The Effect of Disability-Program Incentives on the Labor Supply of SSDI Beneficiaries: A Preliminary Analysis Using SSI and SSDI Program Interactions

Philip Armour

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Abstract

Rapid rises in the rolls of the two federal disability programs, Social Security Disability Insurance and Supplementary Security Income, in the past two decades has led to interest in altering the work disincentives of these programs to encourage re-entry into the workforce. However, attempts at estimating the labor supply elasticities of benefit reduction rates have often been stymied by two factors: SSDI is a national-level program with no *de jure* regional variation, and SSI has a constant benefit reduction rate for all individuals. Moreover, the interactions between these two programs has led to complex and little-understood incentives faced by a given disabled individual. This preliminary analysis overcomes these problems by closely examining the SSI and SSDI program interaction, and the resulting large variation in the benefit reduction rates faced by SSI & SSDI eligible individuals, to estimate labor supply changes of those already on the SSDI rolls. Labor supply responses to differing implicit marginal tax rates are inelastic, with an estimated earnings elasticity of 0.3 and an estimated participation elasticity of 0.22. A log-log regression controlling for income effects estimates the earnings elasticity as 0.93 and the participation elasticity as 0.06.

Results herein are preliminary and are subject to change. Do not cite without permission.

1 Introduction

Two central questions of the disability literature are the extent to which the benefit structures of Social Security Disability Insurance and Supplemental Security Program, the two federal disability programs, induce entry onto these programs, and how the structures of SSDI and SSI work disincentives affect labor supply among current recipients.

The rapid rise in these programs' rolls in the past two decades has led to Congress's and SSA's interest in explanations for and ways to mitigate this rise through altering program rules and work incentives, especially given the rarity of exit from SSDI into the labor force. One of the foremost policy changes would be to alter the benefit reduction rate in SSDI: currently, SSDI recipients keep their benefit until they earn above the Substantial Gainful Activity level, then their benefit is entirely withheld. One proposed change would be to instead reduce a benefit by $1 for every $2 of earnings above the SGA level. Implementation of this change may increase work among SSDI beneficiaries, but it may also induce entry of otherwise non-recipient workers onto the now more generous SSDI program. In order to weigh this cost with the benefit of increased work, labor supply elasticity estimates with respect to SSDI policy parameters must be estimated.

However, studies of the incentive effects of these programs have been hamstrung by a general lack of regional variation in SSDI, as well as difficulty in identifying the eligible population. A recent research agenda attempting to predict the induced entry and labor supply effects of a change in work incentives has used variation in both the Substantial Gainful Activity level and local wages to construct an estimate of the real local SGA and use the considerable variation in this variable to estimate induced entry (Maestas et al. 2012). This paper is one of the first and strongest to identify the labor supply effects of specific program disincentives; additional research identifying the effect of a $1 for $2 offset in particular, however, would more strongly isolate the implications of the proposal discussed above.

Moreover, Supplemental Security Income, or SSI, is another federal disability program, albeit targeted toward the elderly or disabled poor. The existence of SSI creates program interaction incentives that may affect the decision-making of SSDI beneficiaries or potential applicants. However, most analysis of these programs has treated them separately, and although it is true that the demographics of the SSI population more closely resemble the welfare population than SSDI recipients (Burkhauser and Daly 1998), there is substantial overlap between these two programs for a given disabled individual or household containing a disabled individual; in 2011, for example, about 30% of SSI recipients also

received SSDI benefits, and about 17% of SSDI receipients also received SSI benefits. SSI recipients are required to apply for any other possible program benefits they may be eligible for, including SSDI. Furthermore, although difficult to measure, a fraction of SSDI recipients would be on the SSI rolls in the absence of their SSDI benefit.

Instead of these program interactions hindering analysis of the effect of program parameters on labor supply decisions, this paper utilizes the regional and temporal variation in program incentives that results from the interaction between these two programs to identify earnings' responsiveness to different policy parameters that are otherwise difficult to measure with just SSDI or SSI.

For example, various states provide supplements for SSI benefits. Because SSI recipients are required to apply for SSDI benefits, which have a different benefit reduction rate than SSI, the budget constraints for a given SSDI benefit can vary widely across states. Further, there have been large changes in the SGA over time. The result is that for a group of SSI-eligible individuals with similar SSDI benefits, the implicit marginal tax rate can be vastly different along wide ranges of earnings. These differences also vary by two types of disability, blind and non-blind, due to separate SSI supplements and SGAs.

This difference in implicit marginal tax rates creates different incentives to work for individuals with similar earnings histories currently on the program, and a measure summarizing these differences is constructed. This measure is then used to test the responsiveness of current disability recipients' labor supply, as observed in public-use Survey of Income and Program Participation panels, to implicit marginal tax rates, allowing for a calculation of the elasticity of earnings with regard to these implicit rates. Arc elasticity estimates place the earnings elasticity at 0.3 and the participation elasticity at 0.22.

