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CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

THE IMPACT OF TEMPORARY ASSISTANCE PROGRAMS ON THE SOCIAL SECURITY CLAIMING AGE

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Abstract

Delaying claiming past the early eligibility age of 62 has taken on increased importance. Individuals turning 62 with no job and limited income may be able to use temporary assistance programs such as Unemployment Insurance (UI), Medicaid, and the Supplemental Nutrition Assistance Program (SNAP) as sources of support prior to collecting Social Security benefits. To what extent do these programs allow recipients to delay Social Security claiming? The challenge in answering this question stems from the fact that program users' dire economic straits may make them more likely to claim benefits from both Social Security and these programs, generating a misleading correlation between Social Security claiming and temporary assistance benefits. This paper constructs instruments for program generosity that vary with an individual's state of residence but should not reflect the characteristics or circumstances of the individual.

This paper found that:

- UI does not have a statistically significant relationship with claiming.
- The availability of Medicaid is associated with earlier claiming, at least in part because states require Medicaid-eligible applicants to also claim Social Security as part of an effort to capture every potential source of income.
- SNAP does not have a significant effect on claiming, perhaps because of the program's generally low take-up.

The policy implications of this paper are:

- Reductions or expansions of UI or SNAP would be unlikely to delay the timing of Social Security claiming.
- An expansion of Medicaid may cause some individuals to claim earlier than they would have, although more research is needed to determine whether this is due to Medicaid itself or state policies that require individuals to avail themselves of potential income.

Introduction

Individuals who are at least 62 years old and eligible for Social Security face an important decision each month: should they claim their retirement benefits immediately or delay claiming and earn a greater monthly benefit later? While delaying claiming has many advantages, it may feel like an economic impossibility for individuals who have lost a job or whose household income and wealth are low. At the same time, these individuals may be eligible for other programs that provide a steady source of support: individuals that lost a job may have access to the Unemployment Insurance (UI) program, while individuals with limited income and assets may collect in-kind transfers from Medicaid and the Supplemental Nutrition Assistance Program (SNAP). An open question is the extent to which these programs make delayed Social Security claiming more realistic for vulnerable potential beneficiaries.

The structure of the programs and the circumstances of their potential beneficiaries make answering this question a challenge. First, while the anticipated effect for UI is relatively clear – to get UI a person often needs to be looking for work, and this typically means delaying retirement and delaying claiming of Social Security – the roles played by Medicaid and SNAP are more ambiguous. On the one hand, both programs provide an individual with necessities that would otherwise need to be purchased, likely with income from Social Security. Furthermore, both programs generally count Social Security income against eligibility requirements. Both these facts suggest that Medicaid and SNAP may delay claiming. On the other hand, the application itself may trigger a Social Security application if the state requires Medicaid applicants to avail themselves of alternative income sources as part of the application – effectively requiring applicants to claim Social Security – as several states do. This requirement could lead to earlier claiming.

Of course, if the only issue was the ambiguity of these programs' effects on claiming, a simple empirical analysis could clear it up – for example, tabulating data to determine if individuals eligible for UI, Medicaid or SNAP or individuals with higher expected benefits from these programs claim their Social Security benefits earlier. But individuals who are eligible for these programs have, by definition, found themselves at older ages with limited income and, in the case of Medicaid and SNAP, with few assets. This fact means that eligible individuals are not directly comparable to non-eligible individuals, because eligibles' dire economic straits may

make them more likely to claim benefits from both Social Security and these programs, generating a misleading correlation between Social Security claiming and temporary assistance. We resolve this endogeneity by constructing an instrument for each program that is correlated with the generosity or availability of the program but not with the circumstances surrounding the individual's own claiming decision.

The paper uses the 1992 through 2012 waves of the *Health and Retirement Study* (HRS) linked to restricted geographic identifiers to examine the relationship between Social Security and these temporary assistance programs. The first step is to divide the HRS sample into two subsamples of 61-70 year old individuals who are eligible to claim Social Security retirement benefits and may be eligible to participate in these programs: 1) the "UI sample" consisting of individuals who were employed in the prior wave but have since become unemployed; and 2) the "SNAP and Medicaid sample" consisting of individuals who have both limited income and assets. Although the samples are not mutually exclusive, dividing the sample in this way is an important first step because the UI sample is generally representative of the broader population while the SNAP and Medicaid samples are much less educated, poorer, and less likely to be employed recently.

The next step is to construct instruments for each program. The project calculates simulated benefit levels for UI and SNAP and simulated eligibility for Medicaid, using a technique based on Currie and Gruber (1996) and Cutler and Gruber (1996). These simulated benefit and eligibility levels reflect state-level variation in program rules but not differences in the individual characteristics that may drive claiming. The final step is to place the instrument(s) into two-stage least squares regression models run separately for the two samples. In these models, the first stage uses the instruments to predict a person's potential benefit level or eligibility, and the second stage models the decision to claim Social Security as a function of demographic and financial characteristics together with the predicted UI or SNAP benefit and Medicaid eligibility from the first stage. This second stage relies on variance in claiming age, but fortunately, as Figures 1 and 2 show, 53 percent of the UI sample and 57 percent of the Medicaid/SNAP sample delay claiming past age 62 – lower than the average for the full population, but far from clustering entirely at 62.

The results suggest that UI does not have a statistically significant effect on claiming decisions, though, as expected, the sign of the effect is consistent with delayed claiming. In

contrast, Medicaid may actually encourage earlier claiming and the effect is statistically significant. This counterintuitive estimate may be the result of states encouraging Medicaid applicants to apply for their Social Security benefits – either as an actual condition of application or simply by suggesting it to applicants to help them maximize their sources of support. Indeed, at least seven states explicitly make availing oneself of other potential sources of income a condition of applications to Medicaid. The results for SNAP indicate no significant effect, perhaps because SNAP take-up rates in older households tend to be quite low: only about one-third of eligible households ages 65 and older report receiving benefits (Wu 2010).

The remainder of the paper proceeds as follows: the next section discusses background on the three programs considered and how they relate to Social Security retirement benefit claiming. The third section discusses the relevant literature, the fourth section describes the empirical approach, and the fifth section outlines the results. The final section concludes that changes in the UI and SNAP programs are unlikely to influence the timing of Social Security claiming. Expanded Medicaid eligibility may lead to earlier claiming, but this is likely only to the extent that states encourage (or require) applicants to pursue every available source of income.

Background on Temporary Assistance Programs

The three programs covered in this paper all serve to provide consumption smoothing to individuals who find themselves in a period without income, or to increase income when existing household resources are insufficient to support themselves. However, the three programs serve very different populations and interact with Social Security in different ways. Regarding this paper, two aspects of each program are important: 1) how the program interacts with Social Security retirement benefits and how it might affect claiming; and 2) how benefits and eligibility vary from state to state, which ultimately feeds into construction of the instruments.

