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# Disability and Wealth: Exploring the Liquid Asset Trajectories of SSI and SSDI Applicants

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### **Abstract**

Social safety net programs provide benefits that insure against disability, poor health, unemployment, and old age. These programs stabilize the financial lives of beneficiaries. In this study, I investigate whether the disability programs Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) protect household wealth, including household savings and liquid assets. Using longitudinal data from the 1992–2016 waves of the Health and Retirement Study (HRS), I examine the liquid wealth trajectories of disability program applicants by application timing and decision. I also examine how these trajectories differ by net worth for SSI applicants subject to asset tests. In addition to this descriptive evidence, I employ a panel events study design to examine the effect of application timing on savings net of fixed year and individual effects as well as observed time-varying characteristics. I do not find evidence that disability application timing significantly affects liquid assets.

Keywords: Supplemental Security Income; Social Security Disability Insurance, Disability,

Household Savings, Wealth JEL Codes: D14, H55, I18

#### Introduction

Survey research finds that 13% of the US population has a disability (Houtenville and Boege, 2019). Disability diminishes economic well-being across a variety of measures, including earnings, consumption, and family income. Social Security offers two programs, Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI), that cover about 8.5 million people with disabilities.

One stated purposes of Social Security is "to protect disabled persons against the expenses of illnesses that may otherwise use up their savings" (Social Security Administration, 1997). However, economic theory suggests that public insurance and asset limits present disincentives to save and incentives to spend down accumulated savings (Hubbard et al., 1995). Program design elements including high application rejection rate and long wait times for decision may also contribute to applicants spending down their savings substantially to cope with a disability. The effects of the program on household savings may diverge from its intended purpose.

Public insurance has two predicted impacts on private savings. First, public insurance insures against income and health shocks. Household heads may feel that they do not need to save or not save as much, as they would in a world where the insurance is not available. In addition those who have savings would not need to spend down their savings if they experienced a health or income shock relative to in the absence of available insurance. Public insurance accompanied by an asset test has important implications for savings behavior. Those who have assets above or close to these limits have an incentive to spend down their assets to qualify for the program.

In this paper, I address the question: Do disability programs protect household savings? Using longitudinal data from the Health and Retirement Study (HRS), I map the liquid asset trajectories of disability program applicants leading up to and following application and decision. I leverage the detailed Social Security Administration administrative data on application and benefit histories linked to the HRS to describe how patterns of asset accumulation relate to disability program application and decision timing. I analyze patterns in liquid wealth over time and compare these patterns across asset types. I address selection into applying for disability benefits using a panel events study approach that exploits the timing of application to estimate the effect of applying for disability benefits on liquid assets.

The paper proceeds as follows. First, I describe disability programs in the US. Second, I situate this paper in the existing literature on the economic well-being of people with disabilities. Third, I describe the data used in this paper, including key measures and descriptive statistics. Fourth, I describe the empirical approach used to measure the relationship between disability program application and liquid assets. Fifth, I detail the results from the analysis as well as the conducted robustness checks. Finally, I conclude with a discussion of results, policy implications, and directions for future work.

# **Background on Social Security Disability Programs**

Two federal disability programs, Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI), provide income assistance to people with a disability (see Social Security Administration (1997) for program overview). Both programs require individuals to meet Social Security's disability criteria to be eligible to receive benefits. SSA defines disability as "the inability to engage in any substantial gainful activity (SGA) by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than 12 months." SSA also considers an applicant's age, education, and work experience in the disability determination process. In 2018, about one-third of applicants are ultimately awarded disability program benefits (Social Security Administration, 2019). Those denied upon initial application may appeal an unfavorable decision through a four-step process that includes a reconsideration of the initial decision, a hearing before an Administrative Law Judge, an Appeals Council review, and filing a civil suit in Federal District Court. The applicant receives a decision at each stage, and those denied decide whether to proceed to the next step or terminate their claim.

SSDI provides benefits to people with disabilities covered from contributions to the Social Security trust fund. Workers must be fully insured, have at least one quarter of coverage each year from age 21 to disability onset, and have worked at least 20 of the quarters in the 10 years preceding disability to receive benefits. SSDI payments are based on lifetime average earnings with adjustments for cost of living and other benefits like Workers' Compensation and public disability benefits. Benefits are based on a worker's indexed earnings for up to 35 years worked called the Average Indexed Monthly Earnings (AIME) and an adjustment for changes in wage levels called the Primary Insurance Amounts (PIA). On average, SSDI beneficiaries received benefits of about \$1,200 monthly in 2018 (Social Security Administration, 2019). Benefits may also be paid to beneficiaries' spouses and children.