Further, these differences in implicit marginal tax rates create different potential values for income and work bundles among those who could potentially receive benefits. Therefore, a test of induced entry - how different benefit levels and structures can induce individuals not currently on the program to apply - is outlined. However, such a test requires the SIPP to be matched to SSA earnings records, available in the SIPP Gold Standard File (access pending).

The rest of the paper is structured as follows: section 2 describes SSDI, SSI, and the sources of variation in their interaction; section 3 describes the Survey of Income and Program Participation panels; section 4 presents the identification strategy and results; section 5 concludes.

2 SSDI, SSI, and Interaction

2.1 Social Security Disability Insurance

Social Security Disability Insurance is the disability social insurance program within the greater OASDI social insurance - commonly known as Social Security - providing a measure of earnings replacement for working-age adults. As such, benefit determination follows many of the same rules as Social Security Old Age Insurance, or retirement, benefits. However, because SSDI is designed for working-age adults, the eligibility requirements and benefit determination differ depending on age; for instance, while retirement benefits are based on 35 years of highest earnings, SSDI benefits are based on between 2 and 35 years of earnings, depending on age at time of application.

To qualify for SSDI benefits, a potential beneficiary must be both medically eligible, and satisfy SSDI's recent-work requirement. The medical eligibility is based on both the nature and severity of the impairment, as well as earnings capacity. If applicants' conditions are not in the Listings of Impairments, then their work capacity is evaluated. In order to be eligible, they must be unable to earn above a Substantial Gainful Activity level, at $1,010 per month for non-blind individuals in 2012. This SGA level has been indexed to average wage growth since 2001. A separate SGA level applies for blind applicants, which has been indexed to wage growth since the 1970s.

The second requirement for eligibility, the recent-work requirement, is age dependent. For example, a 20-year-old applicant must have earned 6 Quarters of Coverage in the most recent 3 years (12 quarters), while a 50-year-old applicant needs to have earned 20 Quarters of Coverage in the most recent 10 years (40 quarters). In 2011, a Quarter of Coverage was awarded for each whole multiple of $1,120 of earnings, with up to 4 QCs awarded per year.

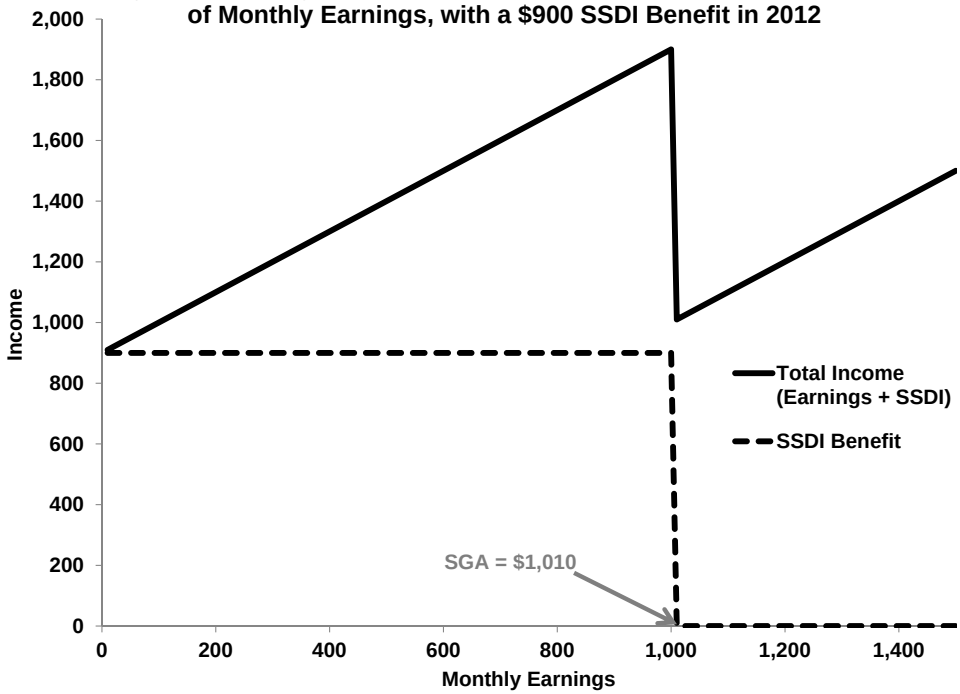
Since SSDI is a social insurance program, a potential program participant's benefit level is dependent on previous earnings (i.e. how much they have paid into the program). SSDI follows the same calculation process as Old Age Insurance, first determining an Average Indexed Monthly Earnings (AIME) based on a given number of computation years, which is then translated into a monthly benefit through the progressive Primary Insurance Amount (PIA) schedule. Of particular note is that individuals generally face different benefit levels, derived from their earnings history, and the parameters in the AIME and PIA calculation are indexed to the national average wage growth in the economy.