Unemployment Insurance (UI)

Most workers who lose a job involuntarily and without cause are eligible for unemployment benefits.[1] Importantly, these benefits are typically received with the

[1] Eligibility for UI is based on the reason for separation and the worker's pattern of recent earnings. Workers who are fired with cause or leave their job voluntarily are rarely eligible for UI. More often, workers are ineligible if their recent earnings record is too short or too concentrated - that is, if their earnings did not exceed a certain

understanding that an individual is looking for work and, by definition, is not fully retired.[2] Aside from this fact, no major interaction between Social Security receipt and receiving UI exists. This lack of interaction stems from the fact that UI does not have an earnings test and therefore claiming Social Security would not cause an individual to become ineligible for their UI benefits. Given this fact, it seems entirely possible workers could claim both UI and Social Security retirement immediately upon reaching the Early Eligibility Age (EEA). In this case, UI receipt and claiming would not be correlated. Still, given the large penalty for claiming at the EEA, it seems more likely an individual would use UI as a bridge to find a new job and delay claiming, if possible. In this case, UI would be associated with later claiming. In either case, UI program rules are not expected to cause earlier claiming. On the other hand, UI recipients who have arrived at their EEA without employment may claim Social Security not because they are on UI, but because work is not forthcoming. Because this result would not be due to UI itself, but rather the situations of those eligible for the program, this paper uses state variations in program generosity to see if people who live in states with generous UI benefits claim later.

Although states must meet certain criteria to receive federal funds, certain parameters of UI vary substantially by state.[3] To construct the eligibility instrument, this paper exploits differences in the length of time an individual can receive UI (excluding extensions), in the formula that translates the individual's recent earnings to the UI benefit, and in the minimum and maximum weekly benefit an individual can receive. For example, in 2010, Massachusetts allowed its UI recipients 30 weeks of benefits equal to roughly 50 percent of pay unless this resulted in a benefit less than a minimum of $33 a week or more than a maximum of $625 a week. In comparison, Oregon offered fewer weeks of benefits at 26 weeks, a higher translation of old wages to benefits at 65 percent of pay, and a higher minimum benefit of $116 but a lower maximum benefit at $496. The paper uses details collected by the U.S. Department of Labor's Employment and Training Administration in the "Comparison of State Unemployment Insurance

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threshold during the base period (typically the last four completed quarters) or they reached the minimum earnings threshold only (or mostly) in one quarter during the base period. The HRS reports earnings only annually, so we assume any worker who reports leaving his job involuntarily is eligible for UI.

[2] Prior to the Great Recession, only nine states made this requirement explicit. Legislation passed during the Great Recession made the requirement standard nationwide.

[3] The biggest of these requirements is that money taken from the unemployment fund by the state be used for unemployment compensation only and that administration of the plan be simple enough that people are not excluded because of complexity that should otherwise be eligible (Stone and Chen 2014).

Laws" annual report. These variations affect the generosity of the program without being associated with any individual's propensity to claim Social Security.

Medicaid

The Medicaid program is a joint state- and federally funded program designed to ensure that some households with limited incomes and assets have access to health insurance. In this way, the program is very different from Unemployment Insurance, which does not consider current income or assets when determining eligibility. Unlike UI, the interaction between Medicaid and Social Security retirement benefits is considerable, mostly because retirement benefits count against an individual's income test – that is, by claiming Social Security an individual may become ineligible for Medicaid.[4] The expected effect of these interactions is to cause individuals in need of health insurance and eligible for Medicaid to delay claiming Social Security to avoid becoming ineligible.

On the other hand, it appears that some states take action to ensure that individuals applying for Medicaid not only pass a current income test, but also have availed themselves of potential income sources. For example, Arizona requires any adult without children to "[apply] for potential income that may be available, such as unemployment, pensions, and Social Security," before qualifying for Medicaid. This requirement induces individuals in need of health insurance to jointly apply for Medicaid and Social Security, effectively causing them to claim Social Security earlier, even if they planned to delay to increase their retirement benefits. While detailed data on the prevalence of states requiring individuals to apply for potential income is not available, we have found evidence that at least seven states require Social Security claiming somewhere on their Medicaid application or on their state Medicaid website: Arizona, Iowa, Louisiana, New Hampshire, New York, Ohio, and Texas.[5] The fact that some states – and

[4] It is worth noting that the substantial interaction between the Medicaid program and Social Security's Supplemental Security Income (SSI) program because, in many states, an application for SSI is jointly an application for Medicaid. However, this interaction is of minimal importance in this paper. Our analysis focuses only on individuals who are eligible for Social Security retirement benefits and who do not use Disability Insurance (SSI recipients who are eligible for Social Security retirement benefits will also receive Social Security Disability Insurance until the Full Retirement Age, so they do not have a claiming decision). This restriction likely eliminates any individuals on SSI under age 65.

[5] To identify these states, a thorough internet search was conducted using the terms "potential income" and "Medicaid" or "Medicaid application" separately for each of the 50 states. In addition to searching state websites, phone calls were placed to the Medicaid offices of several states, including Massachusetts, New Hampshire, New York, California, Iowa, Illinois, and Texas. However, these calls did not produce any information on this policy

some with large populations – tie Medicaid application to Social Security claiming will need to be kept in mind when interpreting results.

In addition to the treatment of potential income, state Medicaid programs differ in other ways. The most important source of variation is the treatment of childless adults. Prior to the Affordable Care Act (ACA), the majority of states did not provide any Medicaid coverage for non-disabled individuals under age 65 without dependent children. For example, in 2010, 27 states provided no Medicaid coverage at all to childless adults, and this number of states was even higher in the 1990s. For most of the individuals in our sample, getting Medicaid in these states is out of the question. However, even for individuals in states that cover childless adults (or for individuals in our sample with children), states also differ considerably in the maximum level of income an individual can have to remain eligible for Medicaid, typically measured relative to the Federal Poverty Line (FPL). Finally, some states do not have an asset test and those that do differ in the exact level making one ineligible. This variation is useful in the construction of the eligibility instrument because an individual may be eligible in one state but not in another, and the difference in eligibility will be independent of their individual propensity to claim Social Security.

Supplemental Nutrition Assistance Program (SNAP)

The final program considered is SNAP, formerly known as the Food Stamp Program, which is federally funded except for administrative costs financed by the state. Like Medicaid, SNAP benefits are subject to an income test and SNAP counts Social Security retirement benefits as income. Generally, SNAP imposes two kinds of income tests on recipients: 1) a gross income test that requires households have gross income less than 130 percent of the FPL; and 2) a net income test that requires net income fall below 100 percent of the FPL. However, for households containing individuals over age 60 (the entirety of the sample being analyzed in this paper), only the net income test applies. SNAP allows several deductions from gross income to arrive at net income, but not a deduction for Social Security income. Similar to Medicaid, the expected effect of SNAP would be to delay Social Security claiming, which would lead to losing access to SNAP.

