Project Proposals for the Retirement and Disability Research Consortium

We are proposing three projects that relate to the consumption patterns and financial well-being of SSA beneficiaries.

Project titles:

(1) "*Where Does the Marginal Social Security Dollar Go? Evidence from Nationwide Administrative Spending Data*"
(2) "*Consumption vs. Income Inequality: Evidence from Social Security Beneficiaries and Administrative Spending Data*"
(3) "*Can Consumption Innovations Exacerbate Economic Disparities? Adoption of Digital Technologies in the U.S.*"

Researchers:

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(Note that, as employees of the Federal Reserve Bank of Chicago, Ezra and Shanthi can be listed as co-PIs but cannot receive investigator salary.)

Data:

The proposed projects will use a panel of administrative bank and credit cards transactions data of over 5 million Americans nationwide for the years 2011-2022. Our data come from an anonymous financial services provider that aggregates accounts across banks and card-issuers to provide a close-to-complete picture of the financial flows of individuals in the U.S. The data allow us to identify SSA beneficiaries via deposits of transfers from SSA, which we can separately classify as OASDI beneficiaries and SSI beneficiaries. We are also able to observe earnings and infer retirement behavior via paychecks, to analyze expenditure subcategories via merchant category codes, and to infer fine-grained location based on purchases. The data thus provide close proxies for employment, income, and consumption with exact dates that allow for high-frequency analysis. For our location based analysis, we will also link our panel to local characteristics (such as the share of Black residents) from Chetty et al. (2016).

The figures at the end of this document provide proof-of-concept for the feasibility of our projects and what can be done with the data. Specifically:

Figure 1: SSA beneficiaries – For this figure we identify a random sample of 50,000 beneficiaries, and we plot their monthly credit card expenditures in years 2018-2019.

Figure 2: Geographic variation – We plot a map of average credit card spending by ZIP Code Tabulation Areas (ZCTAs) for the year 2019.

Figure 3: Usage of online services – For this figure we focus on a particular online merchant ("Netflix") to study takeup patterns of digital services by U.S. households over time.

Project 1: "Where Does the Marginal Social Security Dollar Go? Evidence from Nationwide Administrative Spending Data"

Project Description:

Social Security's safety-net and insurance programs are enormous. In 2021 alone, the U.S. government transferred over $1,188 billion in Social Security benefits to more than 70 million beneficiaries and their families (SSA 2022). Extensive work has documented the importance of Social Security to American households in terms of its effects on retirement, income, and consumption (e.g., Wilcox 1989, Coile and 2004, Engelhardt and Gruber 2006, Gelber, Isen, and Song 2016, Deshpande, Fadlon, and Gray 2021), as well as the role of the liquidity the benefits provide, even for consumption of medical care (Stephens 2003, Gross et al. 2022). Put together, changes to the generosity of Social Security benefits could have meaningful welfare implications for American families nationwide. But with the broad and diverse beneficiary base, the efficiency of a nationwide allocation of additional funds is unclear, as a more targeted redistribution has the potential to generate meaningful welfare gains. A key question in the allocation of U.S. government funds is therefore: where does the marginal Social Security dollar go?

Our proposed project aims to answer this question by using granular administrative data on household expenditure and exploiting variation from Cost-of-Living Adjustments (COLAs). Our key empirical moments for the analysis, chosen to reflect the welfare of SSA beneficiaries as two complementary proxies for financial well-being, are: (1) the marginal propensity to consume (MPC) out of available funds, which reveals the degree to which households rely on SSA benefits for consumption; (2) the consumption categories the marginal SSA dollar finances (that is, do beneficiaries use additional resources for food/shelter or spend them on luxuries?) Enacted in 1973, Cost-of-Living Adjustments let Social Security benefits keep pace with inflation. Our main source of variation for this project will be the COLA of a 5.9 percent increase that had a sharp implementation date in January 2022, which we will exploit in a high-frequency event-study analysis. We will also complement the design with matched non-SSA beneficiaries as a placebo group, as well as with changes from previous COLAs that were lower in intensity (2.8 percent in 2018, 1.6 percent in 2019, 1.3 percent in 2020). Our analysis will begin by estimating overall nationwide effects, and we will then put particular emphasis on variation across geography (state/county/commuting zones), location characteristics (such as share of Black residents), and household characteristics (e.g., income levels and pre-retirement earnings).

