with negative coefficients at age 61 and 62, suggesting that they exit the labor force later than individuals without access to spousal health insurance in strictly regulated states. At ages 63 and 64, individuals with spousal access to health insurance in strictly regulated states accelerate their exit

from the labor market, suggesting that the health insurance effect likely has about a 2-year effect on the timing of labor market exit.

For self-reported retirement, we find only a significant effect of being in a strictly regulated state right at age 62. Given that the coefficient on the interaction term is negative and practically the same size, this suggests that the base result is driven by people who do not have access to health insurance from a spouse's employer. We again see an acceleration of the retirement hazard at ages 63 and 64 for individuals in strictly regulated states with access to spousal health insurance, suggesting that the effect of health insurance on retirement timing lasts 1 to 2 years.

Retiree Health Insurance. Individuals who have access to retiree health insurance from their current or past employer or union should also be less likely to respond to the expanded access to health insurance through non-group regulation. In results not shown, we find no significant differential effect for exiting the labor market or retirement behavior for individuals without access to retiree health insurance. This could be due to data limitations; we do not know from the survey under what conditions or at what age the retiree health insurance would be available.

7. Conclusions and Future Work

We find that retirement and labor force exit patterns are significantly related to access to health insurance as measured by regulating the non-group market, especially for individuals in worse health or who lack access to subsidized health insurance through a spouse's employer. Social Security claiming patterns are less impacted.

Further, when we compare these hazard rates with individuals less impacted by the reforms, it suggest that access to health insurance accelerates retirement or labor force exits by 1-2 years among those who we predict to be more sensitive to the regulations. This suggests that

while the labor market will be affected by the recent reforms included in the Affordable Care Act, it also suggest that it won't lead to a great flight from the labor market at all ages; any impact will be focused near the traditional retirement ages.

The potential impact of these reforms on the Social Security balance sheet are of some concern, and its total impact is worth further investigation. If the individuals who accelerate their labor force exit have completed at least 35 years of employment and Social Security contributions, their Social Security benefit is likely to remain approximately the same, even with a slightly earlier labor force exit. However, Social Security foregoes the entirety of their Social Security taxes for that year or two, with little to no change in benefits paid. If retirement timing due to health insurance access has little impact on Medicare utilization after age 65, then the reforms could also have negative consequences on Medicare budgets.

We have estimated a reduced form model, assuming that regulation increases access to health insurance. However, a key piece that is missing is that access is fundamentally not just an issue of whether or not one can be issued a health insurance policy, but also at what price. While we do not currently have premium information for the employer or non-group market, we know from earlier work that there exists considerable geographic variation in premiums, and the impact of the reforms led to varying degrees of premium increases. Future work will include this key parameter, using the regulatory regime as an instrument for non-group premiums, and premiums as a more direct measure of the access to health insurance in the non-group market.

Another weakness in the current design is that we currently ignore the other public health insurance program, Medicaid. While adults without children typically have very little access to Medicaid coverage, states have the discretion to offer either full or a limited Medicaid benefit to adults under their state waiver program. While the state fixed-effects will pick up any long-standing Medicaid policy, we do not currently capture the effect of any state-level changes over

15

our sample period. Future work will explore if this omission impacts our estimates of the non-group health insurance market reforms on the labor market.