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beyond the web search and so were discontinued. Finally, the Kaiser Family Foundation was contacted to see if any retrospective data on this practice exists and it does not.

Wu (2010) suggests that SNAP is unlikely to have a substantial effect on Social Security claiming for an important reason: the SNAP take-up rate is low among low-income elderly households. Wu attributes the low take-up primarily to a lack of awareness of eligibility, but also to low potential benefit levels and the availability of other services like the Elderly Nutrition Program (which includes Meals on Wheels).

Unlike Medicaid, we have found no evidence that state SNAP offices require individuals to avail themselves of potential income sources prior to receiving a benefit. Since SNAP is a federally funded program, states have no incentive to keep individuals off of the program aside from saving money on administration. However, conversations with state representatives of the SNAP program suggest that some states provide information to SNAP applicants about other income options, including Social Security.[6] Furthermore, many states have fairly long recertification periods – the period of time that passes before a person must reapply for benefits – so some individuals approved for SNAP could claim Social Security without fear of immediately losing benefits. In other words, although the expected effect of SNAP on claiming would be a delay, it is possible that individuals, when applying for SNAP, are given the idea to also claim Social Security, leading to earlier claiming.

Unfortunately for the construction of SNAP's benefit generosity instrument, benefits do not vary at the state level by as much as UI and Medicaid. The biggest source of variation exploited in this paper is SNAP's asset test – many states simply do not have one. This result stems from the provision that states can make certain groups of people categorically eligible for SNAP as long as they receive benefits from another program, typically Temporary Assistance for Needy Families (TANF). Of course, few older households would be eligible for receiving TANF income because they rarely have minor children, but the rules about what qualifies as a TANF benefit are quite expansive. Just receiving a brochure about TANF is sufficient to have received a "benefit" – the brochure itself is the benefit.[7] Since 1996, when states were granted more freedom in running their TANF programs, many states have used this provision to give households categorical eligibility, effectively eliminating the asset test. Because some states do not use this liberalized benefit – known as broad-based categorical eligibility (BBCE) – and

[6] Specifically, representatives in Massachusetts and New Hampshire indicated they referred people to the Social Security or gave them information on Social Security when they were applying for SNAP. Reaching other states was made difficult by the fact that many states do not have out-of-state phone numbers for their SNAP programs.
[7] For an excellent description of BBCE, see Falk and Aussenberg (2014).

because those that do phased it in over time, it provides an excellent source of variation for use in this study. In addition to BBCE, the paper exploits the variance among state tax codes in their definitions of "net income" and, thus, eligibility.[8]

Relevant Literature

The focus of this paper is on the individual's decision to claim Social Security given that he is not employed or employed at very low levels of income. While it may be expected that many of these individuals claim Social Security at the EEA, previous research has recognized that the decision to claim Social Security is not necessarily tied to employment status (whether unemployed, retired, or working at low wages) and can be delayed to optimize the benefit stream even when someone is no longer working (e.g., Coile et al. 2002). While this research has generally recognized that an individual's net worth, marital status, number of children, and health might influence the claiming decision, it has not focused on the availability or generosity of temporary government assistance programs. Figures 1 and 2 confirm the fact that not all individuals within our sample of potential UI and Medicaid/SNAP recipients who are facing financial hardship claim their Social Security benefits at 62.

This lack of research is despite the fact that these benefits could impact the timing of claiming. UI benefits can be substantial – the average benefit is $1,200 per month (Stone and Chen 2013), slightly less than the average Social Security retirement benefit of $1,261 (SSA 2013) – suggesting that workers should delay claiming as long as they can maintain requirements (such as job search activity) to continue receiving UI benefits. While SNAP benefit payments are relatively small compared to UI, past research indicates that many Social Security beneficiaries rely on SNAP before claiming (Coe and Wu 2015). Further, Coe and Wu (2015) find suggestive evidence that not all SNAP beneficiaries claim retirement benefits at the EEA, meaning people may be using these benefits as a bridge to claim later.

Unlike the effect of these programs on claiming, past research has explored the impact of temporary assistance programs on other outcomes, like re-employment or enrollment in disability programs. The results suggest the programs can play a role in individual decision making. For example, Rutledge (2012) found that during periods of UI extensions, jobless

[8] The study used NBER's "Tax Sim" to simulate the sample's net income if they were to live in any of the 50 states or the District of Columbia. One key component of this simulation is housing value, which is imputed for homeowner's and thus may not reflect the individual's actual home value.

individuals were less likely to apply for disability insurance. In other recent work, Lindner and Nichols (2015) found that increased access to UI benefits decreased the likelihood someone applied for disability insurance, while SNAP increased applications for SSI. Indeed, the Linder and Nichols approach is similar to our own, in that they used state-level variation in UI and SNAP as instruments. The difference between their work and ours is three-fold: 1) while they focused on enrollment in Social Security Disability Insurance (SSDI) and SSI, we focus on Social Security claiming; 2) their instrumentation approach does not use simulated benefits but rather uses specific program parameters as predictors of participation (e.g., for UI, the maximum benefit or, for SNAP, whether immigrants are eligible); and 3) they did not consider Medicaid. In the work closest to this paper, Coile and Levine (2007) examine the relationship between UI and retirement but ignore the roles of SNAP and Medicaid. In their work, Coile and Levine found limited evidence that generous UI benefits delayed retirement, but the focus of their analysis included individuals 55-61 who were not yet able to claim Social Security, so it is unclear whether their work speaks to claiming.

Prior research has also examined the converse of this project's research question – Coe and Wu (2015) find that Social Security benefits reduce enrollment in temporary assistance programs among the elderly, because greater income reduces eligibility. However, no previous work has examined how these temporary assistance programs affect claiming ages, despite the clear potential of such programs to have an impact.

Data and Instrumentation

The goal of this paper is to investigate the relationship between UI and SNAP benefits, Medicaid eligibility, and retirement benefit claiming under Social Security's Old Age and Survivors Insurance (OASI) by individuals arriving at their EEA without employment or with limited income. To accomplish this goal, the paper uses data from the 1992-2012 waves of the HRS. The first step limits the analysis to individuals who are eligible for OASI, by excluding anyone with less than 10 years of work experience. The analysis also excludes anyone receiving income from SSDI or SSI at any age; disability benefit recipients are automatically rolled onto

OASI at their Full Retirement Age (FRA).[9] This criterion cuts our HRS sample from 37,319 individuals down to 27,581.