Focal/Program Areas: Focusing on variation in consumption responses to SSA benefit increases across geography and communities, we will directly speak to the special interest area equity and the well-being of under-served communities. We will contrast urban and rural communities and explore association with community characteristics such as the share of minority beneficiaries and average income (which also relates to Focal Area 1. Disparities by race, ethnicity, and sex: Disparities in retirement security). Our analysis of SSA beneficiaries' financial well-being and how they rely on benefits for consumption addresses Focal Area 3: Economic Security of Program Applicants and Beneficiaries (and specifically the particular area of interest Social Security's role in economic security). As suggested in the call, our research takes a broad view of households' financial resources, as consumption reflects all sources of income and assets among beneficiary households. Directly related to this focal area, we also study specific OASDI and SSI policies highlighted by SSA, specifically, OASDI program provisions, by using as sources of variation the size and timing of COLAs.

Project 2: "Consumption vs. Income Inequality: Evidence from Social Security Beneficiaries and Administrative Spending Data"

Project Description:

Income inequality is at the forefront of policy debates. Important work has studied the sources of the large inequality across communities in the U.S., assessing the persistent role of locations, intergenerational mobility, and firms (e.g., Piketty and Saez 2003, Song et al. 2019, Chetty et al. 2020, Creamer et al. 2022). While this work has focused on components of income, in particular earnings, scholars have emphasized the need to focus on consumption. As a function of income and wealth, consumption is the ultimate input into utility, and hence it is consumption dynamics that govern social welfare (e.g., Attanasio and Pistaferri 2016, Meyer and Sullivan 2023). Consumption also better reflects long-run resources and is more likely to capture disparities that result from differences across families in the accumulation of assets or access to credit. Different patterns of consumption and income inequality can therefore be informative about the nature of shocks individual households face, about individual preferences, and about the ability to absorb shocks. Given these considerations, appropriate measurements of consumption inequality and its trends are extremely important to establish the welfare consequences of income inequality. Evidence from survey data indeed reveals the empirical relevance of these issues, pointing to the different trends in income and consumption inequality over time (Attanasio and Pistaferri 2014, Meyer and Sullivan 2023).

In this project we aim to comprehensively study consumption inequality in the U.S., across time and space. Our novel use of a large administrative dataset that covers Americans' spending nationwide will allow us to study the role of geographic location (e.g., comparing urban and rural communities) using fine-grained information based on purchases. We will contribute to the literature by decomposing consumption inequality and its geographic dispersion into a sorting component (how individuals with different consumption patterns sort across the U.S.) and a location component (how locations causally affect consumption opportunities and patters).[1] We will use AKM decompositions (Abowd et al. 1999) and movers designs (Finkelstein et al. 2016) to identify person and location effects, and we will correlate the estimated location effects with location-level characteristics of social capital and demographics, including the share of minority residents. As a particularly policy- and welfare-relevant social group, we will analyze consumption inequality and its patterns over time and geography among SSA beneficiaries. We will separately study OASDI recipients (allowing us to focus on the population of older individuals and persons with disabilities) and SSI recipients (allowing us to focus on low-income households who are dependent on government assistance). We will then compare these patterns to the overall population, as well as to the differences relative to patterns in income, which could also shed light on the protective role of SSA benefits.

Focal/Program Areas: Our analysis of variation and inequality in consumption among SSA beneficiaries across geography and communities will directly speak to the special interest area equity and the well-being of under-served communities and social groups, which include persons with disabilities and persons who live in rural areas. By exploring the association of location effects with community characteristics, such as share the of minority residents or SSA beneficiaries, we

[1] Diamond and Moretti (2021) find vast geographical variation in standard of living (defined as the amount of market-based consumption that residents are able to afford), thus uncovering a key potential component in the consumption effects of locations.

will also relate to Focal Area 1. Disparities by race, ethnicity, and sex. Specifically, we will address special interest area Estimating disparities, as we will use state-of-the art quantitative models for effect decompositions. Our analysis of SSA beneficiaries' financial well-being via their consumption patterns addresses Focal Area 3: Economic Security of Program Applicants and Beneficiaries. Specifically, our implications for how financial well-being varies across demographic groups and for the protective role of SSA benefits and how it may have changed over time address the area of interest Social Security's role in economic security. Our analysis of spending and income data also addresses area of interest Survey income reporting, as we will be able to contrast income and consumption patterns using granular and large-scale administrative data. As suggested in the call, our research takes a broad view of households' financial resources, as consumption reflects all sources of income and assets among beneficiary households.

Project 3: "Can Consumption Innovations Exacerbate Economic Disparities? Adoption of Digital Technologies in the U.S."