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Figure 1: The Number of States with Strictly Regulated Non-Group Health Insurance Markets
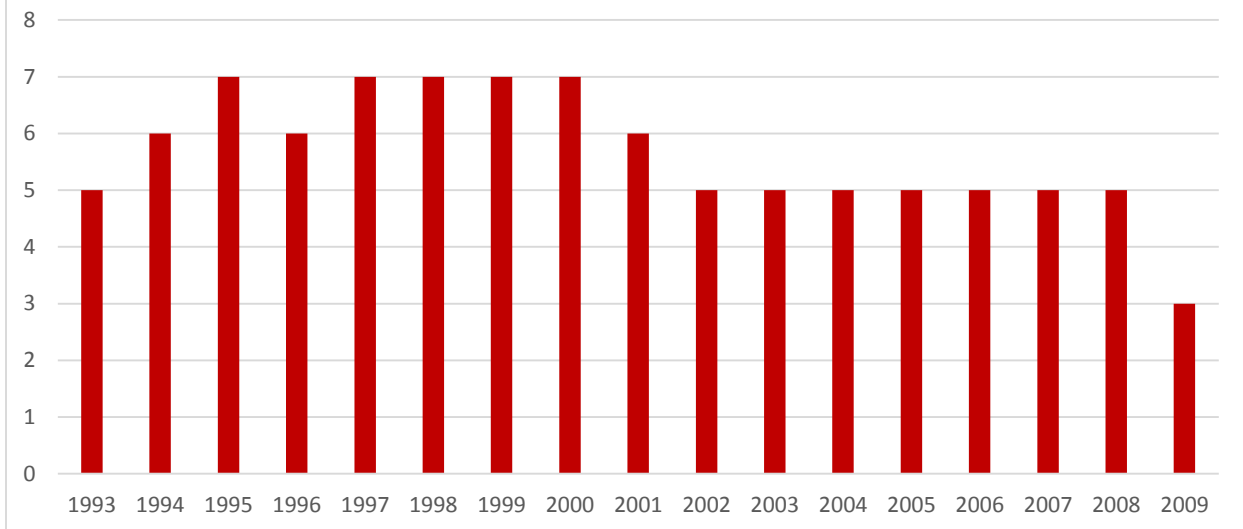
Table 1. Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Strictly Regulated Market	0.105	0.307	0	1
Black/African-American	0.138	0.345	0	1
Hispanic	0.0845	0.278	0	1
Female	0.538	0.499	0	1
Married	0.709	0.454	0	1
Years of education	12.72	2.976	0	17
Poor or fair self-reported health status	0.168	0.374	0	1
Pension from current job	0.0891	0.285	0	1
DB plan from current job	0.225	0.418	0	1
Net Household Wealth ($100,000's)	4.618	18.1	-7.508	887.9
Hourly wage rate ($100s)	0.185	0.546	0	43.48
High Numeracy	0.13	0.336	0	1
High TICS Score	0.103	0.303	0	1
High Memory	0.624	0.484	0	1
Planning horizon (1=Plan for a few years)	0.312	0.463	0	1
Risk Averse (1=Most Risk Averse)	0.178	0.383	0	1
Salaried	0.264	0.441	0	1
Self-employed	0.136	0.343	0	1
Unemployment Rate, seasonally adjusted	4.937	0.696	3.8	10
Employer Sponsored HI	0.549	0.498	0	1
R's ESHI Covers Spouse	0.211	0.408	0	1
Gov. HI	0.0838	0.277	0	1
Other HI	0.111	0.314	0	1
Spouse's ESHI Covers R	0.182	0.386	0	1
Spouse Has Own ESHI	0.274	0.446	0	1
No Retiree HI	0.603	0.489	0	1
Spouse Works FT	0.281	0.45	0	1
Spouse Works PT	0.067	0.25	0	1
Spouse Unemployed	0.00748	0.0862	0	1
Spouse Disabled	0.0221	0.147	0	1
Spouse Retired	0.264	0.441	0	1

Note: Sample consists of 119,422 person-month observations in the retirement hazard specifications.

Table 2. Overall Effect of Strictly Regulated Non-Group Health Insurance Markets on Labor Force and Claiming Decisions, by age

Age	60		61	62	63		64
Panel A: Exit the Labor Market							
		*				**	
Strictly Regulated Market	-0.0164	*	0.0031	0.0051	0.0222	*	-0.0121
	(0.0062)		(0.0053)	(0.0122)	(0.0037)		(0.0201)
Mean of Dep Variable	0.0155		0.0154	0.0305	0.0218		0.0217
Adjusted R^2	0.025		0.024	0.047	0.036		0.035
Observations	26,291		25,893	22,867	20,313		19,160
Panel B: Self-Reported Retirement							
Strictly Regulated Market	-0.0142		-0.001	0.021	-0.0039		-0.0078
	(0.0157)		(0.0038)	(0.0145)	(0.0042)		(0.0139)
Mean of Dep Variable	0.0125		0.0132	0.0378	0.0202		0.0214
Adjusted R^2	0.018		0.01	0.057	0.031		0.018
Observations	29,646		29,536	23,452	19,562		17,226
Panel C: Claiming Social Security							
Strictly Regulated Market	N/A		N/A	0.0055	-0.0063		-0.0069
				(0.0120)	(0.0058)		(0.0288)
Mean of Dep Variable				0.073	0.0271		0.0258
Adjusted R^2				0.125	0.048		0.025
Observations				32,340	22,285		19,263

Standard errors in parentheses

Note: a) All columns have cohort, age (in months), calendar month of interview and
state fixed effects and all controls for the age specified.

b) Controls include: FRA dummy, Earnings Test Removal, Breakeven Year dummy, race,
sex, marital status, education, health, health insurance coverage, retiree
health insurance coverage, pension coverage, pension type,
household wealth, average hourly earnings, and measures
of cognitive capability, planning horizon, and risk aversion.

c) Sample: HRS waves 1996-2010, cohorts born in 1931-44.

d) The models were estimated by OLS with standard errors clustered
by state.