However, many of these individuals are not likely to be affected by either UI or by Medicaid and SNAP because they are employed and/or have high levels of assets. To limit the analysis to those that are likely to be affected, we construct two samples: 1) a sample of individuals who may be eligible for UI; and 2) a sample in which individuals may be eligible for either Medicaid or SNAP. The UI sample consists of individuals who were working at ages 61 and up but then ceased working and did not claim Social Security immediately or did not claim to be retired.[10] The UI sample has 839 members.

The Medicaid/SNAP sample consists of individuals who are plausibly considering applying to either program. No state has a maximum household income threshold above 330 percent of the FPL, and nearly every household that qualifies has assets in the bottom quartile of the wealth distribution, so we limit the sample to individuals below these two thresholds. The resulting Medicaid/SNAP sample has 1,005 members.

The analysis is conducted separately for the UI and Medicaid/SNAP samples to reflect the fact that individuals affected by these two programs are largely disjointed.[11] Of the two samples, as Table 1 shows, , the UI sample more closely resembles the full HRS sample of non-disabled individuals eligible for OASI in terms of income, assets, education, and race. On the other hand, individuals in the Medicaid/SNAP sample are less educated, have much less wealth (in part because of program rules), are more likely to be non-white and in poor health, and had less income in their first year in the HRS relative to the total sample. This study limits the analysis to individuals *potentially* eligible for the programs, because including people who are not close to eligibility would bias the results in favor of finding no relationship between the programs and Social Security claiming. But because the sample is also limited to individuals

[9] SSDI and SSI might also be used to delay OASI claiming, because individuals with health conditions that limit their ability to work are eligible to apply up to their FRA. But many individuals applying for SSDI and SSI after age 62 may do so only because they have already claimed OASI – if, at their visit to the SSA office to claim retirement benefits, they report retiring because of health limitations, SSA staff may inform them of the option to apply to SSDI and, if they also have low incomes and assets, SSI. The extent to which they receive OASI income while waiting for their disability application to be evaluated is unclear.

[10] As Figure 1 (discussed above) shows, many people in this sample do not claim Social Security immediately at age 62. Furthermore, of individuals experiencing a job separation after age 62, just 18 percent claim Social Security within a year's time.

[11] Only 109 individuals appear in both samples.

recently leaving a job or with low income and assets, all results should be interpreted in the context of these two populations.

Table 1 also shows that people in the UI sample claimed slightly earlier than the rest of the population – about three months earlier – while there is no observable difference in claiming age between the full sample and the Medicaid/SNAP sample. In any case, a major contention of this paper is that these patterns say little about the impact of the program on Social Security claiming – people eligible for UI were probably likely to claim early regardless of their eligibility for the Medicaid/SNAP programs, because they were unemployed at their EEA. To correct for this potential bias, a Two Stage Least Squares (TSLS) model is estimated with the *simulated* benefit levels for UI and SNAP and the *simulated* eligibility of Medicaid as instrumental variables. This approach is in the spirit of Currie and Gruber (1996) and is widely used in the program participation literature. Simulated benefit levels differ from a person's potential benefit, because simulated benefits are not based on the individual's work history or income, but rather on the benefit a group of people similar to individual *i* could receive if they all lived in *i*'s state and faced the same eligibility rules.

The HRS data is linked to restricted-access geographic identifiers in order to merge in UI, SNAP, and Medicaid program parameters that differ across states. To construct the instruments, the project proceeds in three steps for each state. In the first step, we calculate the potential UI benefit for each member of the HRS sample, his household's SNAP benefit, and whether he would be eligible for Medicaid under his own state's rules and every other state's rules (a total of 51 calculations for each program). For example, a single Arizona resident with limited income and assets and without dependent children would be eligible for Medicaid in Arizona but would not be eligible if he had lived in Alabama where individuals without dependent children are not covered.

The second step calculates each state's average benefit or eligibility rate among nationwide groups of people with similar characteristics, if they had lived in that state. The groups are defined by characteristics that are correlated with benefit size but are largely fixed at older ages – for example, household size and education (for SNAP) and presence of children (for Medicaid). Separating the national sample into these groups improves the correlation between the simulated benefit/eligibility and the individual's actual benefit/eligibility.

The final step is to assign each individual his state's average benefit or eligibility rate for the people in his group. For example, if 20 percent of single, childless individuals nationwide would have been eligible under Arizona's rules then the single, childless individual from Arizona would have a simulated Medicaid eligibility of 20 percent. In this way, the instrument reflects the fact that someone like him is more likely to be eligible under Arizona's rules than in other states, but not his own low income and assets.[12]

Tables 2a, 2b, and -2c show the simulated benefits/eligibility levels for all 50 states, as well as values for the key sources of variation among those states in 2011. In 2010, the annualized UI benefit varied from $5,339, on average, in Massachusetts to $2,655 in Montana. Similarly, Medicaid eligibility shows large variation in the simulated share eligible, ranging from 6.4 percent in New Hampshire to 43.5 percent in Arizona. As Table 2b shows, the simulated share eligible for Medicaid depends crucially on whether childless adults are covered. Finally, Table 2c shows that SNAP ranges from a maximum annual benefit of $871 a year in Hawaii to a low of $265 in Wyoming, and this variation is largely a function of whether the state uses an asset test (because individuals who are ineligible have a $0 benefit, which is included in the average).

Empirical Approach

The empirical approach is a standard two-stage least squares regression. The framework is a discrete-time hazard regression in which Social Security-eligible individuals are included in the sample starting at age 61 (and can thus claim the next year) and in each year until they claim Social Security (or exit the sample for another reason).[13] Each additional year gives the individual a new opportunity to claim and exit the sample or not claim and continue. In the absence of the endogeneity problem, the decision to claim Social Security retirement benefits in each calendar year *t* would be a function of an individual's potential UI benefit (in the UI sample) or the SNAP benefit and Medicaid eligibility (in the Medicaid/UI sample):

$$P_{ia} = \beta_0 + \beta_1 UI_{ia} + X'_{ia}\gamma + T_a + \varepsilon_{ia} \qquad (1)$$

[12] The underlying assumption is that people do not move to a state to take advantage of its eligibility rules or benefit levels in a way that is also correlated with the age at which they might claim Social Security.

