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Abstract

In the U.S. Social Security system, the decision of when to claim Social Security benefits is legally independent of when the individual chooses to separate from the workforce. But if an individual claims benefits prior to his “full retirement age” (FRA) while continuing to have labor earnings above a relatively low threshold, his benefits are reduced via the Social Security Earnings Test. The individual is compensated for this benefit reduction in the form of higher benefit payments payable from the FRA for the remainder of the beneficiary’s lifetime. To the extent that the relevant actuarial adjustment is actuarially fair, the Earnings Test simply represents a re-timing of benefit payments. Nevertheless, many people view the benefit reduction as a tax on earned income after claiming benefits. We posit that whether the Earnings Test influences work and benefit claiming patterns will depend on whether people are aware of the benefit enhancements paid in return for continued work. Using an experimental module of the RAND American Life Panel, we explore how people perceive the Social Security Earnings Test and examine alternative ways to frame the tradeoff between reduced benefits in the short run and higher benefits paid later and for life. Our overall finding is that knowledge of the Earnings Test is uneven, with better educated, higher earning, older individuals showing somewhat greater knowledge than others. The frames we have tested produce only minor effects on individual choices of earnings or claiming ages, and the effects are difficult to reconcile with economic theory.

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Under the Social Security “Earnings Test,” when an individual claims his Social Security benefits prior to his Full Retirement Age (currently age 66) and then returns to work, his benefit check will be reduced by 50 cents per dollar earned over a relatively low annual dollar threshold. Offsets of this sort have been in force since the inception of the US Social Security system (DeWitt, 1999), and they are prevalent in US corporate pension plans as well as internationally.¹ In this paper, we first confirm the findings of Liebman and Luttmer (2011, 2012) that many people do not realize that this reduction in benefits for people younger than their Full Retirement Age is repaid in full later, in the form of higher benefits for life. Then we explore whether alternative ways of framing, or describing, the Earnings Test might serve to change peoples’ work patterns at older ages.

The Social Security Earnings Test has been in place virtually since the system’s inception, implemented by those who argued that benefits should be used as income replacement vehicle for those too frail to work. Others saw the Test as a tactic to induce older workers to leave the job market, thus “mak(ing) way for younger workers.”² The “lump of labor” fallacy has now been discredited,³ and today’s Social Security system faces deep financial stringencies.

¹ For instance, Baker and Benjamin (1999) examine Canada’s Retirement Test; Kirkpatrick (1974) examined similar rules across one hundred different countries.

²DeWitt (1999: np) citing testimony of the Honorable John J. Rhodes, III, in hearings before the House Ways & Means Subcommittee on Social Security, 1991. He also stated that “[s]ome have contended that the Social Security Earnings Test was initially conceived as a means to ensure that program beneficiaries had withdrawn “from gainful employment as a condition of benefit receipt. For wage earners, this requirement was and is measured primarily by a test of earnings levels... [the earnings test] is simply the administrative form of the principle that one must be retired in order to collect retirement benefits from Social Security’s old-age insurance program.”

³ For a discussion see Gruber and Wise (2010).

For this reason, a number of researchers have suggested that the U.S. may wish to look for ways of encouraging individuals to stay in the work force for longer and to delay claiming Social Security benefits (e.g., Shoven and Slavov 2012; Social Security Advisory Board 2008; Butrica, Smith, and Steuerle 2006). Additionally, those seeking to implement feasible Social Security reforms might benefit from knowing whether the Earnings Test might reasonably be changed to encourage continued work.

Numerous prior empirical studies have asked whether and how the Earnings Test in the United States influenced retirement patterns, and it has proven to be a complex topic to analyze. The Earnings Test has been a moving target, changing in important ways over time (c.f. Myers, 1954). In the original 1935 legislation, for instance, a retiree's benefits were to be cut to zero if he earned a single dollar. This provision was changed before the first benefit checks were issued, however: effective in 1940, claimants were permitted to earn up to \$14.99 per month without losing benefits, and the earnings threshold was thereafter raised periodically over the years (see below). From 1961 onward, the benefit offset rate for earnings was periodically reduced, enabling older claimants to earn additional amounts over the threshold without losing all benefits. And in 1972, the Delayed Retirement Credit was introduced, which raised benefits for workers who deferred retirement beyond their Full Retirement Age. The actuarial adjustment has also changed (see Table 1).

Table 1 here

As a consequence of these rule changes, the Earnings Test today no longer has the same economic implications as in the past. Since 2000, the actuarial adjustments have been set so that it is not, on average, a tax. This is because benefits are reduced if an early retiree earns more than the \$14,640 threshold per year, but this reduction in benefits for ages 62-65 is then repaid in the

form of higher benefits for life, once the retiree attains the Full Retirement Age. Moreover, this additional benefit is at least actuarially fair (and may even be advantageous in an environment of low interest rates).⁴ In 2012, for instance, a beneficiary younger than the Full Retirement Age (age 66) loses 50 cents per dollar earned over the threshold, which is later offset by a higher benefit paid from age 66 onward. This additional amount will, on average, provide him with the same total expected lifetime benefits from Social Security.⁵ Accordingly, in this sense, the Earnings Test is actually not a tax but rather simply a re-timing of the flow of future Social Security benefits.

Nevertheless, there is widespread misunderstanding about the way the Earnings Test rules work.⁶ In what follows, we seek to evaluate using the American Life Panel whether alternative presentations of the Earnings Test and benefit consequences might improve participant understanding of how the rules work. We also examine whether alternative frames might alter peoples' anticipated work and earnings plans. In doing so, we address two specific questions: (1) How do people currently perceive the Earnings Test and how does this shape their current expectations around claiming age and retirement age?, and (2) How do alternative frames or presentations about the Earnings Test shape understanding and expected work behavior? In doing so, we build on our earlier work where we showed that different ways of presenting Social

⁴As the Social Security Administration notes on its website (SSA 2012b): "You can get Social Security retirement or survivors benefits and work at the same time. But, if you are younger than full retirement age and earn more than certain amounts, your benefits will be reduced. It is important to note, though, that these benefit reductions are not truly lost. Your benefit will be increased at your full retirement age to account for benefits withheld due to earlier earnings." Munnell and Sass (2012) even argue that the benefit increase is better than actuarially fair in times such as the present with very low interest rates; see also Shoven and Slavov (2012).

⁵ A higher exempt amount applies only to the year in which someone attains his Full Retirement Age. In 2012, for instance the exempt amount for that year only is \$38,880 a year and the Earnings Test is 33% per dollar above that threshold. See <http://www.ssa.gov/oact/cola/rtea.html>

⁶ For instance a recent news article described how some people contemplate working post-age 62: "Attorney Jim Antoniono, 66, of Greensburg, began collecting Social Security benefits this year at full retirement age. 'I didn't look at it earlier because I knew there was a penalty (loss of benefits) if you continued to work,' he said. 'It just didn't make sense.'" (Duncan, 2012: np). See also Liebman and Luttmer (2012), and Greenwald et al. (2010a and b).

Security benefit flows produced economically meaningful and statistically significant changes in outcomes (Brown, Kapteyn, and Mitchell 2012).

Our survey confirms that there is widespread misunderstanding of the impact of work on Social Security benefits prior to the Full Retirement Age. To the extent that people inaccurately perceive the ET as a tax, they may be less likely to keep working after they are eligible for reduced benefits, a fact that has implications for their economic well-being at older ages. Yet our exploration of different ways to present the Earnings Test shows minor and inconsistent effects on both claiming ages and anticipated earnings between 62 and the FRA. Our overall conclusion – albeit one that should be further explored via additional research - is that the mechanics of the Earnings Test are sufficiently obscure to most people that they are likely to have great difficulty deciding what is in their best interest.

In what follows, we first document what people believe about the Social Security Earnings Test and offer some suggestions as to why this topic engenders so much perplexity among the public. We also briefly review prior studies of the empirical impact of changes in the Earnings Test on retirement behavior, many of which conclude that people act as though benefits are cut permanently by working during the period prior to the Full Retirement Age. Next we describe our methodology and data which are taken from a survey of respondents to the American Life Panel. After asking respondents about their understanding of the Earnings Test using a vignette about a hypothetical worker, we explain the Test using several alternative ways of presenting the rules. Having previously been asked to select a claiming age and a likely pattern of labor earnings, the respondents are then invited to alter these outcomes after the frame presentations. After summarizing results, we offer conclusions.

