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Financial Well-Being of the Millennial Generation: An In-Depth Analysis of its Drivers and Implications

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Abstract

This paper provides an in-depth empirical analysis of the factors that contribute to the financial well-being of Millennials, as measured by the Consumer Financial Protection Bureau (CFPB)'s abbreviated well-being scale. We use data from the most recent wave of the National Financial Capability Study (NFCS), which, together with the well-being scale, provides a rich set of information about individuals' financial capability. We study financial well-being scores in the total sample of Millennials and across demographic characteristics. We also use a multivariate regression analysis to study the determinants of financial well-being using a rich set of variables that include income and health shocks, proxies for wealth, and a measure of financial literacy. We also examine financial well-being among Millennial subgroups and split the sample according to age, gender, educational attainment, and race to better understand the findings among these subgroups.

We find there are major differences in financial well-being, even when looking at a specific age group. Overall, Millennials (ages 23-37 in 2018) display lower levels of financial well-being than the older working-age population (ages 38-61 in 2018). We also find that women, single individuals, those without a college degree, those with low income, and those who are unemployed display lower financial well-being. Those with low financial literacy also display low financial well-being. These findings hold true in a multivariate setting, even though some results become more nuanced and are different in subgroups of the Millennial population. Findings from this research can help inform research and policy as well as financial education programs targeted to young adults.

1. Background

1.1. Context and Literature Review

Every generation has the capacity to influence the economy, but Millennials (born between 1981 and 1996) are positioned to exert a special impact. This generation is well-educated and ethnically diverse. Although Millennials entered the workforce at a time of economic instability, they are energetic and highly optimistic. As Millennials have now become the largest living adult generation and are approaching critical junctures of financial decision making, their choices promise to affect the U.S. economy greatly. But it is increasingly apparent that the financial position of Millennials is more fragile than expected.

Our previous research shows that despite encouraging signs in Millennials' saving behavior, this generation is highly indebted and struggles to meet both long- and short-term payment obligations (e.g., de Bassa Scheresberg and Lusardi, 2014). Recent data suggests that most Millennials feel overly indebted, and nearly half of those with student loan debt are concerned about being able to pay it off. Moreover, many Millennials carry balances on their credit cards and have paid high-interest charges and fees or used credit cards in expensive ways. While Millennials report that they are saving for retirement, some have already taken a withdrawal from their retirement accounts (de Bassa Scheresberg and Lusardi, 2015). Our research also shows significant differences in knowledge and behavior among Millennials by age, gender, and race. When Millennials are split into younger and older age cohorts, we see notable differences in financial knowledge and behavior (Yakoboski, Lusardi and Hasler, 2018a,b), not all of which are due to being at different career stages. Additionally, when we consider gender and race, we see differences in financial behavior and ability to cope with income shocks, with women and minorities facing the greatest challenges (Yakoboski, Lusardi and Hasler, 2017).

Rather than focusing on specific financial behavior, such as borrowing and saving, the focus of our work is financial well-being. The Consumer Financial Protection Bureau (CFPB) defines financial well-being as "a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and is able to make choices that allow enjoyment of life" (CFPB, 2015). Financial well-being is based on an individual's perceived financial security, which is influenced by objective measures of their financial situation and behavior as well as their financial skills (CFPB, 2017b). Research from the CFPB indicates that financial well-being is lower among younger, less-educated, and lower-income individuals. Other research shows that financial well-being may also be lower for women and women in nontraditional families, e.g., single mothers (Malone et al., 2010). Apart from demographic groups, financial behavior has also been shown to be related to financial well-being for young adults (Gutter, 2011). Individuals who plan for the future, save, and are more financially knowledgeable are more likely to have a higher level of financial well-being (CFPB, 2017a).

This paper adds to the growing literature on financial well-being by providing an analysis of Millennials. We use the most recent data available, the 2018 National Financial Capability Study (NFCS), which includes for the first time the CFPB's abbreviated well-being scale. The NFCS also provides information on financial capability, financial behavior, and demographic characteristics, which allows us to perform a more robust analysis on Millennials than has been possible in previous studies. We analyze the factors that may contribute to financial well-being within the Millennial generation and explore subgroups based on age, gender, educational attainment, and race.