SSI is a means-tested program that helps low-income people with disabilities, largely those who do not have the required work history to qualify for SSDI benefits. The program provides cash assistance to people with disabilities who have limited income and resources. In 2020, SSI monthly benefits were capped at \$783 for an individual and \$1,175 for a couple. Payments are based on the Federal Benefit Rate, family composition, countable income, and cost of living. States often supplement the federal program benefit. SSI beneficiaries must demonstrate that they have limited income and resources. Countable resources, including cash, bank accounts, and stocks must not be worth more than \$2,000 for an individual and \$3,000 for a couple. SSA excludes one's home, a vehicle, life insurance up to \$1500, burial plots and funds, household personal effects, and one's business property. Resources held in certain accounts, including Plan to Achieve Self-Support (PASS) and Achieving a Better Life Experience (ABLE) accounts, are also excluded from countable resources.

#### Literature Review

This paper makes three key contributions to prior research. First, this paper contributes to the growing literature on the benefits of social safety net programs for financial health. Bound et al. (2003) found that household income was affected by the timing of disability program application and benefit receipt. A recent body of work contributes evidence on the effects of a wide range of programs on financial outcomes. One study finds that financial distress is more prevalent among disability program applicants, especially in the period leading up to application (Deshpande et al., 2019). Hsu et al. (2018) observe that unemployment insurance protects against foreclosure. Another line of work establishes that the Affordable Care Act protects against mortgage delinquency and limits catastrophic medical debt (Gallagher et al., 2019; Baicker et al., 2013). To this line of work, I contribute evidence of the impact of disability program application and decision on household savings.

Second, this paper builds on work that explores the role of public insurance and asset limits in household savings behavior. Many studies explore the incentives created by public insurance, including those with asset limits, that impact household savings. Social insurance disincentivizes savings; asset tests exacerbate this effect (Hubbard et al., 1995). Gruber and Yelowitz (1999) find that Medicaid eligible people save less and consume more. These effects on savings are even more pronounced when faced with an asset limit. Others who examine the effect of asset limits on savings find no evidence that they affect these decisions (Hurst and Ziliak, 2006). Yet, another study finds that asset tests play an important role in savings decision, however, the effect varies by wealth level. Those at the very bottom and top of the wealth distribution do not respond to incentives, but, those in the middle do (Maynard and Qiu, 2009).

Finally, this paper offers new findings specific to disability onset to the well-documented relationship between health and wealth. Many studies have established that there is a positive correlation between health declines and wealth declines (see Smith (2004) for a review). New serious health conditions, such as heart conditions, strokes, and cancer, have strong effects on household wealth (Wu, 2003). Wallace et al. (2017) find a 12% to 20% reduction in wealth ten years following a permanent one standard deviation decrease in physical health score. The effects of new health events on household income and wealth are more pronounced when they occur at middle and older ages (Smith, 1999). Poor health limits asset accumulation at older ages particularly for those in the bottom third of the wealth distribution (Poterba et al., 2017). Many reach late life with little wealth because they had low wealth at, and after, retirement (Poterba et al., 2018).

#### Data

This study employs the University of Michigan Health and Retirement Study (HRS), a nationally representative longitudinal study comprised of about 20,000 older Americans. The survey collects rich information including demographics, health, health insurance, out-of-pocket medical expenditures, income, wealth, and employment history. The survey data is

linked to the Social Security Administration (SSA) administrative data on program application and benefit receipt histories. The SSA administrative data mitigates the issue of misreporting disability program application, decision, and benefits stemming from self-report. I use the RAND Corporation's HRS Longitudinal File, which includes thirteen waves from 1992–2016. The file also includes imputations for income, assets, and medical expenditures developed by RAND. The measures of particular interest for this study include checking and savings account balances, retirement savings, net worth, disability status, disability program application, and disability benefit receipt.

