MICHIGAN RETIREMENT AND DISABILITY RESEARCH CENTER
UNIVERSITY OF MICHIGAN

Promoting research on retirement, disability, and Social Security policy

The Ongoing Impacts of COVID-19 on Americans' Economic Security

Marco Angrisani, Jeremy Burke, and Arie Kapteyn

MRDRC WP 2022-443

UM22-17

The Ongoing Impacts of COVID-19 on Americans' Economic Security

Marco Angrisani
University of Southern California

Jeremy Burke
University of Southern California

Arie Kapteyn
University of Southern California

September 2022

Michigan Retirement and Disability Research Center, University of Michigan, P.O. Box 1248. Ann Arbor, MI 48104, mrdrc.isr.umich.edu, (734) 615-0422

Acknowledgements

The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Retirement and Disability Research Consortium through the University of Michigan Retirement and Disability Research Center Award RDR18000002-04. The opinions and conclusions expressed are solely those of the author(s) and do not represent the opinions or policy of SSA or any agency of the federal government. Neither the United States government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of the contents of this report. Reference herein to any specific commercial product, process or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply endorsement, recommendation or favoring by the United States government or any agency thereof.

The Ongoing Impacts of COVID-19 on Americans' Economic Security

Abstract

The COVID-19 pandemic has had enormous effects on the U.S. economy. We use longitudinal survey data from a nationally representative Internet panel, the Understanding America Study, to examine the impacts of the pandemic, and policy responses, on Americans' financial stability and behavior through the pandemic's first year. Overall, we find that, on average, Americans' short-term financial stability continued to improve through the first year of the pandemic. In particular, we observe year-over-year increases in subjective measures, such as financial satisfaction and lower financial stress, as well as persistently elevated objective measures, such as short-term savings behavior and balances. We find evidence consistent with the stimulus — particularly the Economic Impact Payments (EIPs) — being a key contributor to the improvements. Though we observe improvements on average on most measures of financial security, there are two notable exceptions — financial fragility (an inability to cover a $400 shock solely with cash or a cash equivalent [Federal Reserve Board 2019]) rose, and retirement balances declined, in 2021 relative to prepandemic levels. The increase in financial fragility was concentrated among individuals who did not receive the last EIP or had higher incomes. Since the stimulus program ended in 2021, signs of economic insecurity among more financially fragile households may become apparent in the near future. This underscores the importance of the stimulus in helping to blunt the pandemic's adverse effects on households' financial situations and is also concerning — since the stimulus and enhanced unemployment benefits have recently ended, signs of economic insecurity among more financially challenged households may become apparent in the near future.

Citation

Angrisani, Marco, Jeremy Burke, and Arie Kapteyn. 2022. "The Ongoing Impacts of COVID-19 on Americans' Economic Security." Ann Arbor, MI. University of Michigan Retirement and Disability Research Center (MRDRC) Working Paper; MRDRC WP 2022-443. https://mrdrc.isr.umich.edu/publications/papers/pdf/wp443.pdf

Authors' acknowledgements

We rely in part on data collected by the U.S. Financial Health Pulse project.

Introduction

The COVID-19 pandemic has had enormous effects on the U.S. economy. Governmental mandates temporarily closing businesses and schools and public concern regarding health risks led to a steep reduction in economic activity in early 2020 (Goolsbee and Syverson 2021). Accordingly, the labor market experienced a sharp contraction, with the unemployment rate increasing more than fourfold from 3.5% in February 2020, to 14.7% in April of that year (Bureau of Labor Statistics 2022).

Given limited household savings and pervasive financial fragility (an inability to cover a $400 shock solely with cash or a cash equivalent) prior to the onset of the pandemic (Federal Reserve Board 2019), the large negative shock to employment, as well as reduced time available for labor due to increased child care demands (Zamarro and Prados 2020), may have resulted in a large reduction in Americans' economic security. However, recent evidence suggests that, on average, Americans' short-term financial stability *improved* early in the pandemic. Indeed, both subjective measures — such as perceived financial well-being and financial stress — and objective measures — such as liquid savings balances and credit scores — improved on average in mid-2020 relative to the prepandemic period (Angrisani, Burke, and Kapteyn 2021; Fulford, Rush, and Wilson 2021). Additionally, the average improvement appears to be concentrated on those who were already more financially fragile before the pandemic hit, such as individuals with lower incomes and lower financial literacy. The improvement, both overall and differential, was likely driven, at least in part, by the government's economic stimulus program, which had larger impacts on those who faced greater prepandemic financial challenges (Angrisani, Burke, and Kapteyn 2021).

Other research has suggested that the stimulus may have also been effective in offsetting reductions in income and spending (Cox et al. 2020; Han, Meyer, and Sullivan 2020).

Though the initial effects of the pandemic on Americans' financial well-being appear rather benign on average, the pandemic and its effects on the economic landscape have been stubbornly persistent: Weekly unemployment claims continued to be at historically elevated levels through much of 2021. While the stimulus, enhanced unemployment insurance, and voluntary reductions in spending may have blunted some of the short-term impacts of the pandemic, its long duration and uncertainty about its persistence may have placed severe strain on many Americans. Additionally, though there is considerable evidence that Americans' short-term financial stability improved soon after the pandemic's onset, there is little evidence that there have been similar improvements in retirement security. How individuals continue to be impacted financially during the pandemic, and how they respond in terms of saving and retirement plans, will have large implications for future economic security and welfare programs' sustainability.

In this paper, we build on prior work by leveraging new longitudinal surveys from the Understanding America Study (UAS) to assess the impacts of the pandemic and the policy responses it triggered on Americans' economic security and financial well-being through the pandemic's first year. Our primary analysis sample consists of four annual surveys fielded in April/May of 2018 to 2021, spanning the onset of the COVID-19 pandemic. Our data measure respondents' financial situations in detail, including information on employment, income, spending and savings behavior, debt

accumulation, subjective financial well-being, financial fragility, retirement savings, and financial distress. In addition to the annual surveys, we also use shorter modules fielded in July/August 2020 and January 2021 to more finely trace out the pandemic's evolving effects, and incorporate additional data on subjective retirement preparation and Social Security retirement benefits claiming intentions, before and during the pandemic. We also merge vaccination status and intentions from other UAS surveys to assess how individual variation in reduced health risk might influence financial behaviors and financial security.[1]

Overall we find that, on average, Americans' short-term financial stability continued to improve through the first year of the pandemic. In particular, we observe year-over-year increases in subjective measures, such as financial satisfaction and lower financial stress, as well as persistently elevated objective measures, such as short-term savings behavior and balances. Moreover, we continue to observe differentially larger improvements in financial situations for individuals who experienced more economic vulnerability before the pandemic, such as individuals with lower incomes or those who were having difficulty making ends meet prior to the pandemic's onset. We find evidence consistent with the stimulus — particularly the Economic Impact Payments (EIPs) — being a key contributor to the improvements. While we observe relatively little evidence of heterogeneous effects by age, we estimate that financial fragility increased disproportionately among Hispanic respondents and that Black individuals experienced a larger increase in the likelihood that they were saving

[1] We attempted to examine how rollback of governmental mandates restricting economic activity influenced financial behaviors and security, though there was insufficient geographical variation in our data.

post-pandemic relative to their white counterparts, possibly due to differential impacts of the stimulus. We find little evidence of heterogeneity for essential versus nonessential workers and little difference in spending/saving behavior based on vaccination status.

Though we observe improvements on average on most measures of financial security, there are two notable exceptions. First, after falling in 2020, financial fragility increased, on average, in 2021 relative to prepandemic levels. Such increase was concentrated among individuals who did not receive the last EIP or had higher incomes (and consequently were more likely to have received a reduced EIP amount conditional on receipt). This underscores the importance of the stimulus in helping to blunt the pandemic's adverse effects on households' financial situations and is also concerning: Since the stimulus and enhanced unemployment benefits have recently ended, signs of economic insecurity among households with more financial vulnerabilities may become apparent in the near future. Second, we observe reduced self-reported (inflation adjusted) retirement balances in 2021 relative to prepandemic levels. This, coupled with little evidence of sustained improvement in subjective retirement preparation, suggests that the observed improvements in short-term financial stability may not translate into improved retirement outcomes in the future.

The remainder of the paper proceeds as follows. Section 2 briefly describes the data used for this study and presents summary statistics. Section 3 presents year-over-year changes in descriptive statistics, our empirical approach, main results, and analyses of heterogeneity. Section 4 concludes.

Data and sample characteristics

We draw our data from the Understanding America Study (UAS) panel. The UAS is a nationally representative, probability-based internet panel that longitudinally tracks a U.S. representative sample of over 9,500 adults. Panel members are recruited exclusively through address based sampling and receive a tablet and broadband access (and related training) if they do not have internet access. This mitigates selection problems facing convenience panels, where respondents are recruited from existing internet users. The UAS contains a very large set of background characteristics for all panel members, including demographic (e.g., age, gender, race, education), financial (e.g., income, financial literacy), health (e.g., self-assessed general health, self-reported doctor's diagnoses of conditions), personality traits (the big five) and cognition measures (e.g., number series, propositional analogies, picture vocabulary).