[13] We also estimate regressions where the dependent variable is an indicator for having claimed at 62 or before their FRA, but the results are similar.

$$P_{ia} = \alpha_0 + \alpha_1 Medicaid_{ia} + \alpha_2 SNAP_{ia} + X'_{ia}\delta + \tau_a + \epsilon_{ia} \quad (2)$$

where is P_{ia} a binary variable equal to 1 if individual *i* claims Social Security benefits at age *a*, conditional on not having claimed previously. UI_{ia} and $SNAP_{ia}$ are the potential annual benefit levels at age *a* for the UI and SNAP programs, respectively, calculated if person *i* were to participate in the programs.[14] This potential benefit is based on *i*'s income at age *a* and other relevant characteristics including the rules of the individual's state.[15] Potential benefits are used instead of self-reported benefits since the amount of actual public assistance benefits is observed only for those whoactually participate.[16] $Medicaid_{ia}$ is a dummy variable for eligibility in the Medicaid program for individual *i* at age *a*. Dummies for each age between 62 and 70, race, education, gender, marital and health status, family structure, and availability of pensions are included in *X*, T_a represents year-of-interview trend and ε_{ia} denotes an idiosyncratic error term. If the availability and generosity of other benefits allows a delay in Social Security claiming, then β_1, α_1 and α_2 all will be negative. On the other hand, if Medicaid and SNAP offices are encouraging Social Security claiming, α_1 and α_2 could be positive.

However, an individual's potential benefit is likely to be correlated with other characteristics that make him likely to claim early, requiring an instrument to account for the endogeneity.[17] Thus, equations (1) and (2) are used as the second stage in a two-stage least squared regression, where the first stage is:

$$B_{it} = \delta_0 + \delta_1 SimulatedBen_{it} + X'_{it}\theta + \tau_t + e_{it} \quad (3)$$

[14] The model converts the HRS into annual observations, but uses information about monthly job loss to calculate the UI benefits available to that individual in the calendar year. In the absence of an extension, UI is only available for six months in most states, although the level of monthly benefit varies substantially across states. To address the concern that the extension of the UI benefit duration may be correlated with the state economy, and thus affect the individual's decision to claim Social Security, the project will ignore extensions; that is, UI_{it} is equal to six times the monthly benefit in that state unless the state offers more than 26 months of benefits. The project assumes that SNAP is used for the full year, so $SNAP_{it}$ is equal to the potential monthly benefit times 12.

[15] The benefit calculation uses annual income, as monthly income is unavailable.

[16] Furthermore, Meyer, Mok, and Sullivan (2009) report that UI and SNAP receipt is undercounted in self-reported surveys relative to administrative totals, while Card, Hildreth, and Shore-Sheppard (2001) find a similar results for Medicaid. Using potential income or eligibility rather than self-reported benefits received diminishes the effect of undercounting.

[17] In addition, McGarry (1996) suggests that an instrumental variables technique can reduce the bias from mismeasurement of program eligibility and receipt.

where *SimulatedBen* is the instrumental variable for one of the three assistance programs. For the Medicaid program, the project will use simulated eligibility rather than the benefit level. In the second stage, the predicted temporary assistance benefit levels for UI and SNAP, and the predicted eligibility status for Medicare, from equation (3) are substituted into equation (1) or (2) in place of the potential benefit or eligibility. Importantly, the predicted benefit varies with an individual's state of residence but is not a function of any unobserved individual attributes that may cause them to claim early.

Results

The results are presented for Unemployment Insurance in Table 3a and for Medicaid and SNAP in Table 3b. The results are presented for both the un-instrumented equations (1) and (2) and for the two-stage least squares result, which replaces the individuals' potential benefit or eligibility with its predicted counterpart from equation (3).

Unemployment Insurance

The results in each model used show little evidence of a relationship between UI and Social Security claiming. In the un-instrumented linear probability model (LPM) for UI (first column), the coefficient on the UI benefit is negative but small and statistically insignificant; the coefficient suggests a $1,000 increase in yearly UI benefits reduces the claiming probability by just 0.4 percentage points, and the standard error is too large to rule out no effect. After instrumenting to account for the potential endogeneity of the individual claiming decision with respect to UI, the second-stage coefficient on UI (third column) is similarly statistically insignificant, albeit slightly smaller at 0.2. The TSLS result is similar, despite the strength of the first stage: the coefficient on simulated UI benefit is statistically significant, and the F-statistic for the first stage is 2,112.4 (a *p*-value of essentially zero), which indicates the instrument is strong.

The other coefficients are consistent between the LPM and TSLS models. Relative to age 62, the claiming hazard is statistically significantly lower at each age except 65, where it is slightly (but statistically insignificantly) higher. The negative and statistically significant coefficient on the linear time trend reflects evidence that claiming ages have increased in recent

years (Munnell and Chen 2015). Non-whites and individuals in states with high unemployment rates claim later, but claiming does not differ by income or wealth.

The TSLS result, despite the strong instrument, suggests little evidence that claiming is delayed by the receipt of UI income. This finding echoes Coile and Levine's (2007) finding of a negative but statistically insignificant relationship between retirement and UI in a slightly younger age range (55-64).

Medicaid and Supplemental Nutrition Assistance Program

The Medicaid and SNAP results in Table 3b also provide little evidence that temporary assistance programs help low-income individuals postpone Social Security claiming – and in the case of Medicaid benefits, they may, if anything, hasten retirement benefit claiming.

The first column presents the results from the un-instrumented LPM. Neither SNAP nor Medicaid has a statistically significant correlation with Social Security claiming, and both estimates are very small relative to the mean annual probability of claiming (17.6 percent). The other coefficients are similar to the UI results. The probability of claiming the retirement benefit is highest at ages 62 and 65, though the hazard rate at any given age has been declining over time (based on the negative and statistically significant coefficient on the linear time trend). In addition, individuals with relatively high defined-contribution wealth claim earlier, and non-whites and those living in states with high unemployment rates claim later.

The instruments in the TSLS analysis are strong – the coefficients on the simulated SNAP benefit and simulated Medicaid eligibility measures are large and statistically significant in their respective first-stage equations, and the F-statistic is 12.4 for SNAP and 122.3 for Medicaid, with *p*-values of essentially zero. However, the TSLS estimate for Medicaid differs notably from the LPM results. After accounting for the potential endogeneity of the Social Security claiming decision among low-income individuals, a higher simulated probability of being eligible for Medicaid is associated with a higher probability of claiming in any given year. This result is statistically significant and substantively large: the coefficient indicates that a 10-percent increase in Medicaid eligibility would make an individual 1.8 percent more likely to claim Social Security in a given year.

On the other hand, the evidence is entirely lacking that older individuals holding off on OASI claiming use SNAP as a source of support. The SNAP benefit level has a statistically

insignificant and small coefficient in both the LPM and TSLS estimates. This result is not that surprising, given the low take-up rates among older households (Wu 2010).

The positive coefficient on Medicaid is somewhat counterintuitive – Medicaid, it seems, would allow individuals to delay claiming, because they would not need as much income to cover their health expenses. But evidence exists that at least seven states require Social Security be collected if a Medicaid application is to be accepted. To the extent more states use similar provisions, expanding access to Medicaid would actually induce people to apply for Medicaid and thereby be required to collect Social Security. It is also possible that Medicaid offices encourage individuals to apply for SSI, a program that in many states has eligibility requirements identical to Medicaid, and in doing so encourage individuals to claim OASI benefits while they wait for their SSI applications to be evaluated. While this may explain the positive relationship, the information available on these potential income and referral policies is limited. Further research is needed into the prevalence of these policies beyond the seven states identified above.