Once a person applies, waits the 5 calendar month wait period, is deemed eligible, and starts receiving benefits, she is on the SSDI rolls. Her benefit is indexed to price inflation. However, in the event she earns more than a certain threshold amount, $720 per month in 2012 (note that this value is

less than the Substantial Gainful Activity level), for 9 months out of a rolling 5 year window, she exits the Trial Work Period and enters an Extended Period of Eligibility. During the EPE, the beneficiary continues to receive her monthly benefit as long as her earnings are below the SGA level. She receives no benefits in the months her earnings are above the SGA. However, during the 3 year EPE, if her earnings fall back below SGA, she'll automatically start receiving benefits again.

Despite this complex structure, the bottom-line implication is that as long as a beneficiary earns under the SGA, she will receive her full monthly benefit, while if she earns above the SGA, she'll lose it entirely. As such, for every additional dollar of earnings below the SGA, there's a zero implicit marginal tax rate in the SSDI system. However, exactly at the SGA, there's an earnings "cliff," that represents a massive implicit marginal tax, and, depending on one's SSDI benefit relative to the SGA level or earnings, this cliff can represent large volatility in total monthly income. See Figure 1 for a schedule of earnings and its effect on benefit level and total income.

Figure 1: Monthly Income and SSDI Benefit Schedule as a Function of Monthly Earnings, with a $900 SSDI Benefit in 2012



This cliff shifts only when the SGA itself shifts. Since this level differs for blind and non-blind beneficiaries, the location of this cliff will change depending on which disability category an individual

qualifies for. Although the SGA has been roughly indexed to the National Average Wage Index since the early 2000s, before this period the non-blind SGA experienced sporadic and ad hoc adjustments. See Table 1 for a history of the SGA level.

Table 1: Historical Monthly Substantial Gainful Activity Level

Year	Blind SGA	Non-Blind SGA
1975	200	200
1976	230	230
1977	240	240
1978	334	260
1979	375	280
1980	417	300
1981	459	300
1982	500	300
1983	550	300
1984	580	300
1985	610	300
1986	650	300
1987	680	300
1988	700	300
1989	740	300
1990	780	500
1991	810	500
1992	850	500
1993	880	500
1994	930	500
1995	940	500
1996	960	500
1997	1000	500
1998	1050	500
1999	1110	700*
2000	1170	700
2001	1240	740
2002	1300	780
2003	1330	800
2004	1350	810
2005	1380	830
2006	1450	860
2007	1500	900
2008	1570	940
2009	1640	980
2010	1640	1000
2011	1640	1000
2012	1690	1010

* = in 1999, the SGA was 500 for the first half of the year

In addition to the within-year difference between non-blind and blind SGAs, the ad hoc nature of the non-blind adjustments provides differing shifts between pairs of years before the 2000s. These dra-

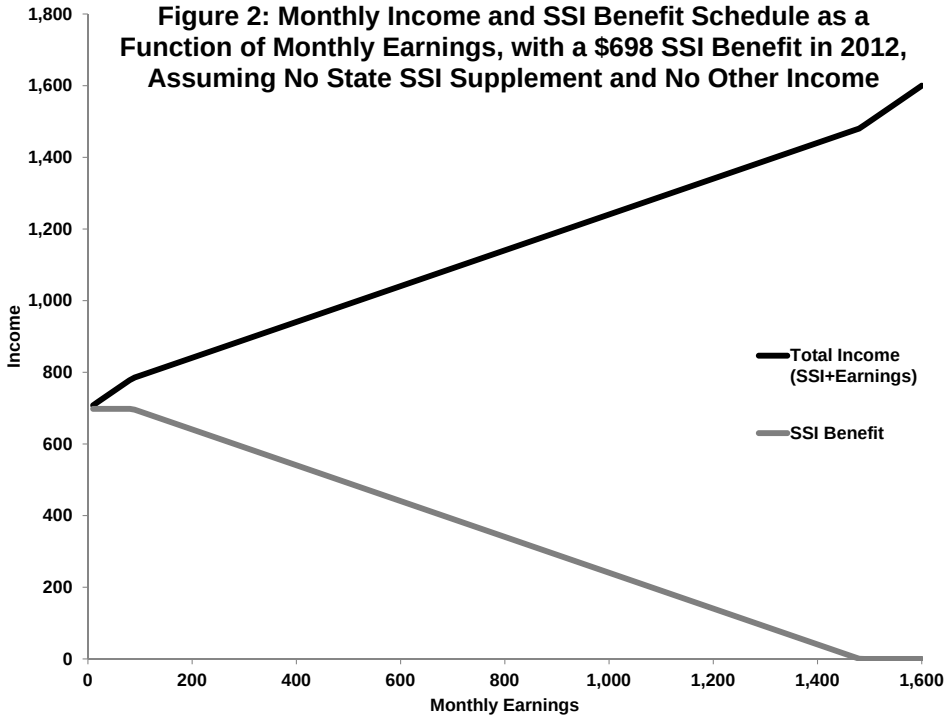
matic shifts of the non-blind SGA, especially relative to blind SSDI recipients, provide one source of variation in the returns to work embedded in the SSDI benefit structure.