Since 2018, more than 4,000 panel members have completed annual surveys tracking their financial lives in detail as part of the U.S. Financial Health Pulse project.[2] The fourth wave was fielded in late April/early May 2021, more than a year after the onset of the COVID-19 pandemic. These longitudinal data contain repeated measures of subjective financial well-being (particularly financial satisfaction) and numerous indicators of economic security and financial distress. These include, but are not limited to, employment and income shocks, spending and saving behavior, debt accumulation and levels, financial fragility (e.g., inability to cover a $400 emergency expense with a cash equivalent; months of expenditure covered by savings), retirement saving

[2] https://finhealthnetwork.org/programs-and-events/financial-health-pulse/

behaviors, and financial stress. We restrict our analysis sample to individuals who completed both the 2020 and 2021 wave, and at least one survey prepandemic, though results are qualitatively unchanged when including all survey responses.

We augment this longitudinal data set over a period of four years with additional modules fielded in the UAS that measure respondents' knowledge about Social Security programs and benefits. As a part of these surveys, individuals are asked to self-assess how financially well-prepared they are for retirement on a four-point scale. Those who have not yet claimed their Social Security retirement benefits report the age at which they intend to claim. Three waves of these surveys have been fielded — one in 2015/2016, one in 2017/2018, and one at the beginning in April 2020 that was rolled out on a staggered basis through June 2022.

Table 1 presents sample summary statistics in 2019, the last wave of surveys in our primary analysis sample prior to the pandemic.[3] Over 3,900 respondents completed both post-pandemic waves and at least one prepandemic wave. Average age in the sample is 53 years, 57% of the sample identifies as female, and 82% of respondents are white. A little less than a quarter of the sample has a high school education or less; approximately 37% has completed some college or received an associate degree, with the remainder completing a bachelor's degree or more. There is considerable variation in household income, with approximately a quarter of the sample in each income bracket: below $30,000, between $30,000 and $60,000, between $60,000 and $100,000, and $100,000 or more per year. Approximately 59% of our respondents

[3] If an individual in the sample completed the 2018 wave but not the 2019 wave, we use their characteristics as of 2018 when constructing Table 1.

indicated that they were working in 2019, and 17% claimed to be in “fair” or “poor” health.

Results

Year-over-year descriptive statistics

Table 2 presents levels of some key variables of interest in each year of our data. Relative to prior years, there is a notable increase in financial satisfaction (measured on a five-point scale from “Not at all satisfied” to “Extremely satisfied”) in 2020, then an even larger increase in 2021. In particular, relative to 2019, financial satisfaction was 0.2 points higher in 2021 (a 7% increase). We observe a similar, relatively large reduction in financial stress over time. The fraction of respondents indicating that they are experiencing either a “Moderate” or “High” amount of stress due to their financial situation dropped by three percentage points from 2018 to 2019, by 4 percentage points from 2019 to 2020, and by 7 percentage points from 2020 to 2021 (a cumulative 14 percentage-point drop — from 41% to 27% — over the entire time period). Despite an increase in financial satisfaction and a decrease in financial stress, we find that financial fragility increased, on average, in 2021. In particular, the fraction of respondents who reported that they would have to use a method other than cash or a cash equivalent to cover an unexpected $400 expense rose from 39% in 2020 to 44% in 2021. We examine who appears to face greater financial fragility in subsequent sections.

Short-term savings behavior remained elevated in 2021 relative to prepandemic levels. The fraction of respondents who indicated that they are currently saving increased 6 percentage points between 2019 and 2020, from 76% to 82%, and

remained at 82% in 2021. This increase in savings participation is driven primarily by active saving behavior in liquid accounts (checking or savings accounts, cash, other nonretirement account saving or investing), which rose from 73% in 2019 to 80% in 2020 and decreased slightly to 79% in 2021. While we observe an increase in short-term savings participation, we see little difference in saving activity in retirement accounts (employer-sponsored retirement accounts or IRAs) across our study years. If anything, it appears that relatively fewer respondents were saving for retirement in 2021 compared to the period before the pandemic. This remains true if we restrict the sample to individuals who are not retired at the time of the survey — 53% of nonretirees were saving in 2019, while 52% were saving in 2021 (not shown in Table 2). This is notable since, by construction, respondents have aged two years over that time span, and report generally better short-term financial stability, but have not increased retirement savings participation rates.

The persistent increase in short-term financial stability occurred despite continued lower levels of labor force participation. Mirroring the national experience, there was a substantial drop of approximately 6 percentage points (10%) in the fraction of our respondents who were working in 2020 relative to 2019. While this increased 3 percentage points between 2020 and 2021, we still observe labor force participation rates in 2021 that were 3 percentage points lower than prior to the onset of the pandemic.

Table 3 describes the distribution of savings and debt balances across years. Following the large increase in liquid account balances at the bottom end of the distribution in 2020, (inflation adjusted) liquid account balances dropped at the 25th

percentile and below in 2021, yet increased at the median. Relative to 2019, liquid account balances at the 25th and 50th percentiles remained elevated in 2021, though were lower than prepandemic levels at the 10th and 75th percentiles.

Removing other savings and investing and focusing strictly on checking and savings balances, we see relatively similar patterns. Checking and savings balances dropped between 2020 and 2021 at the 10th and 25th percentiles, yet remained similar at the median and slightly increased at the 75th percentile. Despite some decrease between 2020 and 2021, checking and savings balances remained above 2019 levels at the 25th percentile and above in 2021. This is particularly notable given that inflation increased fairly substantially, by about 5 percent, between May 2020 and May 2021.

While short-term savings balances remained above prepandemic levels at the median, we see sharp declines in median retirement account balances after the pandemic's onset. In particular, median retirement account balance fell from $9,824 in 2019 to $5,888 in 2020 and to $2,804 in 2021. While some of the reduction in 2021 is due to a larger inflation adjustment than in 2020, we also observe reductions in nominal balances at the 50th and 75th percentiles. This is particularly startling when considering that the Dow Jones Industrial Average increased by approximately 40% between May 2020 and May 2021, possibly indicating that some rebalanced portfolios away from stock prior to the increase in equities while others were drawing down on their retirement wealth.

Table 3 also explores debt levels across our window of observation. Following increases between 2019 and 2020, total debt level dropped markedly at the median in 2021, by about 32 percent, relative to 2020. We observe a similar proportional

decrease when excluding mortgage debt. While less pervasive in our sample, we also observe reductions in credit card debt — balances at the 75th percentile fell from $2,453 to $1,122 between 2020 and 2021.

Empirical approach and regression results

We exploit the longitudinal nature of our data to estimate individual fixed effects regressions of the following form:

$$(1)\ Y_{it} = \alpha + \beta X_{it} + \phi_i + \gamma_t + \varepsilon_{it}$$

where Y_{it} captures an outcome of interest for individual *i* in year *t*, X_{it} is a vector of (time-varying) financial and demographic characteristics and behaviors, and ϕ_i and γ_t capture individual and year fixed effects, respectively. We cluster standard errors at the individual level. Our primary coefficients of interest are the 2020 and 2021 indicators, capturing how financial situation differs after the onset of the pandemic and into its first year, relative to prepandemic.

Table 4 examines effects on subjective outcome measures and financial fragility. On average, financial satisfaction continued to improve through the first year of the pandemic. In particular, financial satisfaction was 0.08 points higher in 2020, a 3% increase, and 0.23 points higher in 2021, a 7% increase, relative to prepandemic levels. Relatedly, respondents were 5.1 percentage points and 13.9 percentage points less likely to report that their financial situation was causing them a moderate or high amount of stress in 2020 and 2021, relative to the period before the pandemic.

In contrast to the year-over-year improvements observed on the subjective measures, we find that financial fragility increased between 2020 and 2021. While the prevalence of financial fragility was lower in 2020 than prior to the onset of the

pandemic, by approximately 3 percentage points, it was *higher* in 2021 than before the pandemic, also by approximately 3 percentage points. Thus, there appears to be somewhat of a disconnect between respondents' subjective assessment of their financial situations and the more objective measure of financial fragility. Individuals may feel better about their short-term financial conditions, maybe partly due to increased credit availability (following a reduction in credit card debt), but may have more difficulty covering an unexpected expense solely using cash.

Along with a general improvement in subjective financial situations, we also see increased savings activity. Table 5 shows that respondents were 5.2 percentage points more likely to be currently saving in 2020 relative to prepandemic, and were a similar 4.4 percentage points more likely to be saving in 2021. The increase in savings activity appears concentrated mostly in liquid accounts rather than in retirement accounts. Respondents were 6.7 percentage points and 5.8 percentage points more likely to be currently saving in checking or savings accounts, cash, or other nonretirement saving or investment accounts in 2020 and 2021, respectively, relative to prepandemic. While we see a modest increase in retirement saving activity (IRAs or employer-sponsored retirement accounts) in 2020 of 1.6 percentage points, we observe no difference in retirement savings participation in 2021 relative to before the pandemic's onset.

Table 6 examines effects on savings balances. Given the highly skewed nature of the data with many zeros, we transform balance variables using the inverse hyperbolic sine function and calculate elasticities following Bellemare and Wichman (2020). We find that the substantial increase in average liquid account balances observed in 2020 persists into 2021. On average, liquid account balances were higher

post-pandemic by about 28% in 2020 and 2021. This finding is predominately driven by activity in short-term savings: Balances in checking and savings accounts increased approximately 38% relative to prepandemic levels. In contrast, while we observe no statistical difference in retirement savings balances in 2020, we find that in 2021 retirement balances were approximately 18% *lower* relative to prepandemic levels. As discussed when examining descriptive statistics, the reduction is in part due to a larger inflation adjustment in 2021 than previous periods, but it is a stark reduction considering the substantial rise in the stock market between May 2020 and May 2021, suggesting that some in our sample were drawing down on their retirement wealth or rebalanced away from equities prior to the increase in value.