1. Perceptions of the Social Security Earnings Test

The rules under which workers' earnings have been "tested" to determine whether they are truly retired for the purposes of Social Security benefit receipt have varied a great deal over time. Under the original Social Security Act of 1935, all benefits were to be withdrawn if the beneficiary earned a single dollar. The rationale was that "one must retire in order to receive a retirement benefit because loss of earnings due to retirement is the insured condition" (DeWitt 1997: np). In 1940, this was changed to be an effective 100% tax on earnings over a small threshold (initially set at \$14.99 per month). The policy was further relaxed beginning in 1939 when claimants were permitted to keep a portion of their benefits over the threshold (although a 100% tax still applied above a higher threshold). Beginning in 1960, the 100% offset was changed to no offset up to \$1,200/year, 50% benefit reduction rate between \$1200 and \$1500, and full reduction for earnings over that amount. The 100% earnings tax rate was eliminated in 1972. That was also the year that Congress introduced the Delayed Retirement Credit, which boosted benefits by 1% per year for someone who claimed his benefits later than his Full Retirement Age. In 1977, a lower ET threshold was applied to those working at ages 62-64, compared to those age 65+; that same year, legislation raised the Delayed Retirement Credit to 3% per year. In 1983 the Earnings Test was eliminated for claimants who worked beyond age 70, and the Senior Citizens Freedom to Work Act of 2000 abolished the Social Security Earnings Test for workers attaining their Full Retirement Age. The Earnings Test for younger beneficiaries (prior to the FRA) remains in place (Nuschler and Shelton, 2010).

Probably because there have been so many changes in the Earnings Test rules over time, it stands to reason that some (and perhaps many) people would fail to understand how the policy works. For instance, Packard (1990: 8) speculated that:

“(I)f the benefit adjustment for delaying the receipt of benefits or for losing benefits because of the test were actuarially fair ... these provisions would offset the entire work disincentive effect. Unfortunately, the effects of these provisions would be behaviorally significant only if they were fully understood by the beneficiary population. Little indication exists that the beneficiary population is aware of the potential effects of either provision.”

Biggs (2008:1) argued as follows:

“Most retirees are unaware of this because the Social Security Administration (SSA) and financial advisers fail to inform them of how the earnings test works. Retirees need better information—and policymakers should consider whether the earnings test makes sense at all... Until very recently, SSA’s own publications on the earnings test did not provide details on the benefit adjustment that takes place at the full retirement age. As a result, many retirees work less at the very time when continued work could benefit them most.”

Interestingly, several economic studies have found that older Americans’ work and earnings patterns have responded to changes in the Earnings Test over time, with varying estimates regarding the size of the Test’s disincentive effects on work.⁷ Nevertheless, most of these analyses focus only on the benefit *reduction* due to earning over the threshold, and they have generally ignored the fact that benefits rise later after people attain the Full Retirement Age.⁸ For instance, Friedberg and Webb (2009: 10) propose that “beneficiaries appear to react to the earnings test...because the credits are not well understood despite actuarially fair adjustments.” Likewise Gelber et al. (2011: np) recognize that the increase in benefits from the

⁷ A partial list of a very long set of references includes for instance Baker and Benjamin (1999), Behaghel and Blau (2010), Benitez-Silva and Heiland (2007, 2008), Burtless and Moffitt (1985), Coile et al. (2002), Engelhardt and Kumar. (2009), Friedberg (2000), Friedberg and Webb (2009), Gelber, Damon and Sacks (forthcoming), Gruber and Orszag (1999, 2003), Gustman and Steinmeier (2004, 2012), Haider and Loughran (2008), Honig and Reimers (1989), Leibman and Luttmer (2012), Leonesio (1990), Michaud and Van Soest (2007), Packard (1990), Reimers and Honig (1993, 1996), Sander (1968), Song (2003), and Song and Manchester (2007a and b) among others.

⁸ An exception is Michaud and van Soest (2007).

FRA for those who were subject to the Earnings Test is “approximately actuarially fair....This is probably important, but we largely ignore it.” In other words, many analysts assume that the Earnings Test is a disincentive to claim benefits by older individuals contemplating continuing to work.

Brown and Perron (2011:2) suggested that most respondents are “aware that the earnings test can reduce current benefits for workers younger than full retirement age, (but) most incorrectly believe that the result is a permanent reduction in benefits.” Liebman and Luttmer (2008, 2011) conducted two surveys a year apart to a sample of workers age 60-65: they showed that around three-fifths (56% in the earlier and 62% in the later study) of the respondents knew that benefits in payment status would be reduced if the individual earned more than a threshold amount. Yet only two-fifths of this subsample in the later year was aware that the benefit reduction would later be offset by higher benefits, meaning that fewer than one in four overall (39% of 62%, or 24%) knew that the Earnings Test actually did not entail a lifetime benefit reduction. For those who understood that benefits would later rise, the median anticipated benefit increase was 5-6.25% per year of delay up to age 70, versus the actual rate of increase of 6-8%. Interestingly, among those at least somewhat aware of the Earnings Test in 2008, the median reported level of threshold earnings was quite close to the actual value (\$12,000 at age 64, versus the actual value of \$13,560 in 2008). Overall, however, the authors concluded that “people appear to have little awareness of the provision that benefits received after the full-benefit age will be increased to roughly compensate for the benefits lost due to the earnings test” (Liebman and Luttmer 2008: 19).⁹

⁹ They also conducted a field experiment in which a treatment group received information about Social Security rule including the earnings test, and a control group which did not receive these data. A year later, a follow-up survey was carried out, and few more (28%) of the treatment group receiving additional

One reason that few workers might understand how the Earnings Test works is that it is frequently overlooked by financial advisers. For instance, a website offering advice to senior citizens (Proseniors.com 2012) accurately states how the Test works, but it is silent on how benefits are boosted on reaching the Full Retirement Age:

What Happens If I Work While Receiving Social Security Benefits? Social Security withholds benefits if your earnings exceed a certain level but only if you are under your FRA. If you retire in 2010 between the ages of 62 and your FRA and earn more than \$14,160, your SS benefit is reduced by \$1 for each \$2 earned that exceeds \$14,160.

A similar bias is inherent in other advisory websites (e.g. MyRetirementPaycheck.com 2012). And even when the benefits adjustment is described, frequently it is presented as a risky gamble (Kaplan 2008:38): “the early retirement penalty...incurred by electing to receive Social Security retirement benefits before the...full retirement age will be recalculated [at]...that age to reflect the loss of benefits...suffered this year....But that adjustment is small consolation in the current year, and its salutary effect is entirely contingent on...future longevity. In brief, the operation of the retirement earnings test acts as a major economic disincentive to take Social Security benefits and engage in any remunerative activity beyond a very low level until the claimant reaches his or her full retirement age.”¹⁰ The Social Security’s website (SSA, 2012) does a reasonable job of explaining how the Earnings Test is offset by higher benefits at present, but Biggs (2008:1) notes that “[u]ntil very recently, SSA’s own publications on the earnings test did not provide details on the benefit adjustment that takes place at the full retirement age. As a result, many retirees work less at the very time when continued work could benefit them most.”

information were aware of the later benefit enhancement, but the effect was not statistically significant at conventional levels (5% or better).

¹⁰ This is similar to the “breakeven” framework for evaluating delayed benefit claiming; Brown, Kapteyn and Mitchell (2012) report that such an approach significantly encourages early claiming behavior.

Accordingly, while it is widely believed that people simply do not understand the Earnings Test and the subsequent benefit enhancement post-FRA, it remains to be seen what can be done about it. In what follows, we first investigate further whether and which kinds of people are least well informed about the Social Security Earnings Test. We also seek to evaluate which particular sorts of presentations might be most effective in establishing if, indeed, the lack of information is widespread, and (b) clarifying that “[t]he key point is that *any reduction in benefits under the earnings test triggers a subsequent increase in benefits*” (Gruber and Orszag 1999: 9). To this we turn next.

2. Methodology and Data

We assess the impact of different ways to frame this decision using an experimental module we designed for the RAND American Life Panel (ALP). This is an online panel of U.S. households that regularly take surveys over the Internet. If, at the recruiting stage, households lack internet access, they are provided laptops or WebTV by RAND. In this way, the ALP has the advantage relative to most other Internet panels not requiring Internet access in the recruiting stage.¹¹

The American Life Panel included around 4,924 active panel members at the time we contacted participants age 18 or older to invite them to take our survey. We fielded our module in the first quarter of 2012, and 3,736 panel members completed the survey for a response rate of 76% (see Table 2). We dropped 86 respondents who participated in the pilot before the main survey was conducted, 46 respondents who did not complete the module, and one respondent who reported an (implausible) income of \$400 billion. Depending on the specific analysis, we omitted respondents who were age 62+, disabled, not US residents, and who gave an initial claim

¹¹ For more explanation of the ALP see http://www.rand.org/pubs/corporate_pubs/CP508-2005-11.html.

age over the Full Retirement Age or for whom no estimated benefit could be calculated (mostly because they were too young to have a sufficient earnings record). If residents indicated they did not believe they would be eligible to receive Social Security benefits either on their own earnings record or that of a current, late, or former spouse, they were asked to assume for the purposes of the survey that they would receive Social Security benefits equal to the average received by people with their average age/education/sex characteristics.