1.2. Research Questions

Our study is designed to answer the following research questions:

1) How does financial well-being vary among Millennials overall and by demographic group?
2) What are the important factors associated with financial well-being among Millennials?

We answer these questions via a descriptive analysis using a rich set of data. We tested which variables are linked to financial well-being in both a univariate and multivariate setting. This paper aims to provide findings to help inform financial education and wellness programs.

2. Methodology

2.1. Research Design

Our paper provides an empirical analysis of Millennials' financial well-being using data from the 2018 NFCS. We examine financial well-being across an extensive set of financial indicators to understand which factors are correlated with financial well-being among young adults. Because this is a descriptive analysis, we only use simple means as well as multivariate regressions. We consider the total sample of Millennials (the age group is 23-37) and compare financial well-being scores with an older working-age population (ages 38-61). We also split the Millennial sample by age, gender, educational attainment, and race.

2.2. Analysis

Using data from the NFCS, we examine the relationship between financial well-being, demographic characteristics, and measures of financial capability.[1] The large set of observations available in the data set allows us to examine Millennials in general and by demographic group. All statistics are weighted using sampling weights provided by the NFCS, which make the data from the NFCS representative of the U.S. population. Statistics are weighted so as to be representative of the total population but breakdown of subgroups may not necessarily be representative of those subgroups.

Our analysis is comprised of three parts. In the first part, to answer our first research question, we analyze financial well-being scores of Millennials by demographic characteristics to examine how financial well-being varies within the sample of interest. We also compare the well-being scores of Millennials with scores of an older working-age cohort and examine whether there

[1] All analyses are conducted using STATA.

are differences between Millennials and the older working-age group (individuals age 38-61). In the second part, we examine financial well-being scores by financial situations and experiences. We measure how financial well-being differs when Millennials hold assets or debt. We also assess financial well-being across a range of financial experiences. To assess whether there are differences across groups, we perform t-tests. In the third part, to answer the second and third research questions, we perform a multivariate regression analysis using ordinary least squares (OLS). In our most parsimonious specification, we regress financial well-being (Y_i) of individual i against a set of controls, where X_k is a vector of k demographic variables including age, gender, education, income, ethnicity, marital status, work status, and the number of financially dependent children. To increase the predictive power, we include additional variables, some of which are only available in the NFCS, such as shocks to income and health, levels of financial literacy, and proxies for wealth (X_z).

$$(1)\ Y_i = \beta_0 + \beta_k X_k + \beta_z X_z + \varepsilon$$

Our regression analysis is performed on the total sample of Millennials, and we also split the sample across demographic groups. The splits are as follows: younger Millennials (ages 23-29) and older Millennials (ages 30-37); female and male; those with a high school degree or less, those with some college, and those with at least a bachelor's degree; and whites, African-Americans, and Hispanics. Splitting the sample by these demographic groups provides further insights into how financial well-being, and the factors that influence well-being, may vary among Millennials. This type of granular information can be particularly important for the design of financial education programs. As will be explained later, we document major differences in financial well-being across these groups. We test whether differences exist across the groups using a Chi-Square test. Standard errors are not clustered.

2.3. Data

In this paper, we use data from the most recent wave (2018) of the National Financial Capability Study (NFCS). The 2018 wave was administrated online to respondents ages 18 years and older, between June and October 2018. The NFCS is supported by the FINRA Investor Education Foundation and was first conducted in 2009 with the goal of establishing a baseline measure of financial capability among American adults. The NFCS is a nationally representative survey of approximately 27,000 adults that is conducted every three years. Findings from the survey are weighted to ensure the entire sample is representative of the U.S. population in terms of age, gender, ethnicity, education, and census division. The weights are provided by the NFCS.