Conclusion

While temporary assistance programs would seemingly have the potential to encourage delayed Social Security claiming, this paper finds little evidence of such a relationship. The only conclusive result is for Medicaid – and it suggests the opposite of the expected relationship. Individuals who are eligible for Medicaid are more likely to claim Social Security in a given year. The implication is that the ongoing expansion of Medicaid, through the ACA, could put pressure on older Americans to claim Social Security benefits earlier, provided that some states continue to require Medicaid applicants to apply for Social Security. Further research is required to determine whether these state policies continued during the recent Medicaid expansions. This information – which, to our knowledge, is not currently collected by any government agency, private research institution, or researcher – will also help to determine whether the relationship between claiming and Medicaid application is positive even in states that do not explicitly require Social Security claiming; the relationship may still be positive if welfare offices make potential recipients aware of their eligibility.

The bottom line in this analysis is that the three temporary assistance programs – UI, Medicaid, and SNAP – exhibit no evidence that they enable older individuals to delay their

Social Security claim. The results in this paper suggest that further expansions of these programs are unlikely to change claiming in any substantial way.

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Table 1. *Descriptive Statistics for Full Sample and Unemployment, Medicaid/SNAP Subsamples*

	Full sample	Unemployment	Medicaid/SNAP
Race/Ethnicity			
White	79%	75%	50%
Black	14	16	28
Hispanic	8	10	23
Gender			
Female	52%	42%	50%
Male	48	58	50
Marital status			
Married	77%	70%	80%
Spouse works	40	36	32
Spouse does not work	37	35	48
Not married	33	30	20
Health status			
Share with fair or poor health	16%	20%	34%
Education			
Less than high school	16%	22%	48%
High school	35	38	33
Some college	22	23	12
College graduates	26	17	6
Income/wealth (2012 dollars)			
Real median household Income	$50,841	$41,182	$20,008
Real median household wealth (Includes housing wealth)	$265,699	$171,025	$16,120
Real DC wealth	$85,391	$50,890	$0
DB coverage	30%	33%	17%
Percentage working in first year	61%	57%	53%
Average claiming age	64	63.8	64.1
Sample size	37,624	2,219	2,725

Note: Full sample includes any person-year between ages 61-70 where the individual has not yet claimed OASI.
Source: Authors' calculations from *Health and Retirement Study* (HRS) Waves 1-11.

Table 2a. *Average Simulated Annual Unemployment Benefit and Key State Policies, 2011*

State	Average annual simulated benefit	Weekly minimum	Weekly maximum	Share of wage paid
Alabama	$2,991.08	$45.00	$265.00	46%
Alaska	5,066.29	56.00	370.00	53
Arizona	3,017.83	60.00	240.00	48
Arkansas	3,886.16	81.00	451.00	46
California	3,879.77	40.00	450.00	46
Colorado	4,273.03	25.00	445.00	55
Connecticut	4,116.38	15.00	555.00	46
Delaware	3,859.49	20.00	330.00	52
DC	3,846.78	50.00	359.00	46
Florida	3,425.78	32.00	275.00	46
Georgia	3,548.17	44.00	330.00	55
Hawaii	4,650.15	5.00	549.00	57
Idaho	3,643.80	72.00	336.00	46
Illinois	3,690.63	51.00	388.00	44
Indiana	3,970.21	50.00	390.00	60
Iowa	3,964.90	56.00	376.00	63
Kansas	4,137.77	108.00	435.00	51
Kentucky	4,291.64	39.00	415.00	68
Louisiana	3,080.56	10.00	247.00	48
Maine	3,662.11	62.00	359.00	55
Maryland	3,721.82	25.00	430.00	50
Massachusetts	5,338.86	33.00	625.00	50
Michigan	4,348.82	117.00	362.00	49
Minnesota	4,203.86	38.00	578.00	46
Mississippi	2,835.75	30.00	235.00	46
Missouri	3,291.70	35.00	320.00	48
Montana	2,655.68	120.00	421.00	23
Nebraska	3,343.41	30.00	348.00	50
Nevada	3,656.60	16.00	398.00	48
New Hampshire	4,052.01	32.00	427.00	57
New Jersey	5,147.70	87.00	598.00	60
New Mexico	3,567.92	72.00	386.00	49
New York	4,114.07	64.00	405.00	48
North Carolina	3,940.00	43.00	506.00	46
North Dakota	4,133.62	43.00	442.00	60
Ohio	3,930.25	108.00	387.00	50
Oklahoma	3,730.95	16.00	358.00	52
Oregon	4,976.84	116.00	496.00	65
Pennsylvania	4,567.23	35.00	573.00	52
Rhode Island	4,681.43	68.00	551.00	55
South Carolina	3,344.32	42.00	326.00	46
South Dakota	3,123.89	28.00	314.00	46
Tennessee	3,269.70	30.00	275.00	46
Texas	3,831.48	60.00	415.00	48
Utah	3,819.44	29.00	452.00	46
Vermont	3,929.57	64.00	425.00	53
Virginia	3,577.46	54.00	378.00	48
Washington	5,015.51	135.00	570.00	46
West Virginia	4,080.65	24.00	424.00	52
Wisconsin	3,802.61	54.00	363.00	48
Wyoming	3,653.67	31.00	430.00	48

Note: All averages include zeros, i.e., individuals who are ineligible for the program.
Sources: Authors' calculations from HRS Waves 1-11; and U.S. Department of Labor (2015).

Table 2b. *Average Simulated Medicaid Eligibility and Key State Policies, 2011*

State	Simulated percent eligible	Requires asset tes	Covers childless adults
Alabama	7.2%	No	No
Alaska	7.8	Yes	No
Arizona	43.5	No	Yes
Arkansas	9.9	Yes	No
California	12.4	Yes	Yes
Colorado	10.6	No	No
Connecticut	14.6	No	Yes
Delaware	28.1	No	Yes
DC	36.0	No	Yes
Florida	8.4	Yes	No
Georgia	7.0	Yes	No
Hawaii	12.2	Yes	Yes
Idaho	9.8	Yes	No
Illinois	7.9	No	No
Indiana	11.0	Yes	Yes
Iowa	11.4	Yes	Yes
Kansas	7.6	No	No
Kentucky	7.1	Yes	No
Louisiana	7.2	No	No
Maine	15.9	Yes	Yes
Maryland	14.6	No	Yes
Massachusetts	17.6	No	Yes
Michigan	14.0	Yes	Yes
Minnesota	17.0	Yes	Yes
Mississippi	8.5	No	No
Missouri	6.8	No	No
Montana	7.2	Yes	No
Nebraska	9.0	Yes	No
Nevada	6.7	Yes	No
New Hampshire	6.4	Yes	No
New Jersey	14.0	No	Yes
New Mexico	17.1	No	Yes
New York	30.8	No	Yes
North Carolina	7.7	Yes	No
North Dakota	6.7	No	No
Ohio	7.1	No	No
Oklahoma	23.9	No	Yes
Oregon	24.8	Yes	Yes
Pennsylvania	25.4	No	No
Rhode Island	8.0	No	No
South Carolina	7.8	Yes	No
South Dakota	8.1	Yes	No
Tennessee	8.4	Yes	No
Texas	7.1	Yes	No
Utah	17.4	Yes	Yes
Vermont	27.6	Yes	Yes
Virginia	7.2	No	No
Washington	23.3	Yes	Yes
West Virginia	6.9	Yes	No
Wisconsin	17.2	No	Yes