Project Description:

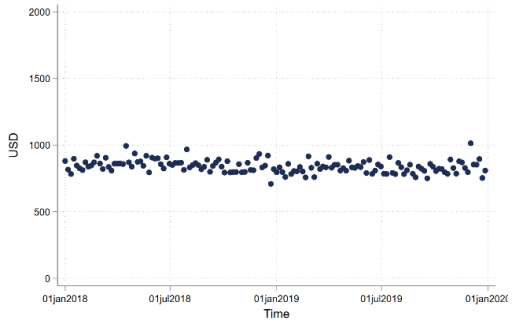
Technology is a key driver of growth and improvements in economic well-being. Powered by broadband and mobile internet, recent digital technological advances—such as financial and banking products (Fintech) and online services including shopping, entertainment, and even telemedicine—are becoming increasingly prevalent among U.S. households. Digital solutions have been rising in attractiveness due to their promise to shatter barriers of traditional provision of services, including physical inaccessibility and the time constraints of financially disadvantaged households. But with the widespread geographic and socioeconomic disparities in the U.S., new technologies can bring both efficiency-enhancing opportunities and equity challenges. A key concern is that unequal technology adoption across differentially affluent communities could deepen existing inequities. This could result from gaps in accessibility to digital infrastructure or differential hurdles in engaging with new technologies.

In this project we aim to study adoption of digital technologies across communities in the U.S. Providing detailed information on merchants, we are able to characterize households' takeup of online services and digital products (e.g., by isolating transactions related to "Amazon" and "Netflix"). Following an investigation of national trends, our focus will be on assessing the differences in adoption patterns by location (rural versus urban communities) and income and earnings levels, as well as among identifiable social groups that policy aims to target. Specifically, we will focus on SSA beneficiaries, where we will separately study: (1) OASDI recipients, allowing us to focus on the population of older individuals and persons with disabilities who may face different challenges in engaging with new technologies; and (2) SSI recipients, allowing us to focus on low-income households who may lack access to required digital infrastructure.

Focal/Program Areas: Our proposed work addresses Focal Area 4: Understanding Service Needs, specifically the topic of interest Improving service delivery to communities facing barriers (including rural communities and people affected by persistent poverty). Understanding the level of comfort of vulnerable social groups with usage of online technologies could help SSA assess ways to improve service delivery and outreach to these populations. This could specifically relate to barriers individuals living in rural areas may face when seeking government benefits and to how they may prefer to communicate with government agencies when seeking benefits (e.g., online, by telephone, in-person). By studying associations of location-level behaviors related to takeup of online services with community-level demographics, we could also shed light on how communication preferences and barriers vary by sociodemographic groups (e.g., by the share of residents from specific racial/ethnic groups, average educational attainment, etc.). We will also address the topic Expanding Online Service since we could shed light on the extent of internet literacy among SSA beneficiaries and other potential barriers to digital access, which could also help SSA assess new avenues of online services or virtual service delivery platforms. For these reasons we believe the project also touches upon Focal Area 5: Understanding Communication Needs that deals with the efficacy of agency communications and outreach efforts.
Finally, by studying variation in the adoption of new, potentially welfare-enhancing digital products among SSA beneficiaries and across geography and communities, we will speak to the special interest area equity and the well-being of under-served communities and social groups (which include persons with disabilities and persons who live in rural areas). Similarly, our exploration of the association of location-level adoption rates with community characteristics, such as share of

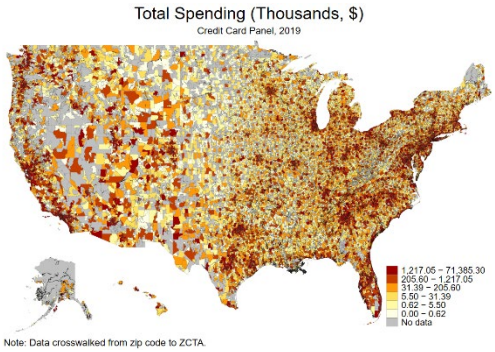
minority residents, will also relate to Focal Area 1. Disparities by race, ethnicity, and sex. Our work will speak to SSA's interest in research on equity, since gaps in accessibility to digital infrastructure or differential hurdles in engaging with new technologies have been raised as potential new barriers that may contribute to disparate outcomes among people who have been historically underserved, marginalized, or adversely affected by persistent poverty.