2.4. Sample

We examine financial well-being of Millennials, defined as individuals between the ages of 23 and 37 at the time of the survey. In this study, following Dimock (2019), we use 1996 as the cutoff birth year for Millennials. We should note that there are different definitions of the Millennial generation. The U.S. Census Bureau defines Millennials as those born between 1982 and 2000. Our 2017 research using the Personal Finance Index data defined Millennials as those between the ages of 18 and 38 (Yakoboski, Lusardi and Hasler, 2017). In this paper, given the focus on financial well-being, we exclude individuals between the ages of 18 and 22, as their behavior may still be heavily influenced by their parents. According to the 2018 NFCS, as many as 46% of people age 18 to 22 live at home, while only 11% of individuals between the ages of 23 and 37 live at home. Additionally, we exclude individuals who self-report as retired. To better understand this sample of Millennials, we also compare them with an older working-age population, which we define as individuals between the ages of 38 and 61 who are not retired. We focus on those who are not retired because the characteristics and financial behavior of retirees can be very different from

those of young workers. In total, for this exclusion, we deleted 19 observations from the Millennial sample and 936 observations from the older working-age sample.

NFCS survey respondents have the option to answer "I don't know" or "prefer not to say" to most of the survey questions. In our empirical work, we exclude respondents who did not answer all five questions measuring financial well-being because we do not have sufficient information to calculate a financial well-being score for these respondents. After we exclude observations based on this criteria, our final sample reduces to 7,123 Millennials and 9,869 older working-age group (ages 38-61). Individual responses of "I don't know" and "prefer not to say" for variables on financial capability are set to missing, which are then dropped from our regression analysis (when used). We also study subgroups of Millennials. We note that these Millennial subgroups may not be representative of the subpopulations of interest.

2.5. Measures

In this section, we describe the main variables of interest: financial well-being, financial literacy, financial education, and measures of financial situation and experience.

Financial well-being (FWB). Financial well-being is measured based on responses to a set of five statements: (1) "Because of my money situation, I feel like I will never have the things I want in life"; (2) "I am just getting by financially"; (3) "I am concerned that the money I have or will save won't last"; (4) "I have money left over at the end of the month"; (5) "My finances control my life." Respondents can respond to each statement on a five-point Likert scale, from "does not describe me at all" to "describes me completely" for the first three questions and from "never" to "always" for the final two questions. Respondents can also respond "I do not know" or they can refuse to answer. These five statements make up the CFPB's abbreviated financial well-being scale and are highly correlated with the full 10-question CFPB scale. The respondent's score is derived

based on responses to these five statements using Item Response Theory (IRT). The scale ranges from 0, which indicates very low financial well-being, to 100, indicating very high financial well-being.

Financial literacy. This is a dummy variable that takes the value 1 if respondents correctly answered three financial literacy questions measuring knowledge of interest rates, inflation, and risk diversification, and zero otherwise (for details about these questions, see Lusardi and Mitchell, 2008). We also use a second measure in our descriptive analysis and consider individuals who score above and below the average financial literacy score, which is calculated using responses to the six questions in the 2018 NFCS that measure financial literacy.

Financial education. This variable measures exposure to financial education. Financial education is a dummy variable that takes the value 1 if the survey respondent reported being offered financial education in school or the workplace at any time in the past and 0 otherwise. We consider exposure to rather than participation in financial education, as participation may be the result of individual choice and therefore not an exogenous variable.

Measures of financial situation and experience. We use several variables to measure financial situation and experience. Owns a home is a dummy variable equal to 1 if the individual owns a home and 0 otherwise. Has a checking or savings account, an employer-sponsored plan, and individual retirement plan are all dummy variables equal to 1 if the respondent has the asset/plan and 0 otherwise. Has financial investments is equal to 1 if the respondent has any investments in stocks, bonds, mutual funds, or other securities not including retirement accounts and 0 otherwise. Credit card debt is equal to 1 if the respondent made the minimum payment only or carried a balance on their credit card and 0 otherwise. Experienced a drop in income is a dummy variable equal to 1 if the respondent experienced a large and unexpected drop in income in the prior 12

months and 0 otherwise. Has unpaid medical bills is a dummy variable equal to 1 if the respondent has any unpaid bills from a health care or medical service provider that are past due and 0 otherwise. Financially fragile is a dummy variable equal to 1 if the respondent answers they could probably not or are certain they could not come up with $2,000 and 0 if they answer they are certain they could or could probably come up with $2,000 if an unexpected need arose within the next month. Demonstrated at least one expensive behavior in credit card management is equal to 1 if the respondent was charged an over the limit fee or late fee, made the minimum payment only, or used a cash advance on a credit card over the past 12 months and 0 otherwise. Used at least one form of alternative financial services is a dummy variable equal to 1 if the respondent has taken out an auto title loan or a payday loan, used a pawn shop, or used a rent-to-own store at least once in the five years prior to the survey.