2.2 Supplemental Security Income

Since SSI's passage in 1972 and its implementation in 1974, the US federal government has provided a guaranteed income floor for disabled children, disabled adults, and to all persons once they reach age 65 via a means-tested negative income tax program. But the level of the guarantee, together with Food Stamps and other in-kind transfers like Medicaid, were only meant to be enough to lift "those not expected to work" out of poverty with a maximum Federal Benefit Rate ($698 per month for an eligible individual in 2012), indexed to price inflation and reduced accordingly as individuals receive more income, be it earned or unearned. Further, SSI recipients are required to apply for all other government programs for which they may be eligible, including SSDI. The medical eligibility standards are the same for SSDI and SSI applicants.

The maximum benefit for a non-blind individual in 2012 was $698. Benefits are reduced as income rises: unearned income, including SSDI benefits, reduce SSI benefits dollar-for-dollar after a $20 general income exclusion. For every dollar of wage earnings, SSI benefits fall by $0.50 after a $65 monthly exclusion. In addition to these income tests, SSI has a strict assets test. Countable assets cannot exceed $2,000 for individuals or $3,000 for couples (these values are not indexed to inflation and were last adjusted in 1989). Some states provides supplements to the federal SSI benefit level. Of those states with additional benefits, these programs increase the maximum benefit but do not change the benefit reduction scheme.

The SSI program also allows for those receiving SSI benefits to continue to do so, even if they earn above the SGA level, as long as their SSI benefit is still positive according to the benefit reduction formula, and they continue to qualify for SSI under the medical disability and asset limit standards. As such, the schedules for SSI benefit and income are linear, as shown in Figure 2.



As can be seen, the first $65 of earnings are excluded under the earned income exclusion, then the next $20 is excluded with the general income exclusion (due to the assumption of no other income, earned or unearned). There is then a $0.50 reduction in benefits for every $1 of earnings, meaning that although the benefit falls smoothly until completely eliminated by earnings, total income rises by $0.50 for every dollar of earnings, until the SSI benefit is exhausted.

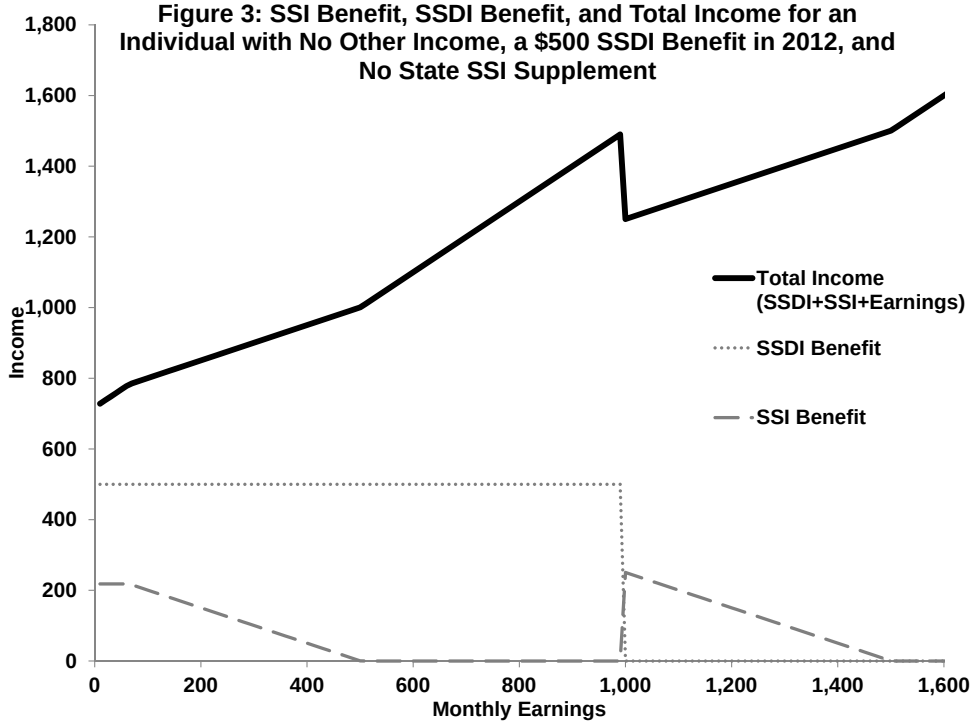
The SSI-disabled rolls have grown substantially over time, despite the fact that the real value of these benefits has not grown over time. Since 1975, the federal SSI benefit guarantee has increased each year based solely on the growth in the consumer price index (CPI-W) which, since 1975, has not grown as fast as average wage earnings. Figure 3 shows the National Average Wage Index, the basis for calculation of SSDI benefits, growing substantially faster than the CPI-W beginning in the mid-90s. Thus all succeeding cohorts of adults coming onto the SSI-disabled adults rolls since 1979 have received the same real value of benefits even though the average American worker's wage earnings have increased substantially since then. Further, succeeding cohorts of adults coming onto the SSDI rolls will experience increased disability benefits relative to SSI benefits (see Armour et al. 2011 for a

discussion of this change's effect on disabled young adults).