* p<0.10, ** p<0.05, *** p<0.01

Table 3: Effect of Strictly Regulated Non-Group Health Insurance Markets on Labor Force and Claiming Decisions, by age and self-reported fair or poor health

Age	60		61		62		63		64	
Panel A: Exit the Labor Market										
Strictly Regulated Market	-0.0163	***	0.003		0.0044		0.0227	***	-0.0135	
	(0.0060)		(0.0054)		(0.0120)		(0.0038)		(0.0203)	
Strictly Regulated Market * Poor health	-0.001		0.0008		0.0152		-0.0092		0.0117	*
	(0.0046)		(0.0040)		(0.0103)		(0.0140)		(0.0066)	
Panel B: Self-Reported Retirement										
Strictly Regulated Market	-0.0143		-0.0003		0.0201		-0.0029		-0.0074	
	(0.0154)		(0.0037)		(0.0146)		(0.0047)		(0.0139)	
Strictly Regulated Market * Poor health	0.0004		-0.0098	***	0.03	***	-0.0116		-0.0044	
	(0.0038)		(0.0033)		(0.0061)		(0.0095)		(0.0039)	
Panel C: Claim Social Security										
Strictly Regulated Market	N/A		N/A		0.0056		-0.0069		-0.0062	
					(0.0121)		(0.0059)		(0.0285)	
Strictly Regulated Market * Poor health					-0.0013		0.0111	*	-0.0086	*
					(0.0055)		(0.0065)		(0.0043)	

Standard errors in parentheses

Note: a) All columns have cohort, age (in months), calendar month of interview and
state fixed effects and all controls for the age specified.

b) Controls include: FRA dummy, Earnings Test Removal, Breakeven Year dummy, race,
sex, marital status, education, health, health insurance coverage, retiree
health insurance coverage, pension coverage, pension type,
household wealth, average hourly earnings, and measures
of cognitive capability, planning horizon, and risk aversion.

c) Sample: HRS waves 1996-2010, cohorts born in 1931-44.

d) The models were estimated by OLS with standard errors clustered
by state.

* p<0.10, ** p<0.05, *** p<0.01

Table 4: Effect of Strictly Regulated Non-Group Health Insurance Markets on Labor Force and Claiming Decisions, by age and spousal access to health insurance

Age	60		61	62		63		64	
Panel A: Exit the Labor Market									
Strictly Regulated Market	-0.0169	**	0.0032	0.0068		0.0199	***	-0.016	
	(0.0063)		(0.0051)	(0.0122)		(0.0039)		(0.0196)	
Strictly Regulated Market * Has access to Spousal HI	0.0021		-0.0005	-0.0072	*	0.0092	**	0.015	*
	(0.0022)		(0.0028)	(0.0043)		(0.0041)		(0.0086)	
Panel B: Self-Reported Retirement									
Strictly Regulated Market	-0.0145		-0.0009	0.0258	*	-0.0064		-0.0118	
	(0.0157)		(0.0043)	(0.0141)		(0.0045)		(0.0126)	
Strictly Regulated Market * Has access to Spousal HI	0.0014		-0.0003	-0.0212	***	0.0081	*	0.0119	*
	(0.0032)		(0.0028)	(0.0044)		(0.0040)		(0.0066)	
Panel C: Claim Social Security									
Strictly Regulated Market				0.0049		-0.0106	**	-0.0065	
				(0.0118)		(0.0051)		(0.0292)	
Strictly Regulated Market * Has access to Spousal HI				0.0021		0.0149	***	-0.0012	
				(0.0034)		(0.0042)		(0.0066)	

Standard errors in parentheses

Note: a) All columns have cohort, age (in months), calendar month of interview and
state fixed effects and all controls for the age specified.
b) Controls include: FRA dummy, Earnings Test Removal, Breakeven Year dummy, race,
sex, marital status, education, health, health insurance coverage, retiree
health insurance coverage, pension coverage, pension type,
household wealth, average hourly earnings, and measures
of cognitive capability, planning horizon, and risk aversion.
c) Sample: HRS waves 1996-2010, cohorts born in 1931-44.
d) The models were estimated by OLS with standard errors clustered by state.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix:

In order to test the model estimation, we first estimated the regressions on individuals age 62-66, the same sample ages as Behaghel and Blau (2013). Our estimates of the impact of the Social Security changes on claiming decisions are similar to that reported in Table 1 of Behaghel and Blau.

Table A1: Behaghel and Blau (2012) Replication: Effect of FRA on Social
Security Claiming

Dependent Variable: Claim								
Social Security	(1)		(2)		(3)		(4)	
FRA Dummy	0.1454	***	0.1463	***	0.1487	***	0.1447	***
	(0.0166)		(0.0166)		(0.0165)		(0.0166)	
SS Earnings Test Removal							0.0386	**
							(0.0167)	
Observations	27890		27890		82612		27890	
Adjusted R-squared	0.103		0.096		0.106		0.103	

Standard errors in parentheses
Note: a) Column 1 has cohort and age fixed effects and no controls for ages 64-66,
    Column 2 includes all the controls, cohort and age fixed effects for ages 64-66,
    Column 3 reestimates Column 2 model for ages 62-66,
    Column 4 adds Earnings Test Removal and Breakeven Year dummy to Column 2 model.
  b) Controls in Columns 2-5: race, sex, marital status,
   education, health, health insurance coverage, retiree
   health insurance coverage, pension coverage, pension type,
   household wealth, average hourly earnings, and measures
   of cognitive capability, planning horizon, and risk aversion.
  c) Sample: HRS waves 1996-2010, cohorts born in 1931-44.
  d) Age range included in the regression is 62-66.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$