2.6. Limitations

This paper adds to the growing literature on financial well-being. This analysis is descriptive, and we do not make causal inferences. We can identify links and correlations of factors that may contribute to financial well-being, but we cannot often assess the nexus of causality. Moreover, omitted variable bias may be present. For example, financial well-being may be influenced by many factors, such as physical health, that have yet to be examined. We also note that some of the variables included in the regressions are potentially endogenous; for example employment status, education, financial literacy, and wealth proxies could be the result of choice, in particular when considering a sample of young respondents. Nonetheless, even with a descriptive analysis there is a lot to be learned through the identification of groups that are vulnerable and display low financial well-being.

3. Findings

Demographic characteristics and financial well-being

Table 1 shows the distribution of financial well-being scores in the NFCS. We provide the distribution of scores in the total population, the older working-age population, and the Millennial population. The older working-age population is defined as non-retired individuals ages 38-61, while Millennials are non-retired individuals ages 23-37. The financial well-being score ranges are taken from benchmarks developed by the CFPB, providing a rubric to gauge which scores are considered low, average, or high and allowing us to categorize individuals as having financial well-being ranging from very low to very high, based on financial experiences. Specifically, individuals in the *very low* category (scores from 0 to 29) are more likely to experience financial hardship, to have difficulty making ends meet, and to be financially fragile. Conversely, individuals in the *very high* category (scores from 68 to 100) are more likely to have liquid savings (CFPB, 2019). About half (47%) of individuals in the total population fall in the medium-low (scores from 38 to 49) and medium-high (scores from 50 to 57) financial well-being categories. The older working-age population has a similar overall distribution to that of the total population, with 48% in the middle range but a slightly greater percentage in the very low and low categories. The distribution for Millennials is different from that of the older working-age population, with a greater percentage in the low and medium-low categories and a smaller percentage in the high and very high categories. These statistics may be due to differences in life stages. For example, the average financial well-being score is highest for the total population (52), compared to the older working-age (50) and Millennial (47) populations. The average score of the total population may be higher because it includes individuals who are above the age of 61 and who are retired. These individuals have had more time to accumulate savings. Conversely, the young may still be in school or in the early stages of their career and therefore have lower income and have had less

time to save. To further examine the influences on financial well-being among Millennials, we analyze the average FWB score by demographic characteristics and compare these averages with findings from the National Financial Well-Being Survey (NFWBS), the total population, and the older working-age population. Since this is the first time the abbreviated financial well-being scale has been included in the NFCS, we compare findings from the NFWBS to the NFCS to measure similarities across the two datasets.

[Insert table 1 here]

Table 2 reports the average financial well-being score by demographic characteristics and provides the basis for our empirical work. The first column indicates the average FWB scores from the 2016 National Financial Well-Being Survey (CFPB, 2017a). The second, third, and fourth columns show average FWB scores from the NFCS. The surveys differ in the total number of observations and the well-being scale used. The NFCS has 26,777 observations with a financial well-being score and the National Financial Well-Being Survey has 6,394 observations. Additionally, the NFCS uses the abbreviated five-question scale while the National Financial Well-Being Survey uses the full ten-question scale. Notwithstanding these differences, average FWB scores from the NFCS show many similarities to results from the National Financial Well-Being Survey. For example, FWB increases with age, education, and income. It is higher for those who are married and work (employed full time, employed part time, or self-employed). We next compare average financial well-being scores by demographics of the older working-age and Millennial populations.