Table 7 explores effects on debt loads. Mirroring our summary statistics, total debt — comprised of mortgage debt, auto debt, student loans, business loans, medical debt, credit card balances, and other debt — was approximately 13% lower in 2020 than prepandemic, yet jumped to approximately 48% lower in 2021. We find similar patterns after removing mortgage debt (Column 2) and for credit card debt (Column 3). Relatedly, we find that consumers' subjective perceptions of their debt situations continued to improve through the first year of the pandemic. In particular, respondents were approximately 3 percentage points less likely to report that they have more debt than is manageable in 2020, yet 6 percentage points less likely to do so in 2021, relative to before the pandemic's onset.

In addition to our annual surveys, two shorter modules fielded in August 2020 and January 2021 help trace out the effects of the pandemic more finely over time. These modules track several important metrics also included in the annual surveys,

particularly whether household spending was equal to or more than income over the previous 12 months, whether the household has been able to pay all bills on time over the previous 12 months, and the subjective debt manageability question described above. Table 8 documents that the improvements observed in short-term financial stability soon after the pandemic's onset either persisted or were enhanced over the pandemic's first year. For example, shortly after the onset of the pandemic in May 2020, respondents were approximately 7 percentage points less likely to report that their household spending equaled or exceeded their income. While this figure dropped in the subsequent surveys, in all post-pandemic periods, respondents were at least 4 percentage points less likely to report that their household budgets were stretched. Respondents' abilities to pay all their bills on time and their subjective perceptions of their debt manageability continually improved over time. For example, respondents were approximately 4 percentage points less likely to feel their debt level was unmanageable in May 2020, 5 percentage points less likely in August 2020 and January 2021, and 6 percentage points less likely in May 2021.

The effects of stimulus payments (EIPs)

While the labor market began to recover in 2021, employment levels were still depressed at the time respondents completed the latest round of the survey. Despite the lingering effects of the economic and labor market tumult, on average, most of our measures of short-term financial stability continued to improve through the pandemic's first year. A natural possible contributing factor is the governmental stimulus response, particularly the EIPs. In April 2020, shortly before our 2020 survey wave, the IRS began distributing checks of up to $1,200 to most U.S. adults (subject to earnings limits). The

third wave of EIPs — of up to $1,400 per individual and dependent (again, subject to earnings limits) — began being distributed in March 2021, shortly before our latest survey wave. Approximately 53% of our respondents indicated that they had received the first stimulus check at the time they completed the 2020 survey, while approximately 80% had received the third check at the time they completed the 2021 survey.

Table 9 replicates Table 4, exploring effects on subjective measures of financial stability and financial fragility, accounting for stimulus receipt. Unsurprisingly, recently receiving a stimulus payment is positively associated with improved financial situation. We find very similar estimates of stimulus receipt for both the first and third checks on both financial satisfaction and financial stress. Among individuals who recently received a stimulus check, levels of financial satisfaction increased by 0.06 to 0.07 points more and the likelihood of reporting high financial stress reduced by 3 to 4 percentage points more than for individuals who had not recently received a stimulus check. Notably, receiving the first stimulus check is associated with nearly all of the reduction in financial fragility we observe in 2020, and is directionally associated with lower financial fragility in 2021. Conversely, the increase in financial fragility we observe in 2021 is primarily concentrated on individuals who had not recently received a stimulus payment, consistent with the possibility that the EIPs were important in bolstering households' short-term financial resiliency during the pandemic.

Table 10 examines savings behavior after accounting for stimulus receipt. While we find some evidence that receipt of the first EIP is associated with increased likelihood of saving in liquid accounts in 2020, we find more robust evidence of a link between stimulus receipt and likelihood of saving in 2021. In particular, the likelihood of

saving in general and saving in liquid accounts increased by 4.3 and 4.7 percentage points more, respectively, among individuals who received the third EIP than individuals who did not. In fact, there is no indication of increased short-term savings rates among individuals who did not receive the third EIP. However, we see little evidence of a relationship between stimulus receipt and retirement savings behavior.

Table 11 explores the relationship between savings balances and receipt of the stimulus payments. As expected given the short temporal distance between when the checks were distributed and the timing of our surveys, stimulus receipt is associated with large increases in liquid account balances, both overall and specifically in checking and savings accounts. Receipt of the first stimulus payment was associated with a roughly 40% increase in liquid account balances and checking and savings balances in 2020, and receipt of the third EIP was associated with a roughly 25% to 30% increase in balances in 2021. Thus, the stimulus appears to be an important factor in the observed and persistent rise in savings through the first year of the pandemic. Indeed, after accounting for receipt of the stimulus payments, we see no statistical difference in account balances between 2021 and prepandemic for individuals who did not receive a stimulus payment. We find little statistical evidence of a relationship between stimulus receipt and retirement savings balances, though directionally it appears the reduction in retirement balances observed in 2021 was concentrated among individuals who received the third EIP.

In contrast to the large impact on savings balances, there is little apparent relationship between stimulus receipt and debt levels. Table 12 documents a lack of significant correlations (at conventional levels) between stimulus receipt and total debt,

nonmortgage debt, or credit card debt for either the first or third EIP. We do find some evidence that receipt of the third EIP is associated with a reduced likelihood of reporting an unmanageable debt level in 2021, and receipt of the first EIP is directionally associated with reduced concern about one's debt level in 2020.

Overall, we find evidence consistent with the EIPs playing a key role in bolstering short-term financial stability, both soon after the pandemic's onset and continuing through the first year. In particular, receipt of the third EIP accounts for the majority of increase in liquid savings balances and checking and savings balances that we observe in 2021. Moreover, we find directional evidence that the increase in financial fragility observed in 2021 was concentrated among individuals who did not receive the most recent stimulus payment. These findings may be a harbinger for the future: Now that households no longer receive governmental stimulus checks, signs of short-term financial instability may soon become apparent.

While we find improvements, on average, for most of our measures of short-term financial stability, the pandemic (and the stimulus response), has had differential effects across the population. In the next section, we explore differences in impacts across numerous demographic and financial characteristics.

Heterogeneity

Age

We first examine whether older adults were differentially impacted by the pandemic on our main outcome variables of interest. For this purpose, we create an indicator variable for whether an individual is 60 or older in 2019, and interact it with the 2020 and 2021 time dummies. Table 13 shows little evidence of differential impacts for

older adults along financial fragility and subjective measures of financial well-being. We observe no significant difference along impacts to one's ability to cover a $400 shock with cash or a cash equivalent, or in overall financial satisfaction, either shortly after the onset of the pandemic or into its first year. We find some evidence that adults younger than 60 experienced a larger reduction in financial stress in 2021 than their older counterparts: younger adults had a 4 percentage point larger reduction in financial stress in 2021 relative to prepandemic levels than those 60 and older.

We also find little evidence of heterogeneity in savings responses by age. Interestingly, Table 14 shows that there were similar increases in short-term saving activity among older and younger respondents shortly after the pandemic, and that these heightened savings rates were similarly maintained into the pandemic's first year. Both groups were approximately 5 percentage points more likely to say that they were currently saving in 2020 and 2021 relative to prepandemic. Younger adults experienced a slightly larger increase in their likelihood of saving in liquid accounts in 2021 relative to prepandemic than older adults (by 3 percentage points), though this difference is only marginally significant. We find little evidence of age-based heterogeneity in retirement savings participation rates either shortly after the pandemic's onset or into its first year.

Race

The pandemic has had a disproportionate health impact on racial minorities, with higher rates of death among Black, Native American, and Hispanic communities than observed among whites (Tai et al. 2020). We examine whether there have also been heterogeneous impacts in financial stability measures across race (this subsection) and ethnicity (next subsection). Given the composition of our sample, we group

respondents into three racial groups: whites (82% of the sample), Blacks (8% of the sample), and other racial minority (10% of the sample).

Table 15 explores racial heterogeneity on subjective financial well-being and financial fragility. While our results are relatively imprecise, we find directional evidence that white individuals' financial satisfaction improved more than for blacks in 2020 and more than for other minorities in 2021. In particular, though financial satisfaction increased for all groups in both years after the pandemic, we find that Black individuals had a 0.03 point smaller increase (not statistically significant) than whites in 2020, and other racial minorities had a 0.08 point smaller increase (marginally significant) than whites in 2021, relative to prepandemic levels. Conversely, we find directional evidence that, relative to whites, Blacks and other minorities experienced larger reductions in financial stress 2021 — by 3 percentage points for Blacks (not statistically significant) and by 6 percentage points for other minorities (marginally significant). We also find some directional, but imprecise, evidence that Blacks experienced a larger reduction in financial fragility in 2020 and a smaller increase in fragility in 2021, though neither estimate is statistically significantly different than zero.

While we find relatively little robust evidence of racial heterogeneity on subjective measures and financial fragility, we find statistically significant evidence of racial heterogeneity in savings behaviors. In particular, Table 16 shows that that the proportion of Blacks who responded that they were currently saving rose by 6.1 percentage points more than that for whites in 2020, and rose by 5.3 percentage points more than for whites in 2021 (marginally significant), relative to prepandemic. Much of the racial heterogeneity is driven by differential increases in short-term savings activity:

Black respondents experienced a 7.5 percentage point larger increase in the likelihood of saving in liquid accounts in 2020, and a 6.3 percentage point larger increase in 2021, relative to prepandemic than whites. We also see suggestive evidence that Blacks may have also experienced differential increases in their likelihood of saving in retirement accounts early after the onset of the pandemic, though our estimate is only marginally significant in 2020 and smaller and not statistically significant in 2021. Conversely, we find little evidence of differential savings behavior for other minorities relative to whites.