In addition to this gradual change in the relative generosity of SSDI and SSI benefits, individuals in different states will face different SSI benefit levels, and these SSI supplements also change with state-level policy changes.

2.3 SSI-SSDI Interaction

Given this variation in SSDI and SSI policy parameters (SGA, SSI State Supplements, Wage vs. Price Growth), across time, medical conditions, and states, different individuals can face vastly different implicit marginal tax rates if eligible for both SSI and SSDI, even if they have the same potential SSDI benefit. To see how these differences can arise, see Figure 3 below.



Because the SSI benefit is reduced by both unearned income (dollar for dollar) and earned income (fifty cents per dollar), the unearned SSDI benefit reduces SSI benefits. Additional work reduces the SSI benefit further. However, once an individual earns above the SGA and loses her SSDI benefit, her SSI benefit rises again, reducing the magnitude of the SSDI-based income cliff.

Most importantly, notice the interval of earnings wherein earnings and the SSDI benefit have reduced the SSI benefit to zero: the implicit marginal tax rate in this interval is zero, while the implicit marginal tax rate for those on either side is 50%. It is this rate difference that allows for identification of how work among the disabled population differs according by implicit marginal tax rates.

This rate difference arises from the interaction of SSI and SSDI parameters, specifically the SGA level for blind and non-blind individuals, the relative value of federal SSI and SSDI benefits, and the level of the SSI state supplement. The last parameter can vary greatly over time, across family types, and, especially, across states. See Table 2 for a list of the SSI state supplements for non-blind individuals in 2010:

Table 2: SSI State Supplements for Individual, Non-Blind, Disabled Adults, 2010

State	Supplement	State	Supplement
Alabama	0.00	Montana	0.00
Alaska	362.00	Nebraska	5.00
Arizona	0.00	Nevada	36.42
Arkansas	0.00	New Hampshire	40.00
California	176.00	New Jersey	31.25
Colorado	25.00	New Mexico	0.00
Connecticut	168.00	New York	87.00
Delaware	0.00	North Carolina	0.00
DC	0.00	North Dakota	0.00
Florida	0.00	Ohio	0.00
Georgia	0.00	Oklahoma	46.00
Hawaii	0.00	Oregon	1.71
Idaho	53.00	Pennsylvania	27.42
Illinois	Individual Specific	Rhode Island	39.92
Indiana	0.00	South Carolina	0.00
Iowa	0.00	South Dakota	15.00
Kansas	0.00	Tennessee	0.00
Kentucky	0.00	Texas	0.00
Louisiana	0.00	Utah	0.00
Maine	10.00	Vermont	52.04
Maryland	0.00	Virginia	0.00
Massachusetts	114.38	Washington	46.00
Michigan	14.00	West Virginia	0.00
Minnesota	81.00	Wisconsin	83.79
Mississippi	0.00	Wyoming	25.00
Missouri	0.00		

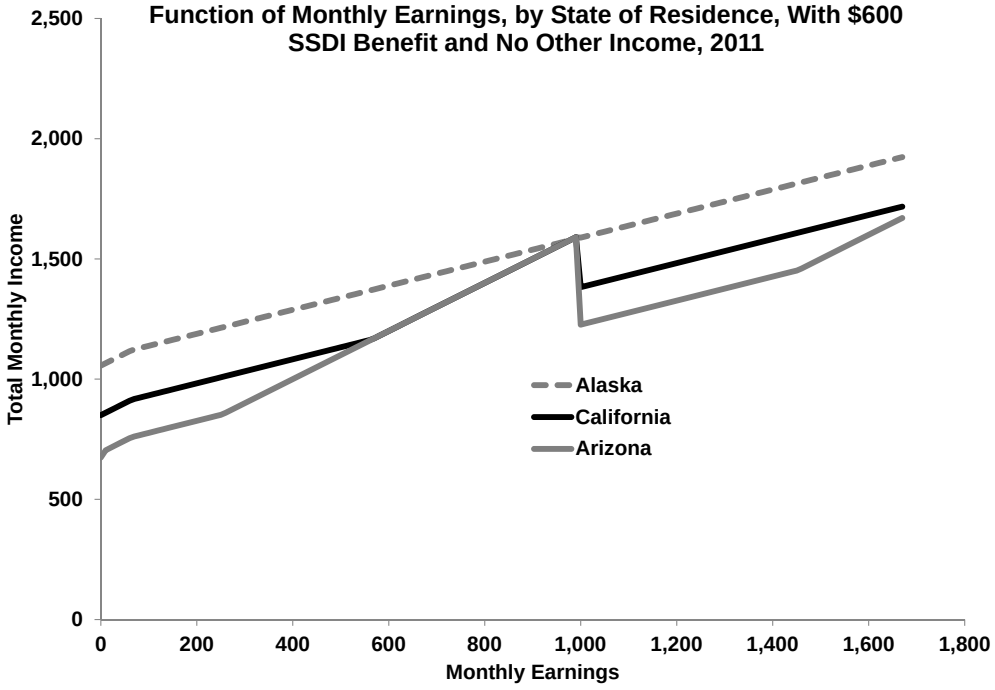
Source: https://secure.ssa.gov/apps10/poms.nsf/lnx/0502302200