There appear to be larger differences in the FWB scores among the older working-age population than among Millennials. For example, financial well-being increases with income for both the older working-age population and Millennials. However, the difference in financial well-being scores between those who have an income of $25,000 or less and those who have an income

of $100,000 or more is greater for the older working-age population (17 points) than for the Millennial population (11 points). This is likely due to the difference in age ranges for each group and the fact that Millennials are in the early stages of the life cycle and major differences in financial behavior have not yet materialized. We also note a significant gender difference in FWB. The average scores for both men and women are higher for the older working-age population than for Millennials, but in both age groups, women display lower financial well-being scores.

Examining differences in financial well-being among the Millennial sample shows education is significantly linked to financial well-being. The average FWB score for Millennials with some college is statistically different from those with a bachelor's degree or post-graduate degree. Those with some college score lower (score of 44) than those with a bachelor's degree (50) or post-graduate degree (52). The NFCS also reports information about financial literacy and financial education. We find that financial knowledge is positively correlated with financial well-being. Millennials who can correctly answer three basic financial literacy questions (also known as the Big Three) assessing knowledge of interest, inflation, and risk diversification display a significantly higher financial well-being score than those who cannot. Similarly, those who preform above average in financial literacy (based on the six financial literacy questions included in the NFCS) have a higher financial well-being than those who perform below average. Similar findings emerge about financial education: those who are exposed to financial education display higher financial well-being scores than those who are not. Comparing average FWB scores across race among Millennials shows no significant difference between, for example, whites and African-Americans. To summarize, our initial descriptive analysis shows that financial well-being is lower among Millennials across multiple characteristics. It also provides insights into which subgroups

are more likely to have lower financial well-being. To further understand the factors that may contribute to financial well-being among Millennials, we turn next to their financial situation.

[Insert table 2 here]

Financial situation and experiences

Table 3 shows financial well-being scores for Millennials across asset and debt holdings. We use proxies for wealth, including homeownership, having a checking or savings account, having a retirement account, having an IRA (Keogh or SEP or other types of retirement account set up by yourself), and having investments in stocks, bonds, mutual funds, and other securities. We compare the financial well-being of those who do and do not hold assets. Across all measures, from simple assets, such as checking accounts, to financial investments, we find that Millennials with assets score significantly higher than those without assets; this underscores the importance of asset ownership and its link to financial well-being. Additionally, we use proxies for debt, such as having a mortgage, having credit card debt, having outstanding loans, or having made withdrawals from retirement accounts. Well-being is negatively correlated with most forms of debt. Millennials with a home have a well-being score of 49. Those who own a home but also have a home equity loan or owe more on their house than they could sell it for have lower financial well-being scores (scores of 43 and 41, respectively). Having a retirement account also appears to be related to financial well-being, as those who have an employer-sponsored or individual retirement plan have a higher FWB (50) than those without an employer-sponsored plan (44) or an individual plan (46). However, those who have taken a loan or a hardship withdrawal from their retirement account have a significantly lower score, 43 and 42 respectively, than those who have a retirement account. Millennials who have student loan debt have an average FWB score of 46 compared to the average Millennial FWB score of 47. While this difference appears to be small, it is statistically significant.

As a large percentage of Millennials (45%) carry student loan debt, we explore this relationship further in table 4.

The NFCS includes information about student loans and several indicators to measure how individuals may feel about their student loans. Table 4 shows that there is a significant difference in financial well-being between those who have a student loan (46) and those who do not (49). Moreover, those who have been late with a student loan payment at least once in the last 12 months have a lower financial well-being score (41) than the average student loan holder (46). Additionally, respondents who answered that they are concerned that they might not be able to pay off their student loans have an average score of 41. The percentage of those who are concerned about their ability to repay their student loans is highest among those who have some college (reported in table A2 in the appendix). Those with some college but no degree may experience difficulties with student loan repayment. This difficulty may result from lower income than would be earned if they held a bachelor's degree.