Table 1 describes the sample characteristics in the initial survey wave, 1992. First, I compare disability program non-applicants and applicants to the overall sample of adults 50 to 62 years old to illustrate key differences. Non-applicants are those who never apply for disability benefits regardless of benefits eligibility. Less than one-fifth of the total sample applied for disability program benefits during the study period. Applicants differ from non-applicants in several dimensions. Applicants are less likely to be white and more likely to be Black. Applicants are more likely not to graduate from high school and less likely to have attended or graduated from college. They are less likely to be married than those who do not apply. About 40% to 60% of applicants report fair or poor health relative to 12% of those who never apply to disability programs. The health insurance rate is lower among applicants, 45% for SSI, and 64% for SSDI, compared to non-applicants, 75%.

Next, I compare those who apply to disability programs by their claim decision, that is, whether they are approved or denied for benefits. Approved applicants include those accepted upon initial application, appeal, or re-application. About one-fifth of SSI applicants and one-quarter of SSDI applicants appeal or reapply after their initial application. Of those who apply in this sample, 48% of SSI applicants are approved to receive benefits, and 75% of SSDI applicants receive benefits. Approved and denied applicants within each disability program are largely similar in the initial wave of the survey.

The sample for this study includes all respondents who apply for disability benefits from 1988–2016. I follow 1470 individuals before and after application for disability program benefits, 1011 SSI and dual program applicants and 459 SSDI applicants <sup>1</sup> Since many applicants are followed for years after their initial application, I can observe the decision that may include a lengthy appeals and/or reapplication process for approval. However, the application decision for those who apply in later survey waves, I may not observe the ultimate application decision after this process.

## **Descriptive Evidence**

<sup>&</sup>lt;sup>1</sup>Applicants may apply and receive benefits from both SSI and SSDI programs. These dual program applicants have the required work history to qualify for SSDI benefits unlike SSI only applicants. In this study, dual program applicants are pooled with SSI only applicants since they face the SSI program meanstesting eligibility criteria.

Table 1: Means by Disability Application and Decision Status at Wave 1							
	Non- Applicants	SSI Applicants	SSDI Applicants	SSI Denied	SSI Approved	SSDI Denied	SSDI Approved
Receive SSI/SSDI?	-	0.48	0.75	-	1.00	-	1.00
Appeal SSI/SSDI?	-	0.25	0.18	0.32	0.18	0.21	0.16
Age	55.66	55.71	53.81	55.35	56.16	53.74	53.85
	(3.43)	(3.34)	(2.73)	(3.26)	(3.38)	(2.61)	(2.80)
Female	0.53	0.54	0.52	0.60	0.47	0.55	0.51
White	0.82	0.68	0.71	0.67	0.69	0.69	0.71
Black	0.14	0.27	0.26	0.28	0.25	0.28	0.25
Other Race	0.04	0.05	0.03	0.05	0.06	0.03	0.03
Married	0.79	0.60	0.66	0.59	0.62	0.69	0.65
Retired	0.10	0.12	0.03	0.11	0.13	0.03	0.04
Not HS Graduate	0.22	0.47	0.38	0.47	0.45	0.39	0.37
HS Graduate	0.38	0.36	0.37	0.35	0.37	0.36	0.38
Some College	0.20	0.12	0.16	0.13	0.12	0.15	0.17
College Degree	0.19	0.05	0.09	0.05	0.05	0.10	0.08
Excellent Health	0.26	0.05	0.11	0.04	0.06	0.12	0.11
Very Good Health	0.32	0.11	0.17	0.11	0.10	0.14	0.18
Good Health	0.29	0.25	0.34	0.26	0.23	0.36	0.32
Fair Health	0.10	0.32	0.24	0.33	0.30	0.28	0.21
Poor Health	0.02	0.28	0.15	0.26	0.30	0.10	0.17
IIhl I 9	0.77	0.45	0.64	0.44	0.47	0.65	0.62
Health Insurance?	0.77	0.45	0.64	0.44	0.47	0.65	0.63
Observations	8217	1011	459	556	455	154	305

Notes. Data are from the 1992–2016 waves of the Health and Retirement Study. This table presents summary statistics of the overall sample, non-applicants, applicants, approved applicants, and denied applicants. Respondents over the age of 62 are excluded. The non-applicant sample includes those who do not apply for disability program benefits from 1988–2016. The applicant sample includes those who apply for SSDI, SSI, or both programs between 1988–2016. Approved and denied applicants are determined by their final application decision observed between 1992–2016 whether based on initial application, reapplication, or appeal.