Table 2 here

Eliciting Knowledge of the Earnings Test

To ascertain peoples' level of knowledge about the Social Security Earnings Test, we asked them to first answer a series of questions by means of a vignette about a hypothetical worker named Joe (specific wording given below). The idea was to solicit answers to questions about the impact of returning to work after claiming benefits.¹² For all of the questions, the order of the answers was randomized to mitigate the types of framing found in other surveys (Brown et al. 2012). If the respondent correctly perceived that benefits would be reduced for someone earning \$20,000 after claiming at age 62, we then asked the following:

The Joe Vignette

12.) Now, suppose that on his 63rd birthday – one year after Joe first stopped working and claimed Social Security benefits – Joe goes back to work part-time. In that year, he earns \$20,000. We now want to ask you some questions about how you think Joe's decision to go back to work might affect his Social Security benefits at different ages. Let's start with the year Joe is age 63 and works part-time for \$20,000. While he is working that year, what do you think would happen to his Social Security benefits for that year?

- a. His monthly benefits during this year (age 63) would be unchanged. In other words, Joe would still receive the same \$1,000 per month that he would have received had he not returned to work.
- b. His monthly benefits during this year (age 63) would be reduced. In other words, Joe would receive less than the \$1,000 per month that he would have received had he not returned to work. [RIGHT ANSWER]

¹² Brown and Perron (2011) presented a simpler vignette to a sample of around 3,000 persons age 55-66 either currently receiving or expecting to receive Social Security benefits in the future. They report that most (80%) of this age group knew that working and earning \$40,000 per year would reduce benefits for someone working at age 63, but the majority (60%) believed the reduction would be permanent.

c. His monthly benefits during this year (age 63) would be increased. In other words, Joe would receive more than the \$1,000 per month that he would have received had he not returned to work.

This leads to a branchpoint. Accordingly if the respondent indicated that answer (a) was correct for question 12 ('unchanged'), we asked:

15) In the last question, you told us that Joe would get the same amount of benefits at age 63 even if he returned to work that year. Is there any amount he could earn that year that would reduce his benefits?
 a. Yes, if he earned more than a certain amount, his benefits would be reduced. [RIGHT ANSWER IF BELIEVE THRESHHOLD IS HIGHER]
 b. No, Social Security benefits would not be withheld, no matter how much he earned while age 64.

If he responded (a) to question 15 (yes), we next asked:

16) What do you think is the maximum he could earn without having his benefits reduced ? (Give us your best guess, even if you don't know the exact amount) He could earn up to [FILL IN] dollars per year while age 64 without having Social Security benefits withheld. If he earned more than that, he would have benefits withheld due to returning to work. [RIGHT ANSWER IF BELIEVE THRESHHOLD IS HIGHER THAN \$20,000 SHOULD BE OVER THAT LIMIT]

If the respondent indicated that answer (b) was correct for question 12 ('reduced'), then we asked:

13) In the last question, you told us that Joe's benefits at age 63 would be reduced because he returned to work that year. Is there any amount that Joe could earn during the year that he is 63 without reducing his Social Security benefits in that year?
 a. Yes [RIGHT ANSWER]
 b. No, the Social Security benefits he will be entitled to for that year will be reduced no matter how much he earned that year.

If he responded (a) to question 13 then we asked:

14) You just told us that there is some amount that a person can earn without reducing the Social Security benefits he is entitled to for that year. What is this amount? (Give us your best guess, even if you don't know the exact amount) Once he earns more than roughly [FILL IN] dollars per year at age 64, Social Security benefit payments will be reduced. [RIGHT ANSWER IS \$14,640, ANY ANSWER from \$10,000 to \$20,000 MARKED AS CORRECT.]

Everyone was then asked the following question which sought to get at the issue of whether Joe's benefit would be lower after he stopped working:

17). Now let's imagine that at the end of that year, right before his 64th birthday, Joe stops working again and never again returns to work. Let's consider what happens to Joe's Social Security benefits at age 64, right after he stopped working permanently, as a result of the fact that he went back to work for one year while he was age 63.
 a. His monthly benefits at age 64 would be unchanged. In other words, Joe would still receive the same \$1,000 per month that he would have received had he not returned to work. [RIGHT ANSWER]

- b. His monthly benefits at age 64 would be reduced. In other words, Joe would receive less than the \$1,000 per month that he would have received had he not returned to work.
- c. His monthly benefits at age 64 would be increased. In other words, Joe would receive more than the \$1,000 per month that he would have received had he not returned to work.

Everyone also got the next question, which finally gets directly at whether the respondent knew that benefits after the full retirement age would rise due to the Earnings Test:

- 18). Now let's consider what would happen to Joe's Social Security benefits at age 68, several years after he stopped working permanently. We would like to know what you believe would happen to Joe's benefits as a result of the fact that he went back to work for a single year while he was age 63. Recall that age 68 is older than the Social Security full retirement age.
- a. His monthly benefits at age 68 would be unchanged. In other words, Joe would still receive the same \$1,000 per month that he would have received had he not returned to work.
 - b. His monthly benefits at age 68 would be reduced. In other words, Joe would receive less than the \$1,000 per month that he would have received had he not returned to work.
 - c. His monthly benefits at age 68 would be increased. In other words, Joe would receive more than the \$1,000 per month that he would have received had he not returned to work. [RIGHT ANSWER]

Finally, if the respondent knew that benefits would rise as of the normal retirement age we asked:

19. You answered that, as a result of his part-time work while he was age 63, Joe's Social Security benefit would grow to more than \$1,000 at age 64 and also at age 68. We would now like to know how you think the Social Security benefit paid while he is age 68 compares to what he received at age 65. Based on what we have told you (and remembering that we are assuming there is no inflation and no cost-of-living increases), do you think that the Social Security benefit he is paid while age 68 would be:
- a. Less than the benefit paid while he is age 65
 - b. The same as the benefit paid while he is age 65
 - c. Greater than the benefit paid while he is age 65 [RIGHT ANSWER]

Figure 1 illustrates how the Joe vignette appeared on the respondents' screens.

Figure 1 here

The Earnings Test Frames

So as to gauge respondents' knowledge by means of the hypothetical "Joe" questions, we next present respondents with several different frames that seek to assess how respondents think about how the Test affects earnings between the early claiming date and FRA, as well as on

benefit amounts after the FRA. So as to be able to measure these effects, we first ask respondents age 62 or younger early in the survey what age they expect to claim Social Security benefits. We also asked each person what he expected to earn per year between ages 62-70, as follows:

10) At each of the following ages, about how much do you expect to earn from working each year? If you are not sure, enter your best guess. [Don't include income from any sources other than working, such as investment income, Social Security or pension benefits, or alimony. Also exclude income earned outside of the US.]									
	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings									

After completing the Joe vignette, each respondent is reminded of his answer to the earlier claiming question as follows:

20) Now we are going to ask the same question again, with different assumptions. Please read the question carefully. At the beginning of this survey, you told us that you expect to claim Social Security benefits at age [INSERT CLAIM AGE] . You also told us that you expect to have the following earnings from age 62 through 67.									
	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$20000	\$20000	\$20000	\$20000	\$20000	\$0	\$0	\$0	\$0

Subsequently, respondents are shown several different frames explaining how the Earnings Test works. We describe these consecutively:

FRAME 1: Assume no Earnings Test For purposes of this question, please assume that if you continue to work after claiming Social Security benefits, your benefits would not be affected now or in the future. Assuming this, would you change your date of claiming and/or your actual or expected earnings between ages 62 and 70? a. Yes b. No
--

If the respondent answers 'Yes' to this question, he is then shown a screen where he can change his answer if desired. Figure 2 shows the screen replaying the respondent's original answer (and the question if the respondent wants to stick to the earlier choice), and a second screen where the respondent can make changes as a result of the new information. The claiming age is displayed by moving the slider, while earnings can be adjusted by entering new amounts into the table.

Figure 2 here

FRAME 2: Assume it is a tax

The first part of the question is identical to the previous frame, but then it makes the following assumption about the ET. Now assume that if you claimed your Social Security benefits before [INSERT FRA] and earned more than a particular amount in any year before [INSERT FRA], your benefits due to returning to work will be lowered by 50 cents for each dollar that you earn over this amount. This is called the “Social Security earnings test.” Assuming this, would you change your date of claiming and/or your actual or expected earnings between ages 62 and 70?

- a. Yes
- b. No

If the respondent answers ‘Yes,’ the same screen as shown in Figure 2A is shown. Figure 2B shows screen shots of both the initial question and of the screen where the respondent can change her original answer.

Figure 3 then shows a screen shot where the respondent can change answers; the question is as follows:

FRAME 3: Provide correct information about the ET; verbal only

The “earnings test” we just described is applied to earnings before age [INSERT FRA]. It is important to note, however, that these benefit reductions are not truly lost. Your Social Security benefit is increased as of [INSERT FRA] to make up for benefits withheld due to earlier earnings.