The EIPs may have contributed to the differential increase in saving behavior observed among Black individuals. Our 2021 survey elicited how respondents used their third EIP, conditional on having received it by the time of the survey. Although the difference is not statistically significant, Table 17 shows that Black individuals were 4 percentage points more likely than whites to report that they directed their stimulus payment (or at least a part of it) towards savings, and 3 percentage points more likely to do so than other minorities. The table also highlights that the stimulus was particularly important in providing a lifeline to minority households. Blacks and other minorities were 17 percentage points and 12 percentage points more likely than whites to report putting the stimulus payment toward bills, and 17 percentage points and 14 percentage points more likely than whites to report putting it toward other necessities.

Ethnicity

Table 18 explores heterogeneity in subjective financial well-being and financial fragility by ethnicity. We find little evidence of differences in subjective measures for Hispanics and non-Hispanics, though we find some evidence that Hispanics experienced disproportionately increased financial fragility. In particular, financial

fragility increased 5.3 percentage points more among Hispanics than non-Hispanics in 2020 (marginally significant). In fact, while financial fragility decreased among non-Hispanics early after the pandemic's onset by 3.3 percentage points, our point estimates suggest that financial fragility *increased* among Hispanics by 2.0 percentage points, though this estimate is not statistically significantly different than zero. Similarly, we find evidence that financial fragility increased by 3.7 percentage points more among Hispanics than non-Hispanics in 2021 relative to prepandemic, though this difference is again not statistically significant. We find relatively little difference in savings behavior by ethnicity (Table 19), though our estimates are directionally consistent with Hispanics being more likely to modestly increase their savings rates.

Gender

Women's labor force participation dropped more steeply than men's after the onset of the pandemic. While overall labor force participation rates have increased since April 2020, women's labor supply remains differentially affected (Lim and Zabek 2021), potentially negatively impacting their financial stability. Rather than experiencing a disproportionate reduction in short-term financial stability, we find that women's financial well-being generally continued to improve more than men's through the first year of the pandemic. Table 20 shows that, soon after the pandemic's onset, women experienced a 0.07 point larger increase in financial satisfaction than men, a 5 percentage point larger reduction in financial stress, and a 3 percentage point larger reduction in financial fragility (marginally significant). Relatedly, in 2021 women's financial stress dropped by 7 percentage points more than men's relative to prepandemic levels, while women's financial fragility increased by 4 percentage points

less. In fact, we find no statistical evidence that women had higher levels of financial fragility in 2021 than prior to the pandemic's onset — the observed increase in financial fragility is concentrated almost entirely among men.

In addition to disproportionate improvements in short-term financial stability, women also exhibited larger, positive changes in savings behavior shortly after the pandemic's onset. The likelihood of currently saving in 2020 rose by 2.3 percentage points more for women than men (marginally significant) relative to prepandemic levels, driven by heterogeneity in saving in liquid accounts — where women experienced a 3.6 percentage point larger increase than men (Table 21). Women's likelihood of saving for retirement also increased more than men's in 2020, by 3 percentage points. While point estimates on gender heterogeneity are positive in 2021, we find less evidence that this disproportionate increase in saving behavior persisted into the pandemic's first year. All of our estimates for gender heterogeneity are smaller in 2021 than in 2020, and only the difference in liquid saving behavior is (marginally) significant.

We find directionally consistent, though not statistically significant, evidence that the gendered effects, particularly with regards to financial fragility, are in part driven by heterogeneous effects from receiving the stimulus. Table 22 shows that receiving the first stimulus is associated with a 4.5 percentage point larger reduction in financial fragility for women than men in 2020, and receiving the third EIP is associated with a 2.0 percentage point larger reduction in financial fragility for women in 2021, though neither estimate is statistically significantly different than zero.

Income

Table 23 explores whether the pandemic had heterogeneous effects by level of income, where we split the sample into above and below median household income in 2019, corresponding to $60,000 per annum. In short, financial situation disproportionately improved for individuals with below median incomes shortly after the pandemic's onset and continued to improve through the first year. Relative to their higher income counterparts, financial satisfaction rose by 0.07 points more in 2020, and 0.09 points more in 2021, compared to prepandemic levels for individuals living in households earning less than $60K a year. Individuals with below median household income also experienced larger reductions in financial stress, by 6.2 percentage points in 2020 and 3.4 percentage points in 2021. Strikingly, nearly all of the reduction in financial fragility observed in 2020 was concentrated among individuals in households with below median incomes, and lower earners experienced an 8.2 percentage point larger reduction in financial fragility in 2021 relative to prepandemic levels than their higher income counterparts. Thus, individuals with lower incomes actually had directionally lower financial fragility in 2021 relative to prepandemic levels (by 1.4 percentage points). In other words, all of the estimated increase in financial fragility in 2021 occurred among higher earning individuals. This is notable as these individuals were both less likely to have received a stimulus check, and more likely to have received a reduced amount conditional on receipt.

Part of the improvement in financial situation for individuals with lower incomes may have been driven by differential increases in savings activity. Table 24 shows that the likelihood of currently saving rose by 6 percentage points more in 2020, and persisted at 5 percentage points more in 2021, compared to the prepandemic period for

individuals with below median household income relative to those with above median household income. Essentially all of this observed increase is driven by differential saving in liquid accounts:We find essentially no evidence of heterogeneity in retirement savings participation rates after the onset of the pandemic.

Though we do not find statistical evidence of differential impacts of the stimulus payments (conditional on receipt) by income through interacted models,[4] it is likely that higher rate of stimulus receipt among lower income individuals contributed to the heterogeneous effects in financial fragility. For example, individuals with 2019 incomes less than $60,000 were 13 percentage points more likely to have received the third EIP at the time they completed the 2021 survey than individuals with higher incomes.

Past financial behavior

Similar to the heterogeneous effects found for those with lower incomes, we find that individuals who had difficulty making ends meet prepandemic experienced larger improvements in short-term financial stability after the pandemic's onset than individuals who spent less than they earned. Table 25 shows that individuals who reported spending equal to or more than their income in 2019 experienced larger increases in financial satisfaction, and larger reductions in financial stress and financial fragility, in 2020 than their lower spending counterparts. For example, we find that higher spenders experienced a 0.14 point larger increase in financial satisfaction in 2020 and a 6.1 percentage point larger reduction in financial fragility shortly after the pandemic's onset. In fact, we observe no statistical difference in either outcome measure for

[4] Available from the authors upon request.

individuals who spent below their income in 2019 — all of the gains were concentrated among those who had more difficulty making ends meet.

We also find evidence that these early differential improvements persisted, and increased, through the pandemic's first year. For example, higher spenders experienced a 0.15 point larger increase in financial satisfaction and a 10.4 percentage point larger reduction in financial fragility in 2021 relative to prepandemic levels than those spending below their income. Along the lines of the income heterogeneity previously described, we find that individuals spending at or above their means in 2019 experienced a statistically significant reduction in financial fragility in 2021 while those spending below their incomes experienced a substantial increase in fragility.

Table 26 demonstrates that higher spenders also differentially improved the likelihood that they were saving in 2020 and this persisted into 2021. The likelihood of being a saver in 2020 rose by 4.4 percentage points more for individuals who spent more than or equal to their income in 2019 than for individuals who spent less, and persisted at 5.4 percentage points more in 2021. All of the increase was driven by increased savings behavior in liquid accounts, while we find no evidence of heterogeneity in retirement savings likelihood.

Table 27 provides evidence consistent with the differential impacts being driven by larger effects of the stimulus payments for individuals who were struggling financially. Though our estimates are not statistically significant, we find that receipt of both the first EIP and the last EIP is associated with larger improvements in short-term financial stability for individuals who were spending at or above income in 2019 relative to those spending less. For example, receipt of the first EIP is associated with a 0.07

percentage point larger increase in financial satisfaction in 2020, and receipt of the last EIP is associated with a 0.12 point larger increase in 2021 (marginally significant), for higher spenders.

Occupation

While the pandemic induced labor market shocks and health risks across the population, the effects were not equal across all workers. In particular, individuals employed in "essential" occupations remained on the job in-person during the height of the pandemic and have faced unequal health risks. Additionally, in the absence of adequate paid sick leave, these employees have faced increasing job insecurity (Wolfe et al. 2021). Anecdotal evidence suggests that client-facing employees have recently been the target of abusive behavior from unruly customers (The New York Times 2022; The Atlantic 2021).

We examine whether these cumulative effects have differentially impacted essential workers' financial stability. For this purpose, we take advantage of Standard Occupation Codes (SOCs), first elicited for all UAS members between February and April 2021 and updated annually thereafter. Specifically, we rely on the 2021 SOCs and the 23 occupational groups defined by the first-tier SOCs to identify essential workers.[5] According to the adopted classification, essential workers are those in health care, protective service, food preparation and serving, farming, fishing, and forestry,

[5] We have experimented with a finer classification using second- and third-tier SOCs (e.g., within the "food preparation and serving" occupation, cooks and food preparation workers would be classified as essential, while food and beverage serving workers would not) and obtained very similar results. Since second- and third-tier SOCs have more missing values than first-tier SOCs, we report the results based on the first-tier SOCs classification, which allows us to maximize the size of the analytic sample for this analysis.

construction and extraction, installation and maintenance, production, transportation, and the military.