### **Supplemental Security Income Applicants**

First, I examine trends in liquid assets, including checking and savings balances, retirement savings, and net value of vehicle for those who apply for disability program benefits in the two years leading up to and 5 years following application. The liquid asset trajectories

for those approved and denied for SSI benefits are plotted separately to understand the role of application timing. Figure 1 Panel A describes the trend in checking and savings account balances by SSI application decision. Those whose applications are denied have a lower level of bank deposits relative to those approved for benefits. Both groups experience similar patterns in balances over the pre and post-application period. Bank deposits initially increase in the two years before application. In the two years following application, checking and savings balances decline, reaching a lower level than pre-application five years after application. Overall, the gap between approved and denied applicants persists over the entire period observed in this study. Next, Panel B illustrates retirement savings over time relative to the initial SSI application year. Two years before application approved applicants have substantially higher retirement savings relative to denied applicants. Leading up to and following application, approved applicants experience steep declines in retirement savings. Approved applicants reach a similar level of retirement savings as denied applicants three years following application. Denied applicant retirement savings levels remain at a low level leading up to and following application for SSI benefits. Finally, Panel C shows net value of vehicles over the pre- and post-SSI application period, value of vehicle net of auto loan debt. In the two years leading up to and one year after application, denied and approved applicants have similar levels. Two years after application, those approved for benefits have lower levels of vehicle net value than those denied for benefits.

Next, Figure 2 presents break out trends in liquid assets for approved and denied applicants by overall wealth level, specifically whether non-housing net worth is greater than zero or zero or less. I find differences in liquid asset trajectories are stark when examining applicants at different positions in the wealth distribution. Those who have above median net worth have higher levels of bank deposits, retirement savings, and vehicle value than those with below median net worth, regardless of application decision. Panel A shows that both high and low wealth applicants have similar trends in checking and savings balances over the preand post-application period. Panel B details the retirement savings for those who apply for SSI benefits. Both those with net worth above and below the median level exhibit similar trends in retirement savings regardless of application decision. In the years leading up to application approved applicants have slightly higher accumulated retirement savings on average. However, after application retirement savings diminish for this group, and the gap between those approved and denied benefits closes. Finally, Panel C illustrates the net value of vehicles by wealth for those approved or denied for SSI benefits. Across the liquid asset categories explored, there is a stark and persistent gap between those with below median and above median net worth regardless of application decision.

## **Social Security Disability Insurance Applicants**

Social Security Disability Insurance (SSDI) applicants tend to have higher income and wealth than Social Security Income applicants since the program requires work history and does not means test based on income and assets. Figure 3 describes the trends in liquid assets. Panel A shows that both those approved and denied for benefits experience declines in checking and savings balances leading up to and following application for benefits. Approved applicants have higher balances on average relative to denied applicants which increases in

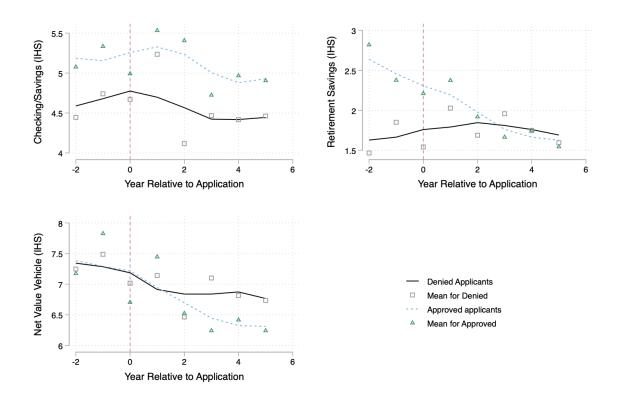


Figure 1: Liquid Assets Before and After Application: SSI

the years following application. Denied applicants experience a steeper decline in checking and savings balances in the year leading up to and two years following their application. Panel B describes changes in retirement savings. Retirement savings levels are also higher for approved applicants, however, unlike bank deposits, the gap between those approved and denied benefits does not grow over the period studied. Panel C depicts the net value of vehicles by application decision in relation to application timing. Once again approved applicants have higher asset values than denied applicants. Similar to bank deposits, the gap between applicants by decision increases over time as denied applicants experience steeper declines in vehicle value than the declines experienced by approved applicants. Overall, denied applicants are worse off financially than approved applicants in the years before application, and the disparity between applicants by decision persists or grows in the years following application.