Next, respondents are shown one more frame, this time selected at random from five different frames, described next. The screen now displays how benefits rise after the Full Retirement Age. For instance, in Figure 4, if the respondent clicks ‘yes,’ he sees a new screen also shown in Figure 4. By moving the slider and by changing the earnings numbers, he can see how benefits are affected.

Figures 3 and 4 here

Compared to the amounts of money “taxed away” by the ET, the increase in benefits after FRA may look small. For this reason we also devise a frame where the increase in benefits is presented as a lump sum (Figure 5). Once again, if the respondent says ‘Yes,’ he is shown a screen with a slider depicted in Figure 5.

Figure 5 here

Next we combine the previous two frames. Figure 6 shows the effect of the earnings test on both the monthly benefits after FRA and also the lump sum equivalent. Once again, if the respondent responds that he wishes to change his initial choice, a new screen opens up with a slider offering the chance alter the claiming age and/or change earnings levels before the FRA. These changes will influence the value of benefits given up before FRA and the effects on monthly benefits and the equivalent lump sum after FRA.

Figure 6 here

Finally, some respondents are presented with Frames 4d and 4e, which are similar to 4b and 4c but they embody different assumptions about the interest rates used to compensate for the increase in benefits needed to compensate for the loss of benefits between early and full retirement age. The Social Security Administration uses a discount rate of 2.9%, whereas the rate that would be required to make the tradeoff actuarially fair depends on the respondent's claiming age/birth year.

3. Results for Joe Vignette

Next we use the knowledge questions derived using the Joe vignette to cluster respondents in terms of their knowledge of the impact of additional work on benefits both before and after the Full Retirement Age. Results in Table 3 confirm that only 51.5% of the respondents believe that Social Security benefits would be reduced if Joe earned \$20,000 in his 63rd year, quite a bit above the *actual* threshold of \$14,640 in 2012. Almost half (48.5%) believed that Joe's benefits would be unchanged or would increase right away. For those who knew that benefits would be reduced, 70% stated that Joe could have kept his benefit if he earned less than a threshold (which they thought would be \$11,500 per year on average, below the actual

threshold). Among those who thought that benefits would be unchanged for \$20,000 in annual earnings, the average threshold amount stated was \$25,700, almost double the actual value in 2012. In other words, among the US population as a whole, most people do not understand that there is an earnings test. Those who do overestimate the amount they can earn before losing benefits.

Table 3 here

We also see from Table 3 that very few understand the additional benefits gleaned from work after early claiming. About half the respondents (54%) believed that Joe's benefits would not change after he quit working, and only 40% understood that his benefits would rise after the Full Retirement age due to the increased work. Evidently, the rules in effect since 2009 providing for actuarially neutral benefit recomputations are not widely understood by the average individual in the US population.

Using the answers to the Joe questions, we next group respondents into "knowledge clusters." At one end of the spectrum we have the fully informed subset, and at the other, the completely uninformed group. We assign respondents to one of three categories: "No knowledge", "Some knowledge" and "Fully informed," as in Table 4. The approach used for Cluster A counts as fully informed any respondent who knows that Joe's benefits will be cut due to additional work, along with those who know there is a threshold but think it is higher than it actually is (Group 3). For Cluster B, those who overstate the threshold are not classified as having some knowledge but not fully informed. Results from ordered Probit analyses appear in Table 5, where the dependent variable indicates to which of the three groups a respondent belongs, with higher-value categories indicating more knowledge.

Tables 4 and 5 here

Results from the two different knowledge groupings are qualitatively similar. Not surprisingly, respondent knowledge of the ET rules rises with age and education. In other words, older respondents, who are closer to retirement age, have more reason to familiarize themselves with the rules and indeed they do. We have also found in other contexts (Brown, Kapteyn, and Mitchell 2011) that being better educated is correlated with a better understanding of Social Security rules. Knowledge is related to benefit levels (PIA is the Primary Insurance Amount, which is in turn a function of lifetime earnings) in a non-linear manner, first falling and then rising with PIA. Higher permanent earnings are associated with slightly lower knowledge, somewhat surprisingly (the PIA refers to the individual's Primary Insurance Amount which is SSA's approach to measuring lifetime earnings). Men and women are equally well (or poorly) informed, as the coefficient is not statistically significant.

4. Results for Frames

Table 6 presents descriptive statistics of the responses to the various earnings test frames on four different outcome variables of interest over the age 62-FRA window: average annual earnings, average annual earnings in excess of the threshold, the percent of earnings over the threshold, and the average claim age. Our predominant impression from the results is that the differences in outcomes across the frames are very minor, certainly compared to standard deviations. The bottom part of the Table summarizes change induced by the various frames compared to the baseline. The biggest earnings changes are for Frames 4 and 5. Claim ages vary so little that the differences only amount to a couple of days. For Frames 1 and 4 (annuity only) we observe an increase in earnings, while the frames showing *both* earnings and a lump sum (3 and 5) appear to induce a reduction in earnings.

Table 6 here

Table 7 presents paired t-tests of the null hypothesis that the frames do not prompt any changes in earnings or claim age outcomes. To increase power, we now combine the frames that are identical except for the interest rate assumption. For most of the frames, we fail to reject the null: that is, there is no significant reaction to the different ways of explaining the Earnings Test. It is worth briefly discussing the few cases where the null is rejected. First, after we tell respondents that the ET is a tax, it is surprising that the percentage of total earnings subject to the threshold rises significantly. This appears to be an odd response to a tax increase at first sight, but we note that that total earnings actually fall slightly and so do average annual earnings over the threshold.

Table 7 here

In a number of frames, the claim age increases slightly (and significantly) after the frame treatment. It is unclear *a priori* how claim ages should respond to more knowledge about the earnings test, except when respondents believe the earnings test to be a tax. More information might induce them to claim later to avoid paying the tax. Yet in the only frame where respondents are told the earnings test is a tax, respondents actually claim earlier (.09 year, i.e. about a month). Comparing the frame where respondents are told to assume that ET is *not* a tax to all frames combined shows a small and marginally significant effect on average annual earnings. Earnings are a bit higher on average in the various frames than when assuming there is no tax. Given that so few of the differences are statistically significant, the ones that are may very well be the result of chance.

Our overall impression, in sum, is that the alternative frames have little if any impact on respondents' earnings and claim ages. This outcome is consistent with a story where respondents

have a very hard time understanding the Earnings Test and hence also find it difficult to evaluate the various frames.

5. Multivariate Analysis

To examine the results in more detail, we next run OLS regressions linking our four outcome variables of interest to dummies representing the frames (the frame showing annuities only is the reference category), quadratics in the PIA and age, and education dummies. The four dependent variables are average annual earnings from age 62-FRA, average annual earnings over the threshold reported by the respondent, the percent of total earnings over the true threshold, and claim age. Since the differences between frames using distinct interest rate assumptions are minor, we combine those frames to increase the number of observations per cell. Results appear in Table 8.

Table 8 here

Coefficient estimates in the frames are generally statistically insignificant. In fact, there are only three significant effects among eight coefficients, which is just a bit better than chance. Moreover, since the average annual earnings variables are transformations of one another, it is unclear what the significance levels mean. For instance, the percent of total earnings subject to the true threshold between 62 and FRA is never significant, but the average annual earnings greater than the threshold are positively affected when we show respondents the lump sum (and not when we show both lump sum and annuity). Also, total average annual earnings between 62 and FRA are not affected when we only show lump sum and negatively when we show annuity and lump sum. We summarize our results as follows:

Summary of Results from Multivariate Framing Regressions

<i>Combination frames</i>	<i>1: Annuity</i>	<i>2: LS</i>	<i>3: Annuity & LS</i>
Av. Annual Earnings Age 62 - FRA	Omitted	NS	NS
Av. Annual Earnings > Threshold 62 - FRA	Omitted	NS	NS
% Total Earnings s.t. True Threshold 62 A-FRA	Omitted	NS	NS
Claim Age	Omitted	NS	Sig, -

6. Discussion and Conclusions

A large majority of older Americans relies on Social Security benefits for all or most of their retirement income. Nevertheless, a recent study (Moore, 2011, np) noted that “most retirees ...pass up opportunities for additional lifetime retirement income. Taking Social Security benefits when they turned 62, many retirees born in 1943, for example, passed up increases of at least 33% in their monthly inflation-adjusted Social Security benefit levels available at full retirement age of 66.” One reason may be that older individuals have a very difficult time understanding the key features of life annuities which provide income streams for life (Brown, Kapteyn, and Mitchell 2012; Brown, Kapteyn, Luttmer, and Mitchell 2012).