These state supplements are generally not subject to inflation-adjusting, so they change in real terms over time. Additionally, states will change them on an ad hoc basis. Over the years in this analysis,

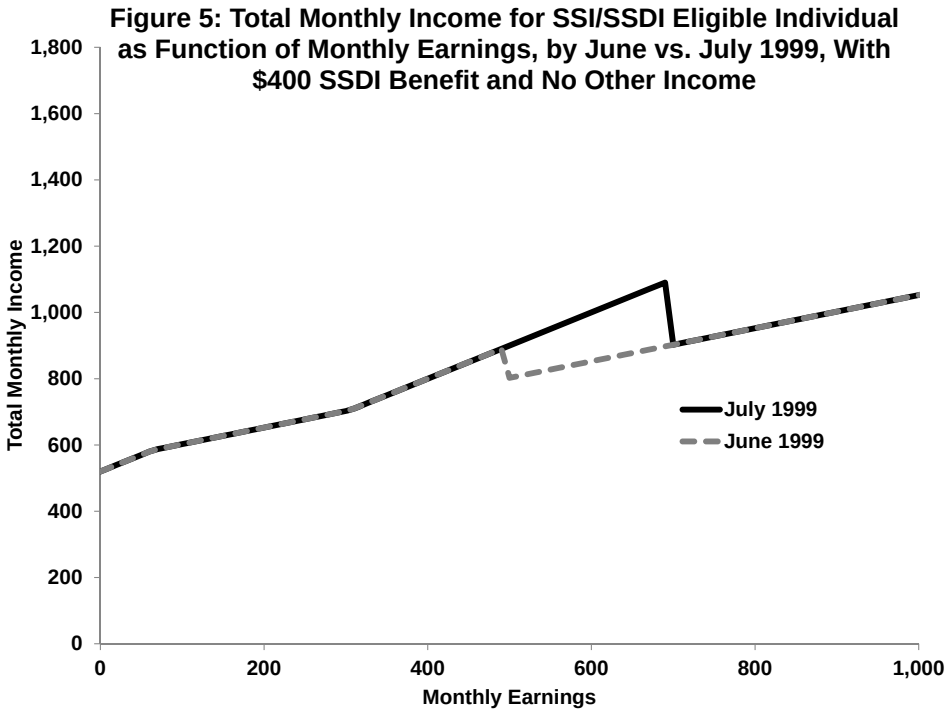
1995-2000, there were 97 changes in SSI state supplements, 30 by more than $10, and 15 by more than $50.

Because all of the aforementioned parameters have changed, sometimes dramatically, over the course of the past few decades, the incentives for otherwise similar individuals can differ dramatically. For example, Figure 4 below shows the 2011 income schedules for three SSI and SSDI eligible non-blind individuals with the same monthly SSDI benefit of $600. One lives in Alaska (SSI state supplement of $362 in 2011), another in California (SSI state supplement of $156 in 2011), and a third in Arizona (no SSI state supplement).

Figure 4: Total Monthly Income for SSI/SSDI Eligible Individual as Function of Monthly Earnings, by State of Residence, With $600 SSDI Benefit and No Other Income, 2011



As is apparent, the width of the zero-rate interval differs dramatically from state to state with otherwise similar individuals. In addition to a higher SSI state supplement level (weakly) shifting the total income line upward, thereby shrinking the zero-rate interval, a higher SGA level will directly increase the width of this interval by shifting the upper bound of the interval even higher. Figure 5 shows this shift by displaying the income schedules of a given individual with a $400 SSDI benefit in June 1999 vs. July 1999, when the SGA increased from $500 to $700.



The zero-rate interval increases markedly with this ad hoc increase in the SGA in the middle of 1999. Note that a similar difference holds between blind and non-blind individuals, since the former faces a higher SGA, which has always been indexed to wage growth, while non-blind individuals' SGAs were only increased sporadically for the first few decades of the SSI program.