Figure 1: Monthly Spending Patterns by SSA beneficiaries (Years 2018-2019)



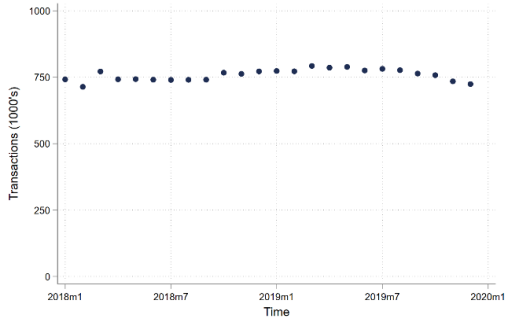
Notes: In this figure we identify a random sample of 50,000 SSA beneficiaries, and we plot their monthly credit card expenditures in years 2018-2019.

Figure 2: Geographic Distribution of Spending (Year 2019)



Notes: This figure plots a map of average credit card spending by ZIP Code Tabulation Areas (ZCTAs) for the year 2019.

Figure 3: Patterns of Usage of Online Services (Years 2018-2019)



Notes: This figure illustrates time patterns of takeup of online services. We focus on a particular online merchant—"Netflix"—and we study average credit charges by U.S. households over time.

References:

Abowd, John, Francis Kramarz, and David Margolis (1999). “High Wage Workers and High Wage Firms.” *Econometrica*, 67(2): 251-333.

Attanasio, Orazio P., and Luigi Pistaferri (2014). “Consumption Inequality over the Last Half Century: Some Evidence Using the New PSID Consumption Measure.” *American Economic Review*, 104(5): 122-126.

Attanasio, Orazio P., and Luigi Pistaferri (2016). “Consumption Inequality.” *Journal of Economic Perspectives*, 30(2): 3-28.

Chetty, R., M. Stepner, S. Abraham, S. Lin, B. Scuderi, N. Turner, A. Bergeron, and D. Cutler (2016). “The Association between Income and Life Expectancy in the United States, 2001-2014.” *JAMA*, 315(16): 1750-1766.

Coile, Courtney, and Jon Gruber (2004). “The Effect of Social Security on Retirement in the United States.” In *Social Security Programs and Retirement around the World: Micro-Estimation*, Jon Gruber, and David A. Wise, eds. University of Chicago Press.

Creamer, John, Emily A. Shrider, Kalee Burns, and Frances Chen (2022). “Poverty in the United States: 2021.” *U.S. Census Bureau*.

Deshpande, Manasi, Itzik Fadlon, and Colin Gray (2021). “How Sticky Is Retirement Behavior in the U.S.?” *The Review of Economics and Statistics*.

Diamond, Rebecca, and Enrico Moretti (2021). “*Where Is Standard of Living the Highest? Local Prices and the Geography of Consumption*.” NBER Working Paper No. w29533. National Bureau of Economic Research, 2021.

Engelhardt, Gary, and Jon Gruber (2006). “Social Security and the Evolution of Elderly Poverty.” In *Public Policy and the Income Distribution*, Alan J. Auterbach, David Card, and John M. Quigley, eds. Russell Sage Foundation: New York.

Finkelstein, Amy, Matthew Gentzkow, and Heidi Williams (2016). “Sources of Geographic Variation in Health Care: Evidence from Patient Migration.” *Quarterly Journal of Economics*, 131(4): 1681-1726.

Gelber, Alexander, Adam Isen, and Jae Song (2016). “The Effect of Pension Income on Elderly Earnings: Evidence from Social Security and Full Population Data.”

Gross, Tal, Timothy J. Layton, and Daniel Prinz (2022). “The Liquidity Sensitivity of Healthcare Consumption: Evidence from Social Security Payments.” *American Economic Review: Insights*, 4(2): 175-90.

Meyer, Bruce D., and James X. Sullivan (2023). “Consumption and Income Inequality in the United States since the 1960s.” *Journal of Political Economy*, 131(2): 247-284.

Piketty, Thomas, and Emmanuel Saez (2003). “Income Inequality in the United States, 1913–1998.” *Quarterly Journal of Economics*, 118(1): 1-41.

Social Security Administration (2022). “Annual Statistical Supplement to the Social Security Bulletin, 2022.”

Song, Jae, David J. Price, Fatih Guvenen, Nicholas Bloom, and Till Von Wachter (2019). “Firming Up Inequality.” *Quarterly Journal of Economics*, 134(1): 1-50.

Stephens, Melvin Jr. (2003). ““3rd of tha Month”: Do Social Security Recipients Smooth Consumption Between Checks?” *American Economic Review*, 93(1): 406-422.

Wilcox, David W. (1989). “Social Security Benefits, Consumption Expenditure, and the Life Cycle Hypothesis.” *Journal of Political Economy*, 97(2): 288-304.