Moreover, retirees face an additional set of opportunities and constraints imposed by the Social Security Earnings Test and subsequent benefit increases that afford older workers an opportunity to work even after claiming benefits. Our research using the ALP, a nationally representative internet survey, confirms that many Americans have an inkling that working and earning income after claiming Social Security benefits results in lower benefits. Nevertheless, very few older persons and even fewer younger workers are aware that the benefit offset is “made up” in the form of higher benefits later, after the Full Retirement Age. Our work shows

that this shortfall in perception is widespread and not easily addressed by alternative ways of presenting the information. We find very few significant effects of the frames on earnings or claim age, and the few significant effects are difficult to interpret.

An interesting puzzle emerges from our findings, namely why do so many empirical studies report that legislated changes in the Social Security Earnings Test seem to have a measurable impact on older workers' labor supply behavior? One reason may be that, for the first 75 years of the Social Security program's existence, the Test was indeed a tax – it was not until 2009 that the Delayed Retirement Credit grew sufficiently large that it became effectively actuarially fair. We have documented that only about 40% of the respondents in our sample believe that the benefit reduction before the FRA leads to higher benefits later. Additionally, many financial advisers think of the Earnings Test as a tax and therefore fail to tell their clients that benefit reductions before FRA are given back later in the form of higher benefit streams for life.

One conclusion of our work is that knowledge of the mechanics of the earnings test is very limited. In particular, the actuarial adjustment of benefits after the FRA is largely not understood by the American workforce. Yet our efforts to find informational frames that can help individuals make more informed decisions have proved disappointing. The measured effects of the alternative frames are generally small and sometimes counter-intuitive. This may, of course, indicate that our frames were too complex for most individuals to grasp. It also suggests that, short of changing the Earnings Test itself, there are grounds for improving the general information provided about the mechanics of the Earnings Test.

There are potentially interesting policy implications from our work. For instance it might be useful to build up middle-aged and older workers' knowledge of the Earnings Test, and to

explain more clearly that it is, in fact, no longer a tax. To this end, Gruber and Orzag (1999) recommended “(a) clear and concise mailing to all 61 year olds in America about how the earnings test really works, with simple examples, would remove a substantial amount of the misinformation about the functioning of the system. Similarly, beneficiaries whose benefits are reduced because of the earnings test should be told how much their subsequent benefits will be increased as a result.” Financial advisers and SSA field agents might also benefit from updated information about how the Earnings Test works today. And finally, Biggs (2008) has pointed out that educating the news media could be beneficial, since inaccurate depictions of the rewards to continued work could have a substantial impact on workers’ interest in and incentives to remain employed at older ages.

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Table 1. Key Changes in Earnings Test and Social Security Benefit Recomputation Rules

<u>Year</u>	<u>Change</u>
1935	Entire monthly benefit withdrawn for any work (earnings test threshold of zero).
1939	Beneficiaries allowed to earn up to \$14.99/ month without a reduction in benefit; above that threshold, entire amount withdrawn; thresholds raised over time to 1960 with somewhat higher earnings permitted those age 75+ (from 1950) and age 72+ (from 1954).
1960	Benefit reduction rate of \$1 per \$2 of earnings above \$1,200 a year but below \$1,500 threshold per year (\$1 per \$1 of earnings above that, i.e. benefit reduction rate of 100%). Lower and upper thresholds raised over time thereafter.
1972	Benefit reduction rate \$1 per \$2 of earnings for earnings above threshold of \$2,100 and threshold raised in steps thereafter to \$3,000 by 1976 (i.e., removal of 100 percent benefit reduction rate above higher threshold).
1972	Delayed Retirement Credit (DRC) of 1%/year introduced, raising benefits for workers who delay retirement past the Full Retirement Age (FRA).
1977	Lower earnings test threshold implemented for those age 62–64 than for those 65+. Thresholds raised periodically after that.
1977	DRC raised to 3% per year gradually increasing to 8% per year (from 2009).
1983	Beneficiaries age 70+ exempted from the earnings test. Benefit reduction rate \$1 per \$3 of earnings above the threshold for those at or above the FRA.
2000	Beneficiaries at or above FRA exempted from the earnings test. Younger persons face benefit reductions of \$1 for each \$2 if younger than the FRA; earnings test eliminated for those over FRA.

Source:

Authors' adaptation from DeWitt (1999) and SSA (2012a)

Table 2: Sample Size Adjustments In ALP

Initial N	3772
<i>Special cases</i>	
Pilot observations dropped	86
Did not finish survey	46
Respondent with \$400 billion income	1
<i>Ineligible for SS benefits</i>	
Disability (present or future)	278
Other reason (not eligible earnings, not US resident, etc)	165
Did not answer SS eligibility question	6
<i>Dropped from experiments</i>	
Did not answer baseline earnings question even though eligible (et10)	71
Age ≥ 62 (dropped from conjectural questions incl. et19 and et20)	808
Initial claimage over FRA (dropped from conjectural questions incl. et19 and et20)	897
No FRA recorded	3
Skipped vignette (knowledge) questions	17
<i>Problems with PIA estimate</i>	
No PIA estimate	300
<i>Sample for frame analyses</i>	1094

Table 3. Responses to Joe Vignette

12. Now, suppose that on his 63rd birthday, Joe goes back to work part-time and earns \$20,000. While he is working that year, what do you think would happen to his Social Security benefits for that year?

	N	%
Decreased	1,852	51.5
Unchanged	1,427	39.68
Increased	317	8.82

If 12 Decreased: Is there any amount he could earn without losing his benefits?

	N	%
Yes	1,309	69.93
No	563	30.07

If 13 Yes: What is the threshold?

	Mean	SD
Average amount	11,490	8,126

15. If 12 Unchanged: Is there any amount he could earn that would cause him to lose his benefits?

	N	%
Yes	895	61.39
No	563	38.61

If 15 Yes: What is the threshold?

	Mean	SD
Average amount	25,735	22,571

ET17: Now let's imagine that at the end of that year, right before his 64th birthday, Joe stops working again and never again returns to work. Let's consider what happens to Joe's Social Security benefits at age 64, right after he stopped working permanently, as a result of the fact that he went back to work for one year while he was age 63.

	N	%
Decreased	9.06	9.06
Unchanged	1,917	53.25
Increased	1,357	37.69

ET18. Now let's consider what would happen to Joe's Social Security benefits at age 68, several years after he stopped working permanently. What do you believe would happen to Joe's benefits as a result of the fact that he went back to work for a single year while he was age 63.

	N	%
Decreased	217	6.01
Unchanged	1,961	54.28
Increased	1,435	39.72

ET19. would grow to more than \$1,000 at age 64 and also at age 68. We would now like to know how you think the Social Security benefit paid while he is age 68 compares to what he received at age 65. Based on what we have told you (and remembering that we are assuming there is no inflation and no cost-of-living increases), do you think that the Social Security benefit he is paid while age 68 would be:

	N	%
Less than	23	2.56
Same	500	55.74
Greater than	374	41.69

Table 4: Clustering of Respondents by Knowledge of Earnings Test Rules

	All groups	Clustering A	Clustering B	Number	Percent
Group 1	No knowledge	No ET knowledge	No ET knowledge	567	16%
Group 2	No change for Joe but there is a threshold	ET knowledge, unknown threshold	Some ET knowledge	623	17%
Group 3	No change for Joe but there is a threshold and it is known	ET knowledge, known threshold	Some ET knowledge	237	7%
Group 4	Increase for Joe	No ET knowledge	No ET knowledge	317	9%
Group 5	Decrease for Joe (correct), unknown threshold	ET knowledge, unknown threshold	Some ET knowledge	584	16%
Group 6	Decrease for Joe (correct), known threshold	ET knowledge, known threshold	Some ET knowledge	510	14%
Group 7	Decrease for Joe (correct), not a tax, unknown threshold	ET knowledge, unknown threshold	Some ET knowledge	391	11%
Group 8	Fully Informed	ET knowledge, known threshold	Fully Informed	367	10%

Total RED	884	884
Total YELLOW	1598	2345
Total GREEN	1114	367

Percent RED	24.6%	24.6%
Percent YELLOW	44.4%	65.2%
Percent GREEN	31.0%	10.2%

Table 5: Ordered Probits: Coefficients in bold if significant at least at $p < .1$ **Knowledge Cluster A**

		Coef.	Std. Err.	P>z
PIA	PIA	-0.0007	0.0003	0.02
	PIA squared	0.0000	0.0000	0.00
Age	Age	0.0383	0.0189	0.04
	Age squared	-0.0002	0.0002	0.28
Education (<HS grad ref)	Education HS grad	0.1466	0.1328	0.27
	Education College grad	0.2276	0.1364	0.10
Female (= 1)		0.0428	0.0494	0.39
N*		2279		
LR chi2(7)		119.78		
Prob > chi2		0		
Pseudo R2		0.02		
Log likelihood		-2369.93		

Knowledge Cluster B

		Coef.	Std. Err.	P>z
PIA	PIA	-0.0009	0.0003	0.00
	PIA squared	0.0000	0.0000	0.00
Age	Age	0.0423	0.0197	0.03
	Age squared	-0.0003	0.0002	0.20
Education (<HS grad ref)	Education HS grad	0.2142	0.1406	0.13
	Education College grad	0.2608	0.1442	0.07
Female (= 1)		0.0147	0.0518	0.78
N*		2279		
LR chi2(7)		90.69		
Prob > chi2		0		
Pseudo R2		0.02		
Log likelihood		-1873.93		

Note: Knowledge Clusters A and B defined in text.