Note: All averages include zeros, i.e., individuals who are ineligible for the program. State variation in income limits was also used in the simulations, although these parameters are not shown here for simplicity.
Sources: Authors' calculations from HRS Waves 1-11; and the Kaiser Family Foundation.

Table 2c. *Simulated Average SNAP Benefit and State's Enforcement of Asset Test, 2011*

State	Average annual SNAP benefit	Requires asset test
Alabama	$556.85	No
Alaska	322.27	Yes
Arizona	428.94	No
Arkansas	334.14	Yes
California	613.14	No
Colorado	556.85	No
Connecticut	391.18	No
Delaware	818.88	No
DC	563.95	No
Florida	341.24	No
Georgia	367.14	No
Hawaii	870.52	No
Idaho	287.52	Yes
Illinois	508.05	No
Indiana	265.03	Yes
Iowa	294.17	No
Kansas	556.85	Yes
Kentucky	556.85	No
Louisiana	563.95	No
Maine	818.88	No
Maryland	817.00	No
Massachusetts	269.34	No
Michigan	602.44	Yes
Minnesota	341.24	No
Mississippi	563.95	No
Missouri	556.85	Yes
Montana	613.14	No
Nebraska	265.03	No
Nevada	390.43	No
New Hampshire	391.18	No
New Jersey	563.95	No
New Mexico	294.17	No
New York	560.31	No
North Carolina	294.17	No
North Dakota	704.91	No
Ohio	556.85	No
Oklahoma	390.43	No
Oregon	818.88	No
Pennsylvania	271.64	No
Rhode Island	334.14	No
South Carolina	565.32	No
South Dakota	265.03	Yes
Tennessee	556.85	Yes
Texas	265.03	Yes
Utah	334.89	Yes
Vermont	614.36	No
Virginia	265.03	Yes
Washington	507.39	No
West Virginia	614.36	No
Wisconsin	696.08	No

Note: All averages include zeros, i.e., individuals who are ineligible for the program. State variance in tax structure was also used in the simulations.

Sources: Authors' calculations from HRS Waves 1-11; and Economic Research Service.

Table 3a. *Simulated Unemployment Insurance Regressions*

Mean hazard rate	LPM	First stage	Second stage
	0.237	2.625	0.237
Potential UI benefits	-0.004		-0.002
	(0.003)		(0.004)
Simulated UI benefits		1.089***	
		(0.024)	
Log real household income	0.001	0.084***	0.000
	(0.003)	(0.018)	(0.004)
Log real DC wealth	0.001	-0.007	0.001
	(0.001)	(0.008)	(0.001)
Person has(d) a DB	-0.007	0.517***	-0.007
	(0.019)	(0.098)	(0.019)
Was it a recession year?	0.029	-0.099	0.030
	(0.026)	(0.134)	(0.026)
Linear time trend	-0.004**	0.002	-0.004**
	(0.002)	(0.010)	(0.002)
Age 63	-0.235***	0.152	-0.233***
	(0.023)	(0.118)	(0.023)
Age 64	-0.192***	0.290**	-0.190***
	(0.028)	(0.147)	(0.028)
Age 65	0.034	0.321*	0.037
	(0.037)	(0.166)	(0.032)
Age 66	-0.191***	0.507***	-0.188***
	(0.035)	(0.184)	(0.035)
Age 67	-0.287***	0.250	-0.282***
	(0.033)	(0.261)	(0.050)
Age 68	-0.318***	0.621*	-0.314***
	(0.032)	(0.340)	(0.065)
Age 69	-0.251***	0.615	-0.247***
	(0.053)	(0.379)	(0.073)
Non-white	-0.036*	-0.223**	-0.036*
	(0.020)	(0.105)	(0.020)
Some college or more	-0.028	0.439***	-0.028
	(0.019)	(0.097)	(0.019)
Married	-0.020	-0.029	-0.020
	(0.022)	(0.111)	(0.022)
Female	-0.008	-0.334***	-0.007
	(0.018)	(0.096)	(0.019)
Spouse working (if married)	-0.017	0.026	-0.017
	(0.020)	(0.105)	(0.020)
Fair or poor health	-0.016	0.094	-0.017
	(0.022)	(0.115)	(0.022)
State unemployment rate	-0.968**	-0.615	-0.995**
	(0.454)	(2.386)	(0.461)
Constant	0.508***	-1.177***	0.506***
	(0.051)	(0.269)	(0.051)
Sample size	2,219	2,219	2,219
R^2	0.092	0.536	0.092

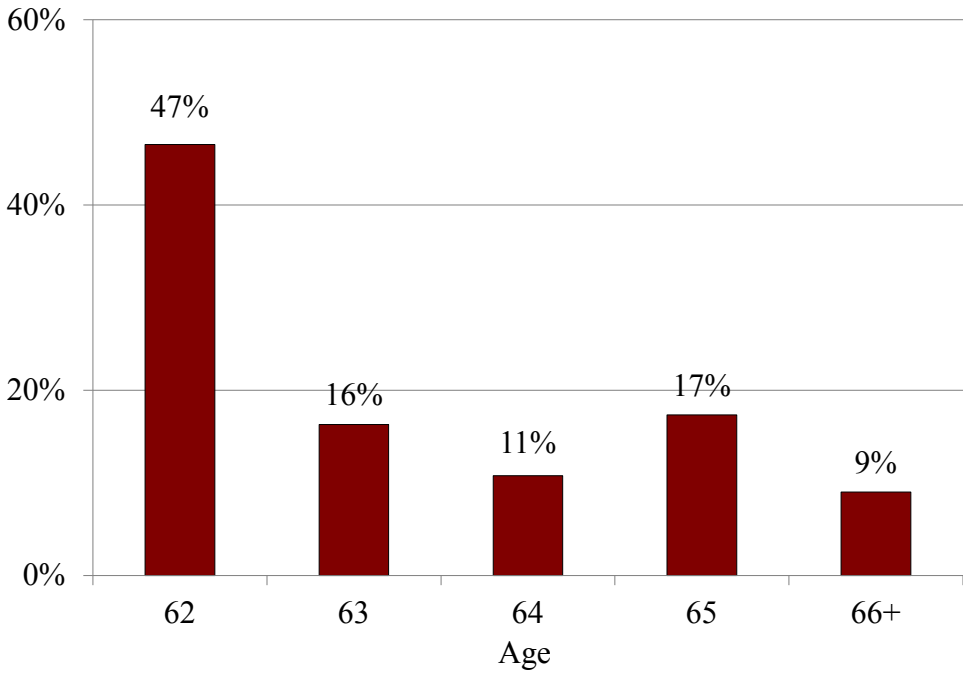
Note: Significance is indicated to the 1-percent level (***), 5-percent level (**) and 10-percent level (*).
Source: Authors' calculations from HRS Waves 1-11.