Figures 4 and 5 demonstrated how individuals with the same SSDI benefit can face vastly different marginal incentives depending on current SGA level and state of residence. It is through variation in SSI state supplements, non-blind SGA, and the blind SGA, as well as the SSDI benefit itself due to benefit parameter changes, that creates this zero-rate interval, which in turn allows for identification of the effect of different marginal incentives on work behavior of those within in the program, as well as increased entry of eligible individuals not on either program.

3 Data

To study the effect of these differing income schedules on work behavior of current SSDI recipients, I use the 1996 public-use Survey of Income and Program Participation (SIPP) panels. These data follow households and individuals therein over a 2 to 4 year period, recording monthly income of individuals within the households from a variety of sources, as well as these individuals' program participation. There are additional topical modules in the reinterviews that include detailed disability information, as well as pre-panel program participation and household wealth information.

However, to measure induced entry, one needs information on potential SSDI benefits, requiring full work history. These data are available through the SIPP Gold Standard File, which matches the SIPP survey data to administrative SSA earnings records, the SSA Master Beneficiary Records that contain both SSI and SSDI benefit receipt information, and the 831 Master File, which has extensive information on SSDI applications. Although I do not currently have access to these data, I am in the process of obtaining access, and can then use the GSF to study the induced entry question.

4 Preliminary Analysis

In this preliminary analysis, I examine the impact of exposure to the zero-implicit-marginal tax on the labor supply of SSDI recipients. Using the 1996 public-use SIPP, I first identify those who receive SSDI in the first year of the panel, limiting my sample to single-family households. I further limit my sample to those with under $10,000 in household wealth, defined as equity in stocks and mutual shares, non-home real estate, 401(k) and Keoghs, and other non-vehicle assets. This wealth level places my sample near SSI eligibility ($2,000 for individuals, $3,000 for couples), and results in a sample of 3,425 individuals.

However, identification of the effect of the zero-tax interval on the labor supply of this sample relies on knowledge of how likely a given individual's earnings are to place them in the zero-tax interval. To this end, I impute these individuals' earnings capacity through a predictive mean matching regression approach (David et al. 1986, French and Song 2011). I first regress annual income on a vector of variables among the SIPP population with wealth greater than $10,000 not receiving SSI or SSDI. The variables used are: state of residence, year fixed effect, 5-year age group fixed effects, sex, quadratic wealth terms, education level, household size, marital status, and disability type.[1]

For each of the prediction-sample individuals, the predicted earnings were sorted into deciles,

[1] Disability dummy variables were separately created for iADL, ADL, mental disability, sensory impairment, physical disability, work-limitation, or blindness, as described in Weathers (2009).

and the residual is estimated. I then use the regression results to predict earnings for the recipient population. These recipients were then randomly matched to an estimated residual from the same predicted earnings decile. The imputed earnings are then the sum of predicted earnings and the matched residual.

With these imputed earnings, I determine whether each individual would fall into the zero-tax interval in a given year. Furthermore, I use these earnings and household characteristics to estimate the overall implicit marginal tax rate faced by a given individual, defined as the sum of the marginal taxes faced, the benefit reduction rate due to SNAP receipt, and the benefit reduction rates in SSI and SSDI. I use NBER's Taxsim version 9 to calculate the federal, state, and payroll marginal tax rates, and the Supplemental Nutrition Assistance Program (the Food Stamps Program during the years in question) program rules to incorporate the benefit reduction rate of this program in the overall implicit marginal tax rate.

The unit of analysis in this paper is the individual, with the variables of interest being average earnings or labor force participation over the entire 1996 SIPP survey period.[2] The chief explanatory variable, whether an individual is exposed to the zero-tax interval described above, is defined as ever facing this interval over the survey period.[3] Of the 3,425 SSDI initial recipients in my sample, 1,799 are exposed to the zero-tax interval over the 1996 SIPP survey period.

Additionally, a no-work income state is calculated by the highest of the combination of SSI and SSDI benefits available to the individual in question if he or she earned zero dollars. This no-work income is then adjusted for the regionally appropriate cost of living with the Geographic Pricing Cost Index cost-of-living indices, used by Medicare to establish reimbursement rates. This no-work income state is then used to estimate the income labor supply elasticity, as well as separate out the two effects that the zero-tax interval has: first, it introduces a change in the implicit marginal tax rate, the effect of which is the goal of this estimation; and second, it increases the total income available to SSDI beneficiaries. Future analyses will utilize traditional budget-constraint modeling to estimate elasticities (Friedberg 2000), but this method of controlling for no-work income relative to local cost-of-living allows for separate identification of the effect of the implicit marginal tax from the income effect by using another source of variation than what created the zero-tax interval.