Table 6. Description of Outcomes by Frame

	Average annual earnings		Average annual earnings > threshold		% earnings 62-FRA s.t. ET (true threshold)		Claimage		N	Frame contents	
Frame	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>		Amount 1	Amount 2
Frame 0: No information, not a tax	\$ 27,229	\$ 72,464	\$ 20,136	\$ 70,497	4.8%	0.13388	65.117	2.12569	1,034	<i>The "earnings test" we just described is applied to earnings before age. It is important to note, however, that these benefit reductions are not truly lost. Your Social Security benefit is increased to make up for benefits withheld due to earlier earnings.</i>	
Frame 1: Annuity	\$ 27,861	\$ 66,922	\$ 20,784	\$ 65,036	4.8%	0.152884	65.1123	2.35715	228	<i>Annuity: Income taken away each month</i>	<i>Annuity: Incremental monthly income you will get starting at age 67</i>
Frame 2: Lump Sum (Adjust to make equal)	\$ 29,448	\$ 46,526	\$ 21,972	\$ 43,150	4.4%	0.116872	65.3737	2.15041	217	<i>Lump sum: PV of that amount being taken away using the actual trustee assumptions</i>	<i>Lump sum: Say it's the same as Amount 1 (cheat to make this consistent with messaging about actuarial fairness)</i>
Frame 3: Annuity & Lump sum (Adjust on LS)	\$ 24,742	\$ 43,241	\$ 17,661	\$ 40,105	5.2%	0.142385	64.9888	2.0403	293	<i>Show both monthly and lump sum amounts from 1 and 2</i>	<i>Show both monthly and lump sum amounts from 1 and 2</i>

	Average annual earnings		Average annual earnings > threshold		% earnings 62-FRA s.t. ET (true threshold)		Claimage		N	Frame contents	
Frame	Mean	SD	Mean	SD	Mean	SD	Mean	SD		Amount 1	Amount 2
Frame 4: Annuity only (second amount is adjusted)	\$ 34,160	\$ 126,320	\$ 26,196	#####	4.2%	0.132401	65.4183	2.12471	209	Annuity: Monthly amount 1 from Frame 1	Annuity: Use the lump sum amount 2 from Frame 2, go back and change the monthly income amount 2 so monthly amount is same
Frame 5: Annuity & Lump sum (both amounts adjusted)	\$ 20,771	\$ 31,877	\$ 14,246	\$ 28,195	4.5%	0.119939	64.891	2.2087	211	Monthly and LS amounts from 1' and 2	Monthly and LS amounts from 1' and 2

Differences: F0 to Frame X

Frame 1	\$ -	-	\$ -	-	0.00%	-	-	-
Frame 2	\$ 1,586	0.000	\$ 1,188	0.000	-0.35%	(0.019)	0.261	0.005
Frame 3	\$ (3,119)	(0.000)	\$ (3,123)	(0.000)	0.42%	0.017	(0.124)	(0.002)
Frame 4	\$ 6,299	0.000	\$ 5,412	0.000	-0.61%	(0.029)	0.306	0.006
Frame 5	\$ (7,090)	(0.000)	\$ (6,538)	(0.000)	-0.27%	(0.014)	(0.221)	(0.004)

Table 7. Changes in Earnings and Claim Age by Frame

ET20 (assume it is a tax) vs F0 (assume not a tax) ^{a, b}			
	<u>ET20</u>	<u>F0</u>	<u>p(diff)</u>
Average Annual Earnings: 62 to FRA	\$ 27,162	\$ 27,190	0.1703
Average Annual Earnings > Threshold between 62 and FRA	\$ 19,817	\$ 19,832	0.3203
% Total Earnings s.t. True ET Threshold 62 and FRA	6.85%	4.81%	0.0008
Claim Age	64.58	64.67	0.0001
<i>^a note that there are a different number of people in F0 eligible for this test than in the frames comparisons, as it is paired and we had fewer respondents to ET20 than F0. The F0 numbers are thus slightly different here than in the next test.</i>			
<i>^b also note that for all of these, the standard errors for age of claiming is very low since they only have a few options</i>			
F0 (assume not a tax) vs all frames (information) ^{a, b}			
	<u>F0</u>	<u>Frames</u>	<u>p(diff)</u>
Average Annual Earnings: 62 to FRA	\$ 27,454	\$ 27,661	0.0149
Average Annual Earnings > Threshold between 62 and FRA	\$ 20,293	\$ 20,433	0.0545
% Total Earnings s.t. True ET Threshold 62 and FRA	4.78%	4.74%	0.7785
Claim Age	65.11	65.17	0.0016
<i>^a note that there is a different number of people in F0 eligible for this test, as it is paired and we had fewer respondents to ET20 than F0</i>			
<i>^b also note that for all of these, the standard errors for claim age are very low since they only have a few options</i>			
F0 (assume not a tax) vs annuity frames ^{a, b}			
	<u>F0</u>	<u>Frames</u>	<u>p(diff)</u>
Average Annual Earnings: 62 to FRA	\$ 31,051	\$ 31,174	0.1771
Average Annual Earnings > Threshold between 62 and FRA	\$ 23,686	\$ 23,766	0.2359
% Total Earnings s.t. True ET Threshold 62 and FRA	4.45%	4.52%	0.7688
Claim Age	65.22	65.27	0.1284
<i>^a there are a couple of outliers in frame 4 accounting for the much higher average earnings</i>			
<i>^b also note that for all of these, the standard errors for claim age are very low since they only have a few options</i>			
F0 (assume not a tax) vs lump sum frames ^a			
	<u>F0</u>	<u>Frames</u>	<u>p(diff)</u>
Average Annual Earnings: 62 to FRA	\$ 29,682	\$ 30,041	0.0963
Average Annual Earnings > Threshold between 62 and FRA	\$ 22,343	\$ 22,508	0.2412
% Total Earnings s.t. True ET Threshold 62 and FRA	4.58%	4.56%	0.9701
Claim Age	65.26	65.39	0.0174
<i>^a also note that for all of these, the standard errors for claim age are very low since they only have a few options</i>			
F0 (assume not a tax) to lump sum + annuity frames ^a			
	<u>F0</u>	<u>Frames</u>	<u>p(diff)</u>
Average Annual Earnings: 62 to FRA	\$ 22,614	\$ 22,835	0.1745
Average Annual Earnings > Threshold between 62 and FRA	\$ 15,753	\$ 15,945	0.2412
% Total Earnings s.t. True ET Threshold 62 and FRA	5.23%	5.04%	0.4507
Claim Age	64.92	64.95	0.0908
<i>^a also note that for all of these, the standard errors for claim age are very low since they only have a few options</i>			

Table 8. Sensitivity of of Earnings and Claim Age Outcomes to Frames (OLS)*Bold coefficients are significant at least $p < .1$* **A. Av. Annual earnings 62 to FRA**

			Coef.	Std. Err.	t
Frames	Combo Frame 1 (Annuity only ref)	Combo Frame 2: Lump sum only	-1423.95	5917.52	-0.24
		Combo Frame 3: Both	-8910.99	4851.71	-1.84
Controls	PIA	PIA	-44.07	26.30	-1.68
		PIA squared	0.02	0.01	2.22
	Age	Age	1653.86	2332.17	0.71
		Age squared	-25.09	25.71	-0.98
	Education (<HS ref)	Education HS grad	7426.90	11378.41	0.65
		Education College grad	17834.96	11770.12	1.52
	Female		-6153.57	4596.90	-1.34
	Constant		21975.65	53674.61	0.41

Number of obs 1070
 F(10, 602) 3.69
 Prob > F 0.0001
 R-squared 0.0304
 Adj R-squared 0.0221
 Root MSE 70645

B. Av. Annual earnings > Threshold 62 to FRA

			Coef.	Std. Err.	t
Frames	Combo Frame 1 (Annuity only ref)	Combo Frame 2: Lump sum only	-1382.87	5759.29	-0.24
		Combo Frame 3: Both	-8206.37	4721.98	-1.74
Controls	PIA	PIA	-44.43	25.59	-1.74
		PIA squared	0.02	0.01	2.28
	Age	Age	1502.46	2269.81	0.66
		Age squared	-23.02	25.03	-0.92
	Education (<HS ref)	Education HS grad	4804.65	11074.16	0.43
		Education College grad	14080.95	11455.40	1.23
	Female		-5834.62	4473.98	-1.30
	Constant		20040.93	52239.40	0.38