Overall, these descriptive trends illustrate that disability application timing affects liquid assets, especially for those denied benefits who have lower asset accumulation before appli-

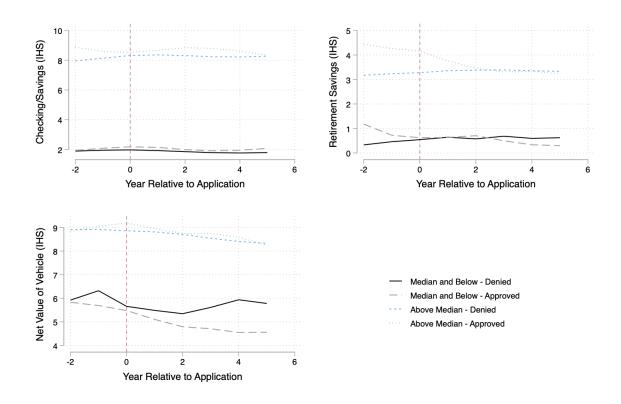


Figure 2: Liquid Assets Before and After Application by Wealth: SSI

cation than approved applicants. Disability benefits appear to protect those approved from more severe declines in savings level. This descriptive evidence motivates a panel event-study design, described in the next section, that controls for fixed individual and year heterogeneity as well as observed time-varying applicant characteristics.

#### **Alternative Outcomes**

I also examine how application timing relates to wealth. Wealth measured as net worth is the difference between total assets and debt, including housing, transportation, business, retirement savings, stocks, checking and savings balances, certificates of deposit, and bonds. The top panels of Figure 4 display trajectories for net worth with and without housing wealth for SSI applicants. Net worth including housing is higher for approved applicants prior to application. However one year before to one year after application, net worth falls substantially for these applicants closing the gap in net worth between those approved

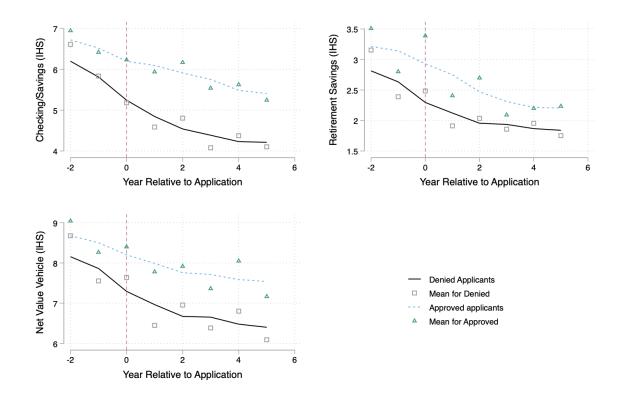


Figure 3: Liquid Assets Before and After Application: SSDI

and denied. When housing wealth is excluded from net worth, wealth level is much lower demonstrating that housing is a large component of wealth. Approved applicants have greater non-housing wealth than denied applicants. The gap in non-housing net worth by application decision is persistent throughout the study period. The bottom panels break non-housing net worth into its component parts, assets and debt. Non-housing assets decline for both approved and denied applicants from two years prior to 5 years following application for SSI benefits. Approved applicants have persistently higher levels of non-housing assets than denied applicants. Finally, non-housing debt is slightly higher for denied applicants relative to those approved. These figures demonstrate that the gap in non-housing net worth by application decision is largely driven by greater asset accumulation of approved applicants rather than differences in borrowing decisions.