Table 28 shows no evidence of heterogeneity in short-term financial stability by occupation type. Point estimates for financial satisfaction and financial fragility are small and not statistically significant. We find some indication that essential workers may have experienced larger reductions in financial stress than other workers. In particular, essential workers' likelihood of having high financial stress dropped by 3.4 percentage points more than nonessential workers in 2021 relative to prior to the pandemic's onset. However, this estimate is only marginally significant.

Similarly, there is little evidence of heterogeneity in savings behavior across occupation class. Table 29 reveals essentially no differences in changes in the likelihood of saving, either for the short-term or the long-term, between essential and nonessential workers in either 2020 or 2021. Point estimates are all small and not statistically significantly different than zero.

Overall, our analyses provide strong empirical support to the hypothesis that household financial experiences have been heterogeneous through the first year of the pandemic. In particular, we find that short-term financial stability disproportionately improved for individuals who experienced more economic vulnerabilities, and that these differential improvements largely persisted or increased through the pandemic's first year. Individuals with lower incomes, women, and those who were spending at or above their means all experienced differentially large improvements in short-term financial stability relative to their respective counterparts. We also find evidence that Black individuals disproportionately increased the likelihood of saving in liquid accounts

after the onset of the pandemic. Though we lack statistical precision to robustly identify heterogeneity with respect to the receipt of stimulus payments, our evidence is consistent with groups with greater prepandemic economically vulnerability experiencing larger benefits from the stimulus. Perhaps of concern, we find evidence of increased financial fragility among populations less likely to receive the stimulus (or who received a smaller amount conditional on receipt).

Retirement security

In addition to our four annual survey waves, we also draw data from three additional modules in the UAS that elicit Social Security retirement benefits claiming intentions and self-assessed financial preparedness for retirement. These modules were fielded in 2015/2016, 2017/2018, and beginning in April 2020, after the onset of the pandemic, through June 2022. More than 95% of our sample completed the post-pandemic module and at least one prepandemic module.[6] We group post-pandemic responses into two categories (1) responses in 2020, and (2) responses in 2021 or 2022. Approximately three-quarters of the post-pandemic responses were recorded in 2020.

Respondents indicate whether they are “Very well prepared,” “Somewhat well prepared,” “Not too prepared,” or “Not at all prepared” financially for retirement. We create a binary indicator taking value 1 for “Somewhat well prepared” or “Very well prepared” and 0 otherwise. Just over half the sample indicates they are at least somewhat well prepared financially for retirement in the 2015/2016 wave. The claiming

[6] Demographic characteristics of the merged sample are very similar to those of the overall sample and available from the authors upon request.

intentions question elicits the age at which respondents plan to claim Social Security retirement benefits if they have not already claimed. Due to nonresponse and prior claiming, less than half the sample responds to these questions. Of the provided responses, we winsorize to the 95th percentile, which corresponds to claiming at the latest possible age of 70 years old.

Table 30 shows that our respondents were more likely to indicate that they were financially well prepared for retirement shortly after the onset of the pandemic. In particular, the likelihood one felt financially well prepared in 2020 increased 2.9 percentage points relative to prepandemic. However, we observe no difference in retirement preparedness in 2021/2022 relative to before the pandemic's start. This is startling since one might expect financial preparedness for retirement to increase with age, though we find no differences in our sample more than a year into the pandemic, despite respondents being three to six years older than when previously surveyed. This evidence is broadly consistent with the declining retirement balances observed above.

Column 3 examines planned Social Security claiming ages. We find evidence that intended claiming ages rose after the onset of the pandemic among individuals who had not already claimed. In particular, intended claiming ages increased by 0.21 years on average in 2020, and by 0.47 years in 2021/22 relative to prepandemic levels. This is consistent with the possibility that our sample intends to work longer in light of drops in retirement saving balances and no perception of improved financial preparedness for retirement in 2021/22.

Next, we investigate the presence of heterogeneity in retirement behavior/preparedness by age. Columns 2 and 4 augment the specifications explored in

Columns 1 and 3 by interacting our period dummy variables with indicators capturing whether respondents are 60 or older at the time of the survey. For subjective financial retirement preparedness, we find that the increase observed in 2020 was primarily concentrated among older adults. Specifically, individuals 60 and older experienced a 2.8 percentage point larger increase in the likelihood they felt well prepared for retirement than younger adults early after the pandemic's onset. However, we find little evidence of age-based heterogeneity in 2021/22. If anything, older adults were less likely to have experienced an increase in subjective retirement preparedness than younger adults in 2021/22 relative to prepandemic levels. We find a similar pattern of heterogeneity for intended claiming ages. In particular, planned claiming ages rose by 0.48 years more for older adults than younger adults in 2020. However, this heterogeneity did not persist into 2021/22, where we find little evidence of age-based differences.

Vaccination

Following emergency approval of the first COVID-19 vaccines in December 2020, many Americans lessened their health risk by becoming immunized. However, at the time respondents completed our 2021 survey, supply constraints across the country were limiting the number of individuals who could receive their shots. To examine how individual variation in reduced health risk may have influenced financial behaviors, we explore differences in savings/consumption patterns for otherwise similar individuals who intended to become vaccinated but had not yet received access with individuals who had already received at least one shot. Through the Understanding Coronavirus in America tracker, the UAS routinely elicited vaccination intentions and receipt throughout

the pandemic. We observe vaccination intentions/receipt for approximately 90% of our sample, among whom 47% were fully vaccinated, 13% were partially vaccinated, and 18% intended to become vaccinated but had not yet been able at the time of completing the 2021 survey wave.

In short, we find little evidence of differential saving behavior by vaccination status. Table 31 shows no meaningful differences in the likelihoods of saving overall, saving in liquid accounts, or saving in retirement accounts in 2021 for individuals who were fully or partially vaccinated relative to individuals who intended to become vaccinated but had not yet had an opportunity to do so. Though preliminary, our evidence suggests there may not have been large changes in spending behavior shortly after individuals became immunized.

Conclusion

The COVID-19 pandemic has had enormous effects on economic and daily life around the globe. In this paper, we examine how the pandemic has influenced Americans' financial stability and behavior through the pandemic's first year using longitudinal survey data from a nationally representative internet panel, the Understanding America Study. Our primary analysis sample consists of respondents to four annual surveys fielded in May 2018, 2019, 2020, and 2021 spanning two years before the pandemic and a little more than a year after its onset. We also merge in data collected in other UAS surveys that elicit subjective financial preparedness for retirement and intended Social Security retirement benefit claiming ages, as well as vaccination intentions and receipt.

We find that Americans' financial situations improved, on average, early after the onset of the pandemic and continued to improve through the pandemic's first year. Notably, financial satisfaction increased shortly after the beginning of the pandemic and increased again in 2021. We also observe increases in short-term savings behavior and balances in 2020 that persist into mid-2021. We find that the improvements in short-term financial stability were concentrated among individuals who faced more economic challenges before the pandemic hit, such as individuals with lower incomes and those having difficulty making ends meet. We find evidence consistent with the stimulus — particularly the Economic Impact Payments (EIPs) — being a key contributor to the improvements. While there is relatively little evidence of heterogeneous effects by age, we have suggestive evidence that financial fragility increased disproportionately among Hispanic respondents and that Black individuals experienced a larger increase in the likelihood that they were saving post-pandemic relative to their white counterparts, possibly due to differential impacts of the stimulus. We find little evidence of heterogeneity for essential versus nonessential workers and little difference in spending/saving behavior based on vaccination status.

Though we observe improvements on average on most measures of financial security, there are two notable exceptions. First, after falling in 2020, financial fragility (an inability to cover a $400 shock solely with cash or a cash equivalent) increased, on average, in 2021 relative to its prepandemic levels. This average increase was concentrated among individuals who did not receive the last EIP or had higher incomes and, consequently, were more likely to have received a reduced EIP amount conditional on receipt. Lacking an additional inflow of liquidity, this group may have relied more on

credit to sustain their standards of living, thereby reporting being less able to cover an unexpected expense with cash or cash equivalent. This underscores the importance of the stimulus in helping to blunt the pandemic's adverse effects on households' financial situations and is also concerning: Since the stimulus and enhanced unemployment benefits have recently ended, signs of economic insecurity among households with more financially vulnerabilities may become apparent in the near future. Second, we observe reduced self-reported (inflation adjusted) retirement balances in 2021 relative to prepandemic levels. This, coupled with little evidence of sustained improvement in subjective retirement preparedeness, suggests that the observed improvements in short-term financial stability may not translate into improved retirement outcomes in the future.

Thus, while we observe that short-term financial situations improved for most Americans through the pandemic's first year, these improvements may be fleeting and not translate into long-term changes in financial well-being. Notably, the vast majority of our respondents had recently received a check from the third round of EIPs prior to completing the 2021 survey, and our evidence suggests that it is likely that the EIPs meaningfully contributed to short-term financial well-being. Given that the stimulus program has now ceased, Americans — particularly those who faced more economic challenges before the pandemic — may face increased difficulty in securing short-term and long-term financial security. How Americans' financial behavior and situations have changed since the cessation of the stimulus program (and in response to rising inflation) remains an important area for future research.