Number of obs 1070
 Censored obs 3.43
 Uncensored obs 0.0004
 0.0283
 Wald chi2(9) 0.0201
 Prob > chi2 68756

Table 8 (cont)

C. % Total Earnings st True ET Threshold 62 to FRA

			Coef.	Std. Err.	t
Frames	Combo Frame 1 (Annuity only)	Combo Frame 2: Lump sum only	0.00	0.01	0.06
		Combo Frame 3: Both	0.00	0.01	0.27
Controls	PIA	PIA	0.00	0.00	1.07
		PIA squared	0.00	0.00	-0.56
	Age	Age	0.00	0.00	-0.37
		Age squared	0.00	0.00	0.22
	Education (<HS ref)	Education HS grad	-0.04	0.02	-1.97
		Education College grad	-0.03	0.02	-1.19
	Female		-0.01	0.01	-0.60
	Constant		0.08	0.10	0.80

Number of obs 1070

F(10, 602) 1.87

Prob > F 0.0531

R-squared 0.0156

Adj R-squared 0.0073

Root MSE 0.13362

D. Claim Age

			Coef.	Std. Err.	t
Frames	Combo Frame 1 (Annuity only)	Combo Frame 2: Lump sum only	0.12	0.15	0.81
		Combo Frame 3: Both	-0.25	0.13	-1.97
Controls	PIA	PIA	0.00	0.00	0.66
		PIA squared	0.00	0.00	-1.04
	Age	Age	0.26	0.06	4.33
		Age squared	0.00	0.00	-4.89
	Education (<HS ref)	Education HS grad	0.53	0.30	1.76
		Education College grad	0.79	0.31	2.55
	Female		0.09	0.12	0.73
	Constant		59.82	1.34	44.58

Number of obs 1458

F(10, 602) 10.59

Prob > F 0

R-squared 0.0618

Adj R-squared 0.0559

Root MSE 2.1246

Figure 1. Joe Vignette

A. Background on Joe

We are going to give you some information about an imaginary worker named Joe. We'll tell you a little bit about him and then ask you some questions about how you think his Social Security benefits would be affected by his decisions about work. Please answer these questions to the best of your ability.

For these questions, please note the following:

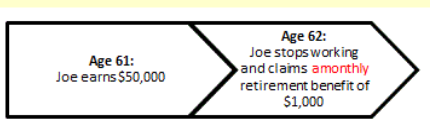
Social Security defines the "full retirement age" as age 67. This is the age at which someone can claim full (unreduced) benefits.

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age 61, he earned \$50,000 that year.

On Joe's 62nd birthday, he stopped working and claimed his Social Security retirement benefit. His benefit is \$1,000 per month during his 62nd year.

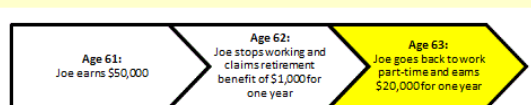
For purposes of this question, please assume there is no more inflation after he retires, and thus there are no cost-of-living adjustments to his Social Security benefits. Therefore, if Joe were to continue not working, his Social Security benefit would be \$1,000 per month for as long as he lived.



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B. Joe Returns to Work at Age 63

Now, suppose that on his 63rd birthday – one year after Joe first stopped working and claimed Social Security benefits – Joe goes back to work part-time. In that year, he earns \$20,000.



We now want to ask you some questions about how you think Joe's decision to go back to work might affect his Social Security benefits at different ages.

Let's start with **the year Joe is age 63** and works part-time for \$20,000. While he is working that year, what do you think would happen to his Social Security benefits for that year?

In the last question, you told us that Joe's benefits at age 63 would be reduced because he returned to work that year. Is there any amount that Joe could earn during the year that he is 63 without reducing his Social Security benefits in that year?

- ☐ Yes
- ☐ No, the Social Security benefits he will be entitled to for that year will be reduced no matter how much he earned

You just told us that there is some amount that a person can earn without reducing the Social Security benefits he is entitled to for that year. What is this amount? (Give us your best guess, even if you don't know the exact amount)

Once he earns more than roughly \$.00 per year at age 64, Social Security benefit payments will be reduced.

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C. Knowledge of ET Threshold

In the last question, you told us that Joe would get the same amount of benefits at age 63 even if he returned to work that year.

Is there any amount he could earn that year that would reduce his benefits due to returning to work?

- ☐ Yes, there is some amount that he could earn that would reduce the benefits due to returning to work.
- ☐ No, Social Security benefits would not be withheld, no matter how much he earned while age 64.

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What do you think is the maximum he could earn without having his benefits withheld due to returning to work? (Give us your best guess, even if you don't know the exact amount)

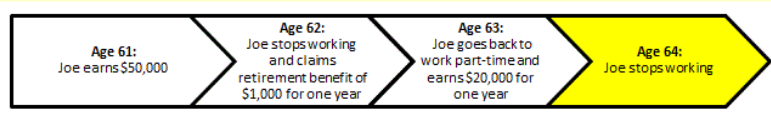
He could earn up to \$.00 per year while age 64 without having Social Security benefits withheld. If he earned more than that, he would have benefits withheld due to returning to work.

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D. Joe Stops Working Again

Now let's imagine that at the end of that year, right before his 64th birthday, Joe stops working again and never again returns to work.

Let's consider what happens to Joe's Social Security benefits **at age 64**, right after he stopped working permanently, as a result of the fact that he went back to work for one year while he was age 63.



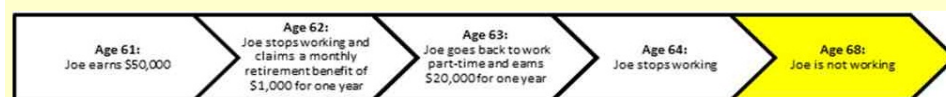
- ☐ His monthly benefits at age 64 would be unchanged. In other words, Joe would still receive the same \$1,000 per month that he would have received had he not returned to work.
- ☐ His monthly benefits at age 64 would be reduced. In other words, Joe would receive less than the \$1,000 per month that he would have received had he not returned to work.
- ☐ His monthly benefits at age 64 would be increased. In other words, Joe would receive more than the \$1,000 per month that he would have received had he not returned to work.

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E. Knowledge of Benefit Recomputation

Now let's consider what would happen to Joe's Social Security benefits **at age 68**, several years after he stopped working permanently. We would like to know what you believe would happen to Joe's benefits as a result of the fact that he went back to work for a single year while he was age 63.

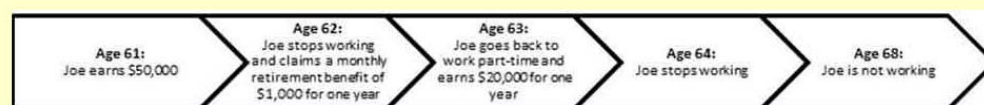
Recall that age 68 is older than the Social Security full retirement age.



- ☐ His monthly benefits at age 68 would be unchanged. In other words, Joe would still receive the same \$1,000 per month that he would have received had he not returned to work.
- ☐ His monthly benefits at age 68 would be reduced. In other words, Joe would receive less than the \$1,000 per month that he would have received had he not returned to work.
- ☐ His monthly benefits at age 68 would be increased. In other words, Joe would receive more than the \$1,000 per month that he would have received had he not returned to work.

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You answered that, as a result of his part-time work while he was age 63, Joe's Social Security benefit would grow to more than \$1,000 at age 64 and also at age 68.



We would now like to know how you think the Social Security benefit paid while he is age 68 compares to what he received at age 65. Based on what we have told you (and remembering that we are assuming there is no inflation and no cost-of-living increases), do you think that the Social Security benefit he is paid while age 68 would be:

- ☐ Less than the benefit paid while he is age 65
- ☐ The same as the benefit paid while he is age 65
- ☐ Greater than the benefit paid while he is age 65

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Figure 2. Own Expectations

A. Assume no Earnings Test

At the beginning of this survey, you told us that you expect to claim Social Security benefits at age **64**. You also told us that you expect to have the following earnings from age 62 through 70:

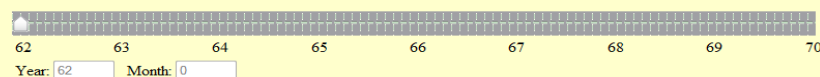
	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$80000	\$80000	\$80000	\$80000	\$80000	\$80000	\$40000	\$40000	\$0

For purposes of this question, please assume that if you continue to work after claiming Social Security benefits, your benefits would not be affected now or in the future.

Assuming this, would you change your date of claiming and/or your actual or expected earnings between ages 62 and 70?

- ☐ Yes
☐ No

This slider shows the age at which you previously suggested you would claim your Social Security benefits. Now that you wish to claim at a different age, please use the slider to show the new age at which you would claim benefits



This chart shows the earnings that you previously indicated you expected to have. Please go ahead and show how you would adjust your earnings now that you are aware of the earnings test.