[Insert tables 3 and 4 here]

Table 5 shows the relationship between financial experiences and financial well-being among Millennials. We consider a wide set of experiences, from being hit by shocks to having difficulty making ends meet to being financially fragile to using high-cost methods of borrowing and more. In the appendix table A1, we report the correlation of financial well-being with financial experiences for the older working-age population as a benchmark. We first note that a sizeable percentage of Millennials have suffered from shocks; as many as 31% experienced a large and unexpected drop in income in the past twelve months. In comparison, 21% of the older working-age population experienced a large drop in income. These findings are consistent with the more volatile job market for the young. There is a significant difference between those who have and

those who have not experienced such a shock (FWB scores of 41 and 50, respectively). Findings are similar among those who have unpaid medical bills that are past due (FWB of 41) and those who do not (FWB of 51). Financial well-being is also lower for those who spend more than their income or find it somewhat difficult or very difficult to cover expenses and pay all their bills (score of 41 versus 56). Moreover, financial fragility is high among the young; as many as 37% of Millennials say they are certain they could not or probably could not come up with $2,000 if an unexpected need arose within the next month. This measure could indicate not only lack of savings among Millennials but also high levels of debt (Hasler, Lusardi, and Oggero, 2018). Financial well-being is highly correlated with financial fragility; those who are financially fragile have a much lower score (40) than those who are not fragile (52). Millennials also rely heavily on high-cost methods of borrowing, such as payday loans, pawn shops, auto title loans, or rent-to-own shops; just under half of Millennials (43%) have relied on this form of borrowing in the last five years. In comparison, only 26% of the older working-age population have used these alternative forms of financial services (appendix table A1). Millennials also use credit cards expensively, generating fees and interest charges. These types of borrowing behaviors and debt management are negatively correlated with financial well-being. Finally, those who self-report their credit score as bad or very bad also display lower financial well-being scores than those who report average, good, or very good scores (40 versus 50). The statistics shown in table 5 provide insight into the financial well-being of Millennials; given the prevalence of expensive borrowing behaviors, shocks to income, and financial fragility, it is no surprise that they score low on financial well-being.

We note that while these negative financial experiences are higher among the young, they are also present among the older working-age group. For example, 44% of the older working-age

group have used credit cards expensively and 34% are considered financially fragile. Similar to findings among Millennials, these behaviors are negatively correlated to financial well-being. Individuals in the older working-age group who have used credit cards expensively have an average score of 45, 12 points below those who have not. Moreover, those who are considered financially fragile have an average score of 38, compared to 56 for those who are not financially fragile. This indicates financial well-being may also be low among many older working-age individuals as they face similar financial challenges, albeit to a lesser extent than Millennials.

[Insert table 5 here]

Factors influencing financial well-being

We build on this descriptive analysis to examine potential correlates of financial well-being in a multivariate setting. While we already have some insights that help to answer our first and second research questions, we are able to gain additional knowledge by turning to a multivariate analysis. We use four different models, from a simple parsimonious specification that includes mostly demographic variables (model 1) to a more comprehensive model that includes proxies for shocks, wealth, and measures of financial literacy (model 4). The most comprehensive model, model 4, is our preferred specification and is what we use when we examine different demographic subgroups. In table 6, we report the findings from our regression analysis. Looking at the estimates from model 1, the regression that includes mostly the demographic characteristics, we confirm some of the findings from our descriptive analysis. Among Millennials, women tend to have lower financial well-being than men. Higher income and higher education (college degree or more) are linked to financial well-being, even after accounting for many other variables. Note that having some college is now negatively related to financial well-being. While our descriptive analysis showed little or no difference in the average FWB score among racial and ethnic groups, the multivariate

analysis shows that African-American and Hispanic Millennials display higher financial well-being scores, a finding that warrants further analysis. In model 2, we include variables such as employment status and income and health shocks. Millennials who are unemployed, have experienced a large drop in income, or have unpaid medical bills display significantly lower financial well-being scores compared to those who are employed or have not experienced any shocks. Given the narrow variation of financial well-being scores among Millennials, the large coefficient estimate of 6.8 for those who have experienced an income drop is notable. In model 3, we include a measure of financial literacy. Financial literacy displays a positive link to financial well-being; those who have basic financial knowledge have a higher score (2.4 point higher). Additionally, financial knowledge remained statistically significant when we included several proxies for wealth in our regressions, as in model 4. The model 4 column shows estimates when including proxies for wealth (home ownership, and having a checking or savings account). Both indicators are positive and statistically significant. Educational attainment is no longer statistically significant in this specification, except