The unconditional difference in earnings and labor force participation of exposure to the zero-rate implicit marginal tax is large: the average annual wage of an SSDI initial recipient not predicted to

[2] Although the 1996 SIPP is designed to follow individuals for 12 waves, with four months a wave, and thus a full four years, there is sample attrition. Among single-family households, 78% of individuals do not attrite; namely, they are in the sample through wave 12. Future analysis will more carefully control for confounds arising from these attrition rates, but in this paper any such issues are ignored.

[3] Initial analyses separating out the effects for each year an individual would face this interval show similar effects as the results reported below.

be exposed to the zero-tax interval is $2,640 in 2000 dollars, while exposure to the zero-tax interval increases this value by $1,423, or 54%. Likewise, the average participation rate is 32%, while exposure to the zero-tax interval increases this average by 14 percentage points. These differences are highly statistically significant.

Following French and Song (2011), I next calculate the arc elasticities for earnings and participation. Calculated according to equation 1:

$$\epsilon_{y,r} = \frac{(E[y_t|I_t = 1] - E[y_t|I_t = 0])/(E[y_t|I_t = 1] + E[y_t|I_t = 0])}{(E[r_t|I_t = 1] - E[r_t|I_t = 0])/(E[r_t|I_t = 1] + E[r_t|I_t = 0])} \tag{1}$$

where $E[y_t|I_t = 1]$ is the average labor supply outcome variable for those exposed to the zero-tax interval, and $E[y_t|I_t = 0]$ is this variable for those not exposed. $E[r_t|I_t = 1]$ is the average implicit marginal tax rate for those exposed to the zero-tax interval, while $E[r_t|I_t = 0]$ is this rate for those not exposed. The implicit marginal tax rates were calculated from predicted earnings, as described above, while the labor supply outcomes were the actual averages of earnings and labor force participation for individuals over the 1996 SIPP survey period. The earnings elasticity using this formula was 0.3, while the participation elasticity was 0.22. Despite the salient differences in labor supply outcomes described above, the labor supply elasticity estimates are highly inelastic.

As a first pass to control for this, I estimate a log-log regression of log of 1+implicit marginal tax rate on log of 1+earnings, also controlling for log of no-work income, with the results shown in Table 3. The resulting coefficient on the log rate variable implies an elasticity of 0.93, albeit with a 95% confidence interval of 0.3 to 1.5. The income elasticity is much more tightly fit and elasticity at 1.51, with a 95% confidence interval of 1.4 to 1.6. The presence of additional income appears to discourage work much more effectively than a higher marginal tax rate. The effect on participation is much less, with practically no responsiveness of labor force participation to the implicit marginal tax rate at predicted earnings. The labor supply response is thus still inelastic relative to previous estimates of labor supply responses, especially for participation elasticity.

Table 3: Log-Log Regression Results

	Dependent Variables	
	ln(1+earnings)	ln(1+participation)
ln(no work income)	-1.511***	-0.139***
	[0.0598]	[0.00447]
ln(1+implicit marginal rate)	-0.936***	-0.0593**
	[0.325]	[0.0232]
Constant	18.27***	1.610***
	[0.572]	[0.0437]
Observations	3,425	3,425
R-squared	0.196	0.277

Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

5 Conclusion

This preliminary analysis shows that SSDI recipients' labor supply is relatively inelastic to the change in implicit marginal tax rate described above. Since this change in implicit marginal tax rate is the same as a leading proposal to encourage work among SSDI recipients, these inelastic estimates of labor supply elasticities suggest that such a proposal will have limited success in encouraging work. However, the applicability of these elasiticity estimates for the population at large is itself limited in at least two ways: the sample is limited to the poorer segment of the SSDI population who may also be eligible for SSI and who may thus have lower residual work capacity in general, and this change in implicit marginal tax rate is based on opaque program interactions, whereas any change in SSDI work incentive structure would be widely publicized among the SSDI recipient population.

The first issue can be attenuated through additional work separating the effects of the zero-tax rate along the SSDI and wealth distributions; however, the second issue is harder to overcome, both

in this paper and in others that seek to use changes in policy parameters to estimate labor supply effects. One way to address the issue of knowledge is to look at a sub-sample of SSDI/SSI recipients who have previously worked while receiving benefits and thus are more familiar with the benefit offset schemes of SSDI and SSI. The asymmetry between log-log elasticities of participation and earnings is consistent with a story of limited information: the choice of participation in the labor force is not informed by an opaque change in implicit marginal tax rates, but the level of earnings responds more strongly to these changes.

More work disentangling the frequency of exposure to the zero-tax rate and the timing of this exposure relative to earnings is required to identify more accurately the responsiveness of recipients' labor supply to this rate. Last, this analysis focuses on those already receiving SSDI benefits; however, the effect on induced entry of a different offset rate could be identified with the SIPP matched to SSA earnings records, available in the Gold Standard File (access pending).

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