Table 3b. *Simulated SNAP and Medicaid Regressions*

	LPM	First stage		Second stage
		SNAP	Medicaid	
Mean hazard rate	0.176	0.108	0.354	0.176
Potential SNAP amount	0.002			0.013
	(0.007)			(0.081)
Simulated SNAP amount		0.040	0.158	
		(0.011)	(0.041)	
Medicaid eligibility	-0.025			0.175**
	(0.022)			(0.087)
Simulated Medicaid eligibility		2.830***	-0.252	
		(0.279)	(0.543)	
Log real household income	-0.003	-0.017***	0.001	0.000
	(0.002)	(0.002)	(0.007)	(0.003)
Log real DC wealth	0.003***	-0.002**	0.004	0.003***
	(0.001)	(0.001)	(0.003)	(0.001)
Person has(d) a DB	0.024	-0.001	-0.049	0.022
	(0.020)	(0.013)	(0.043)	(0.020)
Recession year	0.033	-0.022	-0.100*	0.039
	(0.024)	(0.019)	(0.055)	(0.026)
Linear time trend	-0.006***	0.006***	-0.007*	-0.007***
	(0.001)	(0.001)	(0.004)	(0.002)
Age 63	-0.138***	-0.010	-0.028	-0.136***
	(0.020)	(0.013)	(0.048)	(0.020)
Age 64	-0.139***	-0.009	-0.129**	-0.137***
	(0.024)	(0.016)	(0.052)	(0.027)
Age 65	0.077**	0.040*	0.060	0.069**
	(0.033)	(0.021)	(0.074)	(0.027)
Age 66	-0.165***	0.080***	-0.054	-0.180***
	(0.024)	(0.023)	(0.066)	(0.029)
Age 67	-0.167***	0.080***	0.000	-0.181***
	(0.027)	(0.031)	(0.088)	(0.035)
Age 68	-0.221***	0.069**	-0.102	-0.231***
	(0.023)	(0.031)	(0.078)	(0.038)
Age 69	-0.195***	0.087**	-0.106	-0.209***
	(0.026)	(0.034)	(0.084)	(0.039)
Non-white	-0.029*	0.056***	0.156***	-0.042**
	(0.015)	(0.010)	(0.035)	(0.020)
Some college or more	0.007	-0.066***	-0.071	0.020
	(0.019)	(0.012)	(0.048)	(0.020)
Married	-0.003	-0.057***	0.123	0.021
	(0.019)	(0.022)	(0.078)	(0.022)
Female	-0.007	0.001	-0.041	-0.007
	(0.015)	(0.011)	(0.038)	(0.015)
Spouse working (if married)	0.025	-0.009	-0.057	0.027
	(0.017)	(0.011)	(0.040)	(0.017)
Fair or poor health	-0.019	0.019	0.135***	-0.022
	(0.015)	(0.012)	(0.043)	(0.019)
State unemployment rate	-0.952**	0.818**	2.771**	-1.216**
	(0.391)	(0.323)	(1.166)	(0.518)
Constant	0.406***	0.060	-0.039	0.363***
	(0.041)	(0.039)	(0.118)	(0.046)
Sample size	2,725	2,725	2,725	2,725
R^2	0.078	0.195	0.038	0.054

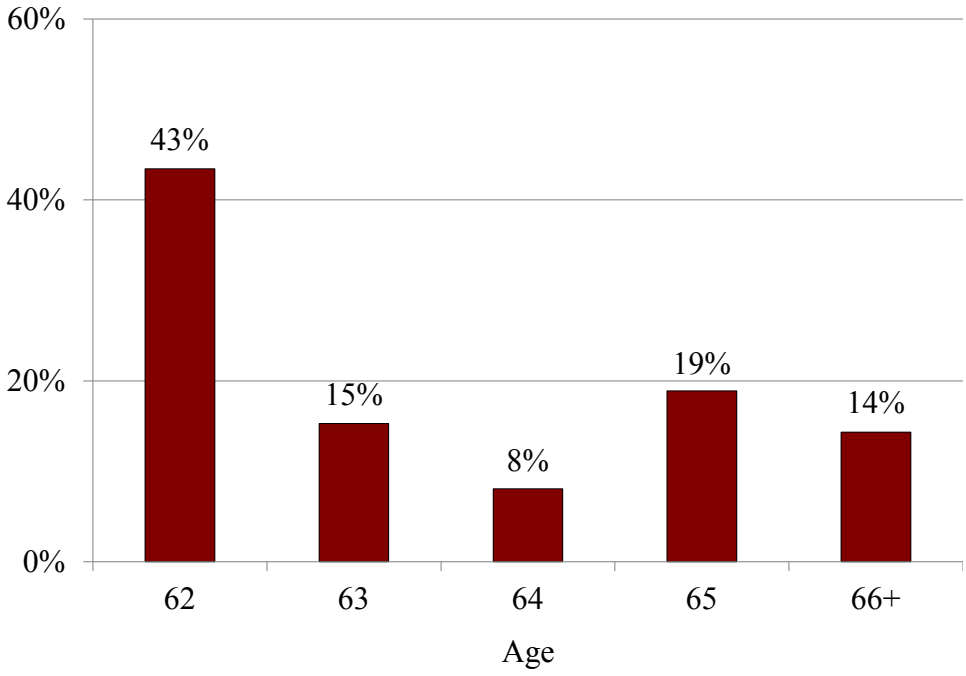
Note: Significance is indicated to the 1 percent level (***), 5 percent level (**) and 10 percent level (*).
Source: Authors' calculations from HRS Waves 1-11.

Figure 1. *Distribution of OASI Claiming Age for the Unemployment Insurance Sample.*



Source: Authors' calculations from HRS Waves 1-11.

Figure 2. *Distribution of OASI Claiming Age for the Medicaid/SNAP Sample.*



Source: Authors' calculations from HRS Waves 1-11.

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