Figure 5 illustrates the patterns for wealth for SSDI applicants in relation to application timing. SSDI net worth, assets and debt trajectories differ from SSI applicants. First, net worth, non-housing net worth, and assets tend to be higher on average for SSDI applicants

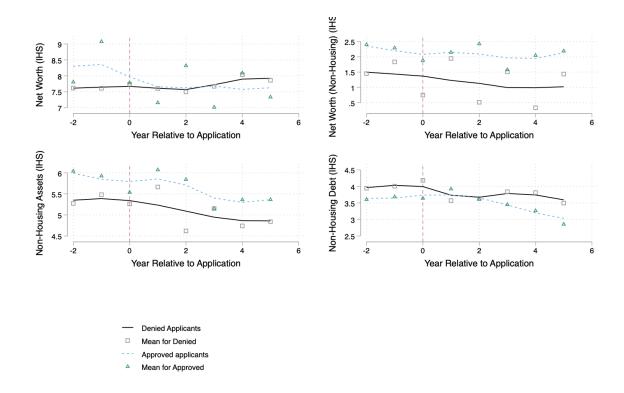


Figure 4: Net Worth, Assets, and Debt Before and After Application: SSI

two years prior to application. However, they experience significant declines in net worth and non-housing assets in the year before and in the two years following application. Approved applicants have higher levels of net worth and non-housing assets than denied applicants across the study period. While the gap in net worth including housing remains stable, the gap in net worth and non-housing assets widens relative to the pre-application period. Unlike SSI applicants, the gap in net worth for SSDI applicants appears to be driven by greater levels of non-housing debt for denied applicants in the year of application to the post-application period.

# **Panel Event-Study Estimates**

Next, I employ a panel event-study design to examine the effect of disability program application on household savings. This approach allows me to control for individual- and year-specific fixed heterogeneity, both observed and unobserved. I examine the response in

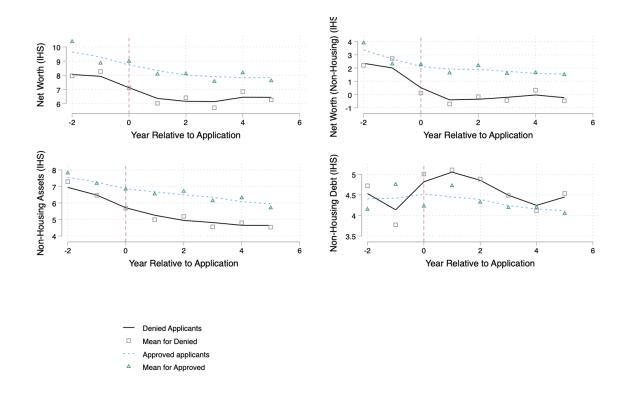


Figure 5: Net Worth, Assets, and Debt Before and After Application: SSDI

household savings leading up to and following disability application. These estimates also allow me to establish whether there are pre-trends in the outcome variable. The following regression is estimated:

$$Y_{it} = \beta_{\tau_{it}} + \alpha_i + \theta_t + W_{it} + \epsilon_{it} \tag{1}$$

where  $Y_{it}$  is liquid assets of an individual, i, in a year, t.  $\beta_{\tau_{it}}$  is the application timing effect for individual, i, in a year, t.  $\alpha_i$  is an individual fixed effect.  $\theta_t$  is the application timing fixed effect.  $W_{it}$  is a vector of time-varying covariates including earnings, self-reported health, and health insurance status.  $\epsilon_{it}$  is the error term.

Next, I estimate the effect of application timing on liquid assets, checking and savings balances, retirement savings, and net value of vehicle, by disability program. Figure 6 depicts the effects of application timing on each liquid asset category for those who apply for SSDI. The reference period is one year before application. For SSDI applicants, application tim-

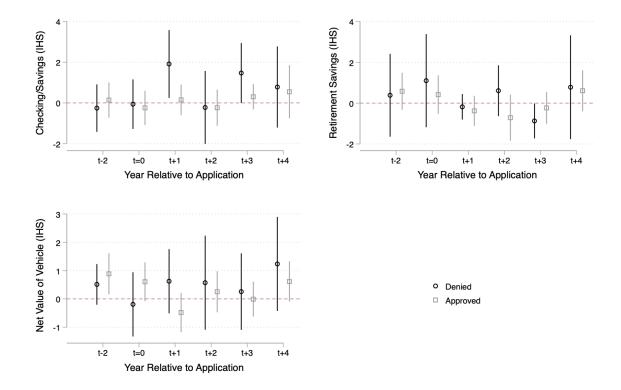


Figure 6: Panel Event Study by Decision (SSDI Applicants)