Expected earnings, excluding any social security or retirement benefits (if you are not sure, please enter your best guess):

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$20000	\$20000	\$20000	\$20000	\$20000	\$20000	\$0	\$0	\$0

To reset your claim age and expected earnings to your initial answers, click 'Reset': [Re-set](#)

If you are satisfied with your answers, please just click 'Next'.

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B. Assume 50% Earnings Test

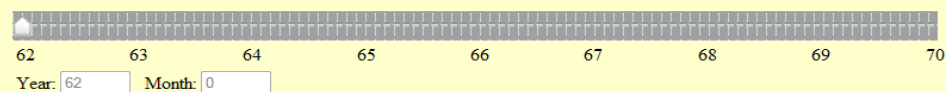
Now we are going to ask the same question again, with different assumptions. Please read the question carefully.

Earlier in this survey, you told us that you expect to claim Social Security benefits at age **62**. You also told us that you expect to have the following earnings from age 62 through 70:

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$20000	\$20000	\$20000	\$20000	\$20000	\$20000	\$0	\$0	\$0

Now assume that if you claimed your Social Security benefits before 67 and earned more than a particular amount in any year before 67, your benefits due to returning to work will be lowered by 50 cents for each dollar that you earn over this amount. This is called the "Social Security earnings test."

This slider shows the age at which you previously suggested you would claim your Social Security benefits. Now that you wish to claim at a different age, please use the slider to show the new age at which you would claim benefits



This chart shows the earnings that you previously indicated you expected to have. Please go ahead and show how you would adjust your earnings now that you are aware of the earnings test.

Expected earnings, excluding any social security or retirement benefits (if you are not sure, please enter your best guess):

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$20000	\$20000	\$20000	\$20000	\$20000	\$20000	\$0	\$0	\$0

To reset your claim age and expected earnings to your initial answers, click 'Reset': [Re-set](#)

If you are satisfied with your answers, please just click 'Next'.

Figure 3. Assume Full Benefit Recomputation (Frame 0)

The "earnings test" we just described is applied to earnings before age 67. It is important to note, however, that these benefit reductions are not truly lost. Your Social Security benefit is increased as of 67 to make up for benefits withheld due to earlier earnings.

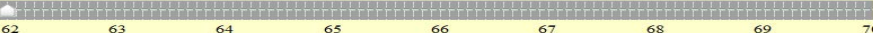
In the last question, you told us that you expect to claim Social Security benefits at age **64**. You also told us that you expect to have the following earnings from age 62 through 67:

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$80000	\$80000	\$80000	\$80000	\$80000	\$80000	\$40000	\$40000	\$0

With this new information, would you change your date of claiming and/or your actual or expected earnings between ages 62 and 70?

- ☐ Yes
☐ No

This slider shows the age at which you previously suggested you would claim your Social Security benefits. Now that you wish to claim at a different age, please use the slider to show the new age at which you would claim benefits.



Year: Month:

Expected earnings (excluding any social security or retirement benefits, if you are not sure, please enter your best guess):

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$ 20000	\$ 20000	\$ 20000	\$ 20000	\$ 20000	\$ 20000	\$ 0	\$ 0	\$ 0

To reset your expected earnings to your initial answers, click 'Reset':

If you are satisfied with your answers, please just click 'Next':

Figure 4. Annuity Only (Frame 1)

+

In the last question, you told us that you expect to claim Social Security benefits at age **62**. You also told us that you expect to have the following earnings from age 62 through 70:

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$20000	\$20000	\$20000	\$20000	\$20000	\$20000	\$0	\$0	\$0

Based on the expected earnings and claiming age you've provided, below you can see what the earnings test means for you. You see how much will be withheld each month due to working before 67 and you see how much you can expect to get back each month between 67 and the end of your life to make up for the benefits withheld due to returning to work.

These numbers will be zero if the earnings test does not apply to you.

Based upon your selections, here is what the earnings test means for you:

Monthly amount that would be **withheld** from your Social Security retirement benefit before reaching full retirement age (up to age 67) \$ 243

Monthly amount that would be **returned** to you, on top of your Social Security retirement benefit, after reaching full retirement age (starting at age 67 and beyond) \$ 190

With this new information, would you change your date of claiming and/or your actual or expected earnings between ages 62 and 70?

☐ Yes
☐ No

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Figure 5. Actuarially Fair Lump Sum (Frame 2)

In the last question, you told us that you expect to claim Social Security benefits at age **63**. You also told us that you expect to have the following earnings from age 62 through 70:

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Based on the expected earnings and claiming age you've provided, below you can see what the earnings test means for you. You see the total amount of money that will be withheld, due to your plans to work before 67. You also see how much you can expect to get back in the form of higher benefits between 67 and the end of your life to make up for the benefits withheld due to returning to work.

These numbers will be zero if the earnings test does not apply to you.

Based upon your selections, here is what the earnings test means for you:

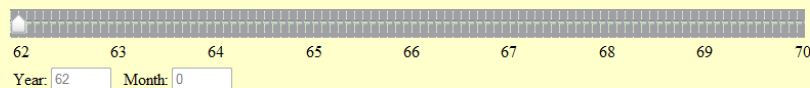
Total amount that would be **withheld** from your regular Social Security retirement benefit due to expected earnings before reaching full retirement age (up to age 67) \$ 0

Total amount that would be **returned** to you, on top of your regular Social Security retirement benefit, after reaching full retirement age (starting at age 67 and beyond) \$ 0

With this new information, would you change your date of claiming and/or your actual or expected earnings between ages 62 and 70?

- ☐ Yes
☐ No

This slider shows the age at which you previously suggested you would claim your Social Security benefits. Now that you wish to claim at a different age, please use the slider to show the new age at which you would claim benefits.



This chart shows the earnings that you previously indicated you expected to have. Please go ahead and show how you would adjust your earnings now that you are aware of the earnings test. Expected earnings (excluding any social security or retirement benefits, if you are not sure, please enter your best guess):

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

To see how your changes affect your regular Social Security retirement benefits click 'Update':

To reset your claim age and expected earnings to your initial answers, click 'Reset':

Based upon your selections, here is what the earnings test means for you:

Total amount that would be **withheld** from your regular Social Security retirement benefit due to expected earnings before reaching full retirement age (up to age 67) \$ 0

Total amount that would be **returned** to you, on top of your regular Social Security retirement benefit, after reaching full retirement age (starting at age 67 and beyond) \$ 0

If you are satisfied with your answers, please just click 'Next'.

Figure 6. Actuarially Fair Lump Sum and Annuity (Frame 3)

In the last question, you told us that you expect to claim Social Security benefits at age **63**. You also told us that you expect to have the following earnings from age 62 through 70:

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$75000	\$75000	\$75000	\$0	\$0	\$0	\$0	\$0	\$0

Based on the expected earnings and claiming age you've provided, below you can see what the earnings test means for you. You see the total amount of money that will be withheld, due to your plans to work before 67. You also see how much you can expect to get back in the form of higher benefits between 67 and the end of your life to make up for the benefits withheld due to returning to work.

These numbers will be zero if the earnings test does not apply to you.

Based upon your selections, here is what the earnings test means for you:

Retirement benefits before reaching age 67:

Monthly amount that would be **withheld** from your Social Security retirement benefit before reaching full retirement age (up to age 67) **\$ 720**

Total amount that would be **withheld** from your regular Social Security retirement benefits due to expected earnings before reaching full retirement age (up to age 67) **\$ 32449**

Retirement benefits after reaching age 67:

Monthly amount that would be **returned** to you, on top of your Social Security retirement benefit, after reaching full retirement age (starting at age 67 and beyond) **\$ 240**

Total amount that would be **returned** to you, on top of your regular Social Security retirement benefit, after reaching full retirement age (starting at age 67 and beyond) **\$ 32449**

Based on the expected earnings you've provided below you can see what the earnings test means for you if you claim at 63. You see how much will be withheld due to working before 67 and you see how much you can expect to get back between 67 and the end of your life to make up for the benefits withheld due to returning to work. These numbers may be zero if you did not work (or do not expect to work) before 67.

Year: Month:

This chart shows the earnings that you previously indicated you expected to have. Please go ahead and show how you would adjust your earnings now that you are aware of the earnings test.

Expected earnings (excluding any social security or retirement benefits, if you are not sure, please enter your best guess):

	Age 62	Age 63	Age 64	Age 65	Age 66	Age 67	Age 68	Age 69	Age 70
Earnings	\$75000	\$75000	\$75000	\$0	\$0	\$0	\$0	\$0	\$0

To see how your changes affect your regular Social Security retirement benefits click 'Update':

To reset your claim age and expected earnings to your initial answers, click 'Reset':

Based upon your selections, here is what the earnings test means for you:

Retirement benefits before reaching age 67:

Monthly amount that would be **withheld** from your Social Security retirement benefit before reaching full retirement age (up to age 67) **\$ 720**