References

Angrisani, Marco, Jeremy Burke, and Arie Kapteyn, 2021, “The Early Impacts of the Coronavirus Pandemic on Americans’ Economic Security,” University of Michigan Retirement and Disability Research Center (MRDRC) Working Paper; MRDRC WP 2021-426

The Atlantic, 2021, "American Shoppers are a Nightmare." August 3, 2021.

Bellemare, Marc F., and Casey J. Wichman, 2020, *Oxford Bulletin of Economics and Statistics*, 82(1), 50 – 61

Cox, Natalie, Peter Ganong, Pascal Noel, Joseph Vavra, Arlene Wong, Diana Farrell, Fiona Greig, and Erica Deadman, 2020, “Initial Impacts of the Pandemic on Consumer Behavior: Evidence from Linked Income, Spending, and Savings Data,” *Brookings Papers on Economic Activity,* Summer 2020

Bureau of Labor Statistics, 2022, “Labor Force Statistics from the Current Population Survey,” https://data.bls.gov/timeseries/LNS14000000

Federal Reserve Board, 2019, “Report on the Economic Well-Being of U.S. Households in 2018 – 2019,” Board of Governors of the Federal Reserve System, Washington, DC

Fulford, Scott, Marie Rush, and Eric Wilson, 2021, “Changes in Consumer Financial Status during the Early Months of the Pandemic: Evidence from the Second Wave of the Making Ends Meet Survey,” Consumer Financial Protection Bureau Data Point No. 2021-2

Goolsbee, Austan and Chad Syverson, 2021, “Fear, Lockdown, and Diversion: Comparing Drivers of Pandemic Economic Decline 2020,” *Journal of Public Economics*, 193

Han, Jeehoon, Bruce D. Meyer, and James X. Sullivan, 2020, “Income and Poverty in the Covid-19 Pandemic,” NBER Working Paper 27729

Lim, Katherine and Mike Zabek, 2021, “Women’s Labor Force Exits during COVID-19: Differences by Motherhood, Race, and Ethnicity,” Finance and Economics Discussion Series 2021-067

The New York Times, Insider, 2022, "Why Is Everyone So Angry? We Investigated." January 14, 2022.

Tai, Don Bambino Geno, Aditya Shah, Chyke A. Doubeni, Irene G. Sia, and Mark L. Wieland, 2020, "The Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities in the United States," *Clinical Infectious Diseases*, 72(4), 703-706

Wolfe, Rebecca, Kristen Harknett, and Daniel Schneider, 2021, "Inequalities at Work and the Toll of COVID-19." *Health Affairs Health Policy Brief*

Zamarro, Gema and Maria J. Prados, (2020), “Gender Differences in Couples’ Division of Childcare, Work and Mental Health During COVID-19. *Review of Economics of the Household*, 1-30.

Tables

Table 1: Sample summary statistics (2019)

Age (average)	52.76
Female	0.57
White	0.82
Married	0.60
Education	
High school or less	0.22
Some college	0.37
Bachelor's or more	0.41
Household Income	
< $30,000	0.23
$30,000 - $59,999	0.26
$60,000 - $99,999	0.24
> $100,000	0.27
Working	0.59
Poor health	0.17
N	3,912

Table 2: Descriptive statistics over time

	2018	2019	2020	2021
Financial Satisfaction	3.09	3.06	3.13	3.26
High Financial Stress	0.41	0.38	0.34	0.27
Financially Fragile	0.39	0.40	0.39	0.44
Currently Saving (Liquid or Retirement)	0.80	0.76	0.82	0.82
Currently Saving (Liquid)	0.76	0.73	0.80	0.79
Currently Saving (Retirement)	0.49	0.47	0.48	0.46
Working	0.61	0.59	0.53	0.56

Notes: Data are weighted. Financial Satisfaction is measured on a five-point scale from 1 “Not at all satisfied” to 5 “Extremely Satisfied.” High Financial Stress is coded as 1 if a respondent indicates that they are experiencing a “High” or “Moderate” amount of stress due to their financial situation, and as 0 otherwise. Financial Fragile is coded as 1 if a respondent indicated that they would cover a $400 shock using something other than cash or a cash equivalent, and as 0 otherwise. Currently Saving (Liquid or Retirement) is coded as 1 if a respondent reports saving in a checking account, saving account, cash, or other form (Liquid) or an employer sponsored retirement account or an IRA (Retirement), and as 0 otherwise.

Table 3: Savings and debt balances over time

	p10	p25	p50	p75
Liquid Account Balance				
2018	19	700	7,800	50,003
2019	29	589	5,896	41,753
2020	84	1,079	6,378	35,325
2021	12	729	7,009	37,383
Checking/Savings Balance				
2018	12	585	4,000	16,000
2019	15	491	3,635	14,736
2020	29	785	4,219	16,093
2021	3	566	4,206	16,823
Retirement Account Balance				
2018	0	0	10,000	100,000
2019	0	0	9,824	98,241
2020	0	0	5,888	81,444
2021	0	0	2,804	74,768
Total Debt				
2018	0	200	31,000	130,000
2019	0	0	21,122	118,492
2020	0	0	25,120	120,204
2021	0	0	17,243	112,151
Nonmortgage Debt				
2018	0	0	7,500	29,000
2019	0	0	4,912	24,560
2020	0	0	5,888	27,966
2021	0	0	4,206	23,365
Credit Card Debt				
2018	0	0	0	3,000
2019	0	0	0	1,965
2020	0	0	0	2,453
2021	0	0	0	1,122

Notes: Data are weighted and indexed to 2018 dollars.

Table 4: Subjective measures and financial fragility

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.229***	-0.139***	0.029***
	(0.013)	(0.008)	(0.009)
2020	0.084***	-0.051***	-0.028***
	(0.014)	(0.008)	(0.008)
Constant	2.554***	0.559***	0.581***
	(0.122)	(0.059)	(0.059)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,854	14,852	14,818
R-squared	0.751	0.605	0.659

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Savings behavior

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving - Retirement
2021	0.044***	0.058***	-0.004
	(0.007)	(0.007)	(0.007)
2020	0.052***	0.067***	0.016**
	(0.006)	(0.007)	(0.007)
Constant	0.574***	0.559***	0.245***
	(0.056)	(0.055)	(0.055)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,645	14,696	14,748
R-squared	0.641	0.624	0.741

Notes: Saving is an indicator taking value of one if a respondent is currently saving in liquid or retirement accounts, and zero otherwise. Saving – Liquid is an indicator taking value one if respondents are currently saving in checking or savings accounts, cash, or other nonretirement saving or investment accounts, and zero otherwise. Saving – Retirement retirement is an indicator taking value one if respondents are currently saving in IRAs or employer-sponsored retirement accounts, and zero otherwise. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: Savings balances

VARIABLES	(1) Liquid Acct Bal	(2) Check/Saving Bal	(3) Retirement Bal
2021	0.254***	0.324***	-0.206***
	(0.058)	(0.043)	(0.074)
2020	0.239***	0.322***	-0.090
	(0.053)	(0.037)	(0.069)
Constant	8.016***	7.160***	5.185***
	(0.488)	(0.377)	(0.543)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	10,602	14,192	13,649
R-squared	0.859	0.815	0.843

Notes: Balances have been transformed using the inverse hyperbolic sine function. Sample sizes vary across specification due to item nonresponse. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Debt levels

VARIABLES	(1) Total Debt	(2) Nonmortgage Debt	(3) Credit Card Debt	(4) Debt Unmanageable
2021	-0.662***	-0.821***	-0.633***	-0.062***
	(0.080)	(0.081)	(0.067)	(0.007)
2020	-0.133*	-0.214***	-0.141**	-0.034***
	(0.069)	(0.072)	(0.062)	(0.007)
Constant	8.343***	6.561***	3.782***	0.239***
	(0.656)	(0.637)	(0.497)	(0.055)
Covariates	Y	Y	Y	Y
Individual FEs	Y	Y	Y	Y
Observations	13,889	14,009	14,474	14,790
R-squared	0.787	0.765	0.754	0.669

Notes: Balances have been transformed using the inverse hyperbolic sine function. Sample sizes vary across specification due to item nonresponse. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 8: Quarterly effects

VARIABLES	(1) Spend >= Income	(2) Bills Late	(3) Debt Unmanageable
Apr 2021	-0.055***	-0.065***	-0.062***
	(0.009)	(0.007)	(0.007)
Jan 2021	-0.040***	-0.071***	-0.054***
	(0.010)	(0.007)	(0.008)
Aug 2020	-0.057***	-0.051***	-0.051***
	(0.009)	(0.007)	(0.007)
Apr 2020	-0.069***	-0.024***	-0.035***
	(0.008)	(0.006)	(0.007)
Constant	0.551***	0.375***	0.234***
	(0.054)	(0.049)	(0.049)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	21,234	21,238	21,195
R-squared	0.540	0.679	0.647

Notes: Spend >= Income is an indicator taking value one if a respondent's household spending exceeded or equaled household income over the previous 12 months, and zero otherwise. Bills Late is an indicator taking value one if a respondent's household paid any bills late over the previous 12 months, and zero otherwise. Debt Unmanageable is an indicator taking value one if respondents report that they have "a bit more" or "far more" debt than is manageable, and zero otherwise. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 9: Subjective measures and financial fragility — stimulus

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.173***	-0.112***	0.048***
	(0.029)	(0.018)	(0.016)
Got Last EIP	0.066**	-0.034*	-0.022
	(0.031)	(0.019)	(0.018)
2020	0.050***	-0.033***	-0.004
	(0.019)	(0.012)	(0.010)
Got First EIP	0.063**	-0.038**	-0.046***
	(0.024)	(0.015)	(0.014)
Constant	2.576***	0.561***	0.560***
	(0.124)	(0.060)	(0.059)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,551	14,551	14,542
R-squared	0.750	0.604	0.660

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level.

*** p<0.01, ** p<0.05, * p<0.1.

Table 10: Savings behavior and stimulus receipt

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving - Retirement
2021	0.012	0.022	-0.012
	(0.012)	(0.014)	(0.015)
Got Last EIP	0.043***	0.047***	0.013
	(0.013)	(0.015)	(0.016)
2020	0.043***	0.053***	0.009
	(0.009)	(0.010)	(0.009)
Got First EIP	0.018	0.028**	0.015
	(0.011)	(0.012)	(0.013)
Constant	0.592***	0.576***	0.252***
	(0.056)	(0.055)	(0.056)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,382	14,431	14,481
R-squared	0.643	0.626	0.742

Notes: Got First EIP and Got Last EIP are indicators denoting whether a respondent had received the first and third EIP payments by the time of survey. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 11: Savings balances and stimulus receipt

VARIABLES	(1) Liquid Acct Bal	(2) Check/Saving Bal	(3) Retirement Bal
2021	0.065	0.105	-0.001
	(0.126)	(0.087)	(0.128)
Got Last EIP	0.231*	0.275***	-0.241
	(0.138)	(0.095)	(0.147)
2020	0.054	0.136**	-0.174*
	(0.083)	(0.055)	(0.093)
Got First EIP	0.329***	0.351***	0.179
	(0.097)	(0.066)	(0.123)
Constant	8.138***	7.279***	5.266***
	(0.485)	(0.377)	(0.549)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	10,434	13,965	13,440
R-squared	0.860	0.816	0.844

Notes: Balances have been transformed using the inverse hyperbolic sine function. Sample sizes vary across specification due to item nonresponse. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 12: Debt levels and stimulus receipt

VARIABLES	(1) Total Debt	(2) Nonmortgage Debt	(3) Credit Card Debt	(4) Debt Unmanageable
2021	-0.754***	-1.093***	-0.505***	-0.031**
	(0.183)	(0.184)	(0.124)	(0.014)
Got Last EIP	0.109	0.340*	-0.155	-0.038**
	(0.196)	(0.196)	(0.139)	(0.016)
2020	-0.193*	-0.230**	-0.102	-0.025***
	(0.099)	(0.100)	(0.080)	(0.009)
Got First EIP	0.105	0.031	-0.084	-0.017
	(0.122)	(0.127)	(0.109)	(0.012)
Constant	8.386***	6.620***	3.670***	0.245***
	(0.667)	(0.649)	(0.489)	(0.056)
Covariates	Y	Y	Y	Y
Individual FEs	Y	Y	Y	Y
Observations	13,670	13,784	14,241	14,541
R-squared	0.787	0.765	0.755	0.670

Notes: Balances have been transformed using the inverse hyperbolic sine function. Sample sizes vary across specification due to item nonresponse. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 13: Subjective measures and financial fragility — heterogeneity by age

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.226***	-0.154***	0.032***
	(0.018)	(0.011)	(0.011)
2021 * 60+	0.007	0.039**	-0.009
	(0.026)	(0.016)	(0.017)
2020	0.081***	-0.060***	-0.027***
	(0.018)	(0.011)	(0.010)
2020 * 60+	0.006	0.024	-0.003
	(0.027)	(0.017)	(0.015)
Constant	2.552***	0.552***	0.582***
	(0.122)	(0.059)	(0.059)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,854	14,852	14,818
R-squared	0.751	0.605	0.659

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level.

*** p<0.01, ** p<0.05, * p<0.1.

Table 14: Savings behavior — heterogeneity by age

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving - Retirement
2021	0.045***	0.068***	-0.010
	(0.008)	(0.009)	(0.009)
2021 * 60+	-0.002	-0.026*	0.015
	(0.014)	(0.015)	(0.016)
2020	0.053***	0.075***	0.018**
	(0.008)	(0.009)	(0.009)
2020 * 60+	-0.004	-0.023	-0.005
	(0.013)	(0.014)	(0.015)
Constant	0.575***	0.564***	0.242***
	(0.056)	(0.054)	(0.055)
Observations	14,645	14,696	14,748
R-squared	0.641	0.624	0.741

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level.

*** p<0.01, ** p<0.05, * p<0.1.

Table 15: Subjective measures and financial fragility — heterogeneity by race

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.236***	-0.131***	0.030***
	(0.015)	(0.009)	(0.009)
2021 * Black	0.021	-0.028	-0.029
	(0.055)	(0.033)	(0.035)
2021 * Other Minority	-0.083*	-0.054*	0.012
	(0.044)	(0.029)	(0.030)
2020	0.087***	-0.049***	-0.028***
	(0.015)	(0.009)	(0.008)
2020 * Black	-0.029	-0.001	-0.016
	(0.058)	(0.034)	(0.032)
2020 * Other Minority	-0.008	-0.017	0.012
	(0.045)	(0.028)	(0.026)
Constant	2.543***	0.559***	0.583***
	(0.122)	(0.059)	(0.059)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,811	14,809	14,775
R-squared	0.751	0.605	0.659

Notes: White is the omitted category. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level.

*** p<0.01, ** p<0.05, * p<0.1.

Table 16: Savings behavior — heterogeneity by race

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving – Retirement
2021	0.042***	0.055***	-0.008
	(0.007)	(0.008)	(0.008)
2021 * Black	0.053*	0.063**	0.032
	(0.027)	(0.030)	(0.028)
2021 * Other Minority	-0.013	-0.013	0.009
	(0.021)	(0.024)	(0.024)
2020	0.047***	0.061***	0.010
	(0.007)	(0.008)	(0.008)
2020 * Black	0.061**	0.075**	0.053*
	(0.028)	(0.029)	(0.028)
2020 * Other Minority	-0.003	0.003	0.015
	(0.020)	(0.022)	(0.024)
Constant	0.574***	0.558***	0.244***
	(0.057)	(0.055)	(0.055)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,603	14,654	14,705
R-squared	0.641	0.624	0.741

Notes: White is the omitted category. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 17: Use of third economic impact payment by race

	White	Black	Other Minority
Paid Bills	0.53	0.70***	0.65***
Necessities	0.47	0.64***	0.61***
Paid Debt	0.30	0.36**	0.31
Saved	0.47	0.51	0.48
Invested	0.07	0.06	0.11**
Gave to Friends/Family	0.09	0.14**	0.11
Charity	0.11	0.08	0.09
Haven't Used	0.06	0.03	0.01***

Notes: The table documents how respondents reported using their third EIP. Categories are not mutually exclusive. We test whether responses for Blacks and other minorities differ relative to whites using t-tests. *** p<0.01, ** p<0.05, * p<0.1

Table 18: Subjective measures and financial fragility — heterogeneity by ethnicity

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.229***	-0.139***	0.026***
	(0.014)	(0.009)	(0.009)
2021 * Hispanic	0.005	-0.003	0.037
	(0.053)	(0.032)	(0.034)
2020	0.085***	-0.049***	-0.033***
	(0.014)	(0.009)	(0.008)
2020 * Hispanic	-0.014	-0.019	0.053*
	(0.051)	(0.032)	(0.029)
Constant	2.554***	0.559***	0.581***
	(0.122)	(0.059)	(0.060)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,854	14,852	14,818
R-squared	0.751	0.605	0.659

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level.
*** p<0.01, ** p<0.05, * p<0.1.

Table 19: Savings behavior — heterogeneity by ethnicity

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving – Retirement
2021	0.042***	0.056***	-0.002
	(0.007)	(0.007)	(0.008)
2021 * Hispanic	0.030	0.025	-0.027
	(0.023)	(0.025)	(0.027)
2020	0.049***	0.065***	0.015**
	(0.007)	(0.007)	(0.007)
2020 * Hispanic	0.030	0.021	0.012
	(0.025)	(0.025)	(0.027)
Constant	0.575***	0.559***	0.244***
	(0.056)	(0.054)	(0.055)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,645	14,696	14,748
R-squared	0.641	0.624	0.741

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 20: Subjective measures and financial fragility — heterogeneity by gender

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.208***	-0.098***	0.054***
	(0.020)	(0.012)	(0.012)
2021 * Female	0.038	-0.072***	-0.044***
	(0.027)	(0.017)	(0.017)
2020	0.045**	-0.025**	-0.013
	(0.020)	(0.012)	(0.011)
2020 * Female	0.068**	-0.046***	-0.027*
	(0.027)	(0.017)	(0.015)
Constant	2.559***	0.566***	0.582***
	(0.123)	(0.059)	(0.060)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,852	14,850	14,816
R-squared	0.751	0.606	0.659

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level.

*** p<0.01, ** p<0.05, * p<0.1.

Table 21: Savings behavior — heterogeneity by gender

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving - Retirement
2021	0.036***	0.043***	-0.012
	(0.009)	(0.010)	(0.011)
2021 * Female	0.015	0.027*	0.012
	(0.013)	(0.014)	(0.015)
2020	0.038***	0.046***	-0.000
	(0.009)	(0.010)	(0.011)
2020 * Female	0.023*	0.036***	0.028**
	(0.012)	(0.014)	(0.014)
Constant	0.574***	0.558***	0.237***
	(0.056)	(0.055)	(0.055)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,643	14,694	14,746
R-squared	0.641	0.624	0.741

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 22: Subjective measures and financial fragility — heterogeneity by gender and stimulus receipt

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.151***	-0.069***	0.061***
	(0.041)	(0.026)	(0.022)
2021 * Female	0.040	-0.080**	-0.024
	(0.058)	(0.035)	(0.033)
Last EIP * Female	-0.009	0.011	-0.020
	(0.062)	(0.038)	(0.037)
Got Last EIP	0.071	-0.038	-0.010
	(0.044)	(0.028)	(0.026)
2020	0.017	-0.001	-0.005
	(0.027)	(0.017)	(0.014)
2020 * Female	0.061	-0.056**	0.002
	(0.037)	(0.023)	(0.020)
First EIP * Female	0.006	0.024	-0.045
	(0.049)	(0.031)	(0.028)
Got First EIP	0.056	-0.051**	-0.020
	(0.035)	(0.022)	(0.020)
Constant	2.581***	0.569***	0.561***
	(0.125)	(0.059)	(0.059)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,549	14,549	14,540
R-squared	0.751	0.605	0.660

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level.
*** p<0.01, ** p<0.05, * p<0.1.

Table 23: Subjective measures and financial fragility — heterogeneity by income

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.189***	-0.123***	0.068***
	(0.017)	(0.011)	(0.011)
2021 * HHI < $60K	0.086***	-0.034**	-0.082***
	(0.027)	(0.017)	(0.017)
2020	0.050***	-0.021*	-0.011
	(0.017)	(0.011)	(0.010)
2020 * HHI < $60K	0.071***	-0.062***	-0.037**
	(0.027)	(0.017)	(0.015)
Constant	2.571***	0.550***	0.565***
	(0.121)	(0.059)	(0.059)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,854	14,852	14,818
R-squared	0.751	0.606	0.660

Notes: HHI < $60K is an indicator taking value one if the respondent's household income in 2019 was below $60,000, and zero otherwise. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 24: Savings behavior — heterogeneity by income

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving - Retirement
2021	0.020***	0.034***	-0.007
	(0.007)	(0.008)	(0.011)
2021 * HHI < $60K	0.051***	0.051***	0.006
	(0.014)	(0.015)	(0.015)
2020	0.025***	0.046***	0.015
	(0.007)	(0.008)	(0.010)
2020 * HHI < $60K	0.055***	0.043***	0.002
	(0.013)	(0.014)	(0.014)
Constant	0.586***	0.569***	0.246***
	(0.056)	(0.054)	(0.055)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,645	14,696	14,748
R-squared	0.642	0.625	0.741

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 25: Subjective measures and financial fragility –

heterogeneity by 2019 spending behavior

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.164***	-0.089***	0.076***
	(0.017)	(0.010)	(0.011)
2021 * Spent >= Inc in 2019	0.145***	-0.111***	-0.104***
	(0.027)	(0.017)	(0.017)
2020	0.026	-0.021**	-0.001
	(0.017)	(0.011)	(0.009)
2020 * Spent >= Inc in 2019	0.136***	-0.063***	-0.061***
	(0.028)	(0.017)	(0.016)
Constant	2.541***	0.546***	0.575***
	(0.121)	(0.059)	(0.060)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,563	14,561	14,534
R-squared	0.752	0.607	0.661

Notes: Spent >= Inc in 2019 is an indicator taking value one if the respondents' household income in 2019 equaled or exceeded household income over the previous 12 months, and zero otherwise. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 26: Savings behavior — heterogeneity by 2019 spending behavior

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving - Retirement
2021	0.021***	0.025***	0.000
	(0.008)	(0.008)	(0.010)
2021 * Spent >= Inc in 2019	0.054***	0.075***	-0.011
	(0.014)	(0.015)	(0.015)
2020	0.034***	0.043***	0.022**
	(0.007)	(0.008)	(0.010)
2020 * Spent >= Inc in 2019	0.044***	0.057***	-0.010
	(0.013)	(0.014)	(0.014)
Constant	0.580***	0.565***	0.242***
	(0.058)	(0.056)	(0.056)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,362	14,413	14,464
R-squared	0.641	0.625	0.741

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 27: Subjective measures and financial fragility — heterogeneity by 2019 spending behavior and stimulus receipt

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.150***	-0.088***	0.076***
	(0.034)	(0.020)	(0.021)
2021 * Spent >= Inc in 2019	0.046	-0.063	-0.077**
	(0.064)	(0.039)	(0.035)
Last EIP * Spent >= Inc in 2019	0.118*	-0.058	-0.032
	(0.069)	(0.041)	(0.039)
Got Last EIP	0.013	-0.002	0.001
	(0.037)	(0.022)	(0.023)
2020	0.010	-0.005	0.010
	(0.023)	(0.014)	(0.012)
2020 * Spent >= Inc in 2019	0.092**	-0.059**	-0.034*
	(0.039)	(0.024)	(0.020)
First EIP * Spent >= Inc in 2019	0.073	-0.005	-0.044
	(0.051)	(0.032)	(0.029)
Got First EIP	0.031	-0.036*	-0.023
	(0.030)	(0.019)	(0.017)
Constant	2.566***	0.550***	0.556***
	(0.124)	(0.060)	(0.060)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	14,276	14,276	14,271
R-squared	0.752	0.606	0.662

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 28: Subjective measures and financial fragility — heterogeneity by occupation

VARIABLES	(1) Financial Satisfaction	(2) High Financial Stress	(3) Financially Fragile
2021	0.232***	-0.128***	0.039***
	(0.018)	(0.011)	(0.012)
Essential * 2021	-0.010	-0.034*	-0.005
	(0.030)	(0.020)	(0.020)
2020	0.100***	-0.042***	-0.013
	(0.018)	(0.012)	(0.010)
Essential * 2020	-0.015	-0.026	-0.024
	(0.031)	(0.020)	(0.018)
Constant	2.533***	0.533***	0.616***
	(0.129)	(0.073)	(0.074)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	11,692	11,692	11,668
R-squared	0.763	0.605	0.654

Notes: Essential is an indicator taking value one if a worker is employed in health care, protective service, food preparation and serving, farming, fishing, and forestry, construction and extraction, installation and maintenance, production, transportation, or the military, and zero otherwise. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 29: Savings behavior — heterogeneity by occupation

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving - Retirement
2021	0.041***	0.053***	-0.007
	(0.009)	(0.010)	(0.010)
Essential * 2021	0.013	0.012	0.023
	(0.015)	(0.017)	(0.018)
2020	0.050***	0.067***	0.019*
	(0.008)	(0.009)	(0.010)
Essential * 2020	-0.008	-0.012	-0.003
	(0.015)	(0.016)	(0.017)
Constant	0.601***	0.571***	0.250***
	(0.070)	(0.070)	(0.065)
Covariates	Y	Y	Y
Individual FEs	Y	Y	Y
Observations	11,544	11,580	11,620
R-squared	0.618	0.601	0.743

Notes: Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.

Table 30: Retirement security

VARIABLES	(1) Well Prepared	(2) Well Prepared	(3) Claiming Age	(4) Claiming Age
2021/22	0.019	0.026	0.471**	0.476**
	(0.014)	(0.018)	(0.202)	(0.223)
2021/22 * 60+		-0.023		-0.034
		(0.027)		(0.432)
2020	0.029***	0.018**	0.205**	0.111
	(0.007)	(0.009)	(0.090)	(0.103)
2020 * 60+		0.028**		0.475**
		(0.014)		(0.196)
Constant	0.524***	0.518***	65.720***	65.676***
	(0.051)	(0.051)	(0.613)	(0.618)
Covariates	Y	Y	Y	Y
Individual FEs	Y	Y	Y	Y
Observations	10,128	10,128	3,862	3,862
R-squared	0.781	0.782	0.793	0.794

Notes: Well Prepared is an indicator taking value one if a respondent states that they are "Somewhat well prepared" or "Very well prepared" financially for retirement, and zero otherwise. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. Claiming Age has been winsorized at the 95% level, corresponding to the maximum possible age of 70. *** p<0.01, ** p<0.05, * p<0.1.

Table 31: Savings behavior — heterogeneity by vaccination status

VARIABLES	(1) Saving	(2) Saving - Liquid	(3) Saving - Retirement
2021	0.044***	0.072***	-0.009
	(0.015)	(0.016)	(0.016)
Fully Vax	-0.005	-0.023	0.007
	(0.016)	(0.017)	(0.018)
Partial Vax	0.007	-0.010	0.009
	(0.021)	(0.023)	(0.023)
2020	0.045***	0.063***	0.016**
	(0.007)	(0.007)	(0.008)
Constant	0.629***	0.623***	0.268***
	(0.071)	(0.068)	(0.071)
Observations	11,429	11,471	11,508
R-squared	0.636	0.615	0.735

Notes: The omitted category is individuals who intend to become vaccinated, but had not yet received a shot. Each specification includes the (time varying) demographic and financial characteristics listed in Table 1. Robust standard errors in parentheses. Standard errors are clustered at the individual level. *** p<0.01, ** p<0.05, * p<0.1.