Notes. Standard errors are clustered at the individual level. Data are from the 1992–2016 biannual waves of the Health and Retirement Study. Application timing is based on application year between 1988–2016. Nominal values are adjusted to 2016 dollars using the Consumer Price Index (CPI) and inverse hyperbolic sine transformed. Approved and denied applicants are determined by their first disability episode application decision whether decided at initial application, reapplication, or appeal. Individual and wave fixed effects are included. Covariates include self-reported health status, health insurance status, marital status, educational attainment, race/ethnicity, gender, age, earnings, an indicator of whether an individual dies before age 63, and age at disability onset.

ing largely does not significantly affect any of the liquid assets examined. However, SSDI applicants denied benefits have a significant increases in checking and savings balances one year and three years following application relative to one year before application. These estimates are not statistically different from estimates for approved applicants. SSDI applicants approved for benefits have significantly higher vehicle values two years before application. Once again, this estimate is not statistically different from the estimated effect for denied applicants. Figure 7 illustrates the effects of application for the SSI program. I do not find evidence that either approved or denied applicants are significantly impacted by disability application timing across the liquid asset categories.

Overall, disability program application does not have statistically significant effects on household liquid assets. When I break out these effects by disability program, I find distinct

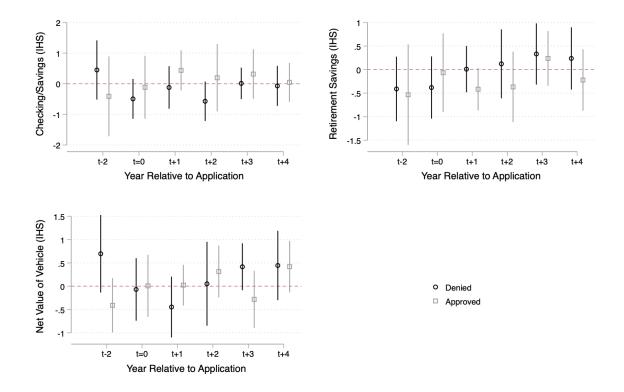


Figure 7: Panel Event Study by Decision (SSI Applicants)

Notes. Standard errors are clustered at the individual-level. Data are from the 1992–2016 biannual waves of the Health and Retirement Study. Application timing is based on application year between 1988–2016. Nominal values are adjusted to 2016 dollars using the Consumer Price Index (CPI) and inverse hyperbolic sine transformed. Approved and denied applicants are determined by their first disability episode application decision whether decided at initial application, reapplication, or appeal. Individual and wave fixed effects are included. Covariates include self-reported health status, health insurance status, marital status, educational attainment, race/ethnicity, gender, age, earnings, an indicator of whether an individual dies before age 63, and age at disability onset.

patterns in effects on savings for each group.

## **Conclusion**

In this study, I find descriptive evidence that disability program applicants experience declines in liquid assets, including bank deposits, retirement savings, vehicle value leading up to application that persists years following disability onset. Those eventually denied benefits tend to have lower liquid assets even before disability application than approved applicants. Examining SSI applicants by net worth reveals that there are large differences in liquid asset accumulation, however, regardless of net worth approved and denied applicants experience similar patterns in liquid asset changes over the pre- and post-application period. Using a

panel event-study design, I find that disability program application timing does not significantly affect liquid assets after controlling for year and individual-level fixed heterogeneity.

I encounter four challenges when answering this question with the selected data and method. First, the sample of disability applicants from each program is not large enough to detect the effects of application timing. Second, I may mis-measure the transition onto and off of benefits as I only observe individuals every other year using the Health and Retirement Study. Also, I rely on self-reported assets as my key outcome measure, which may suffer from recall bias. Finally, household circumstances may change in the lead up to application and decision that are related to program eligibility.

Examining foreclosure, eviction, and bankruptcy, Deshpande et al. (2019) find that disability programs protect households from extreme financial hardship events. In this study, I offer complementary evidence finding that those denied for program benefits experience declines in household liquid wealth. While descriptive findings support prior findings that disability application and approval process affect household financial distress, I do not find evidence using a panel event study approach that controls for fixed individual and year heterogeneity as well as time-varying applicant characteristics. Disability application is a critical point in the wealth trajectory of people with disabilities, particularly for low-income, low-wealth households applying for SSI. Streamlining application process may mitigate negative effects that accompany long wait times for application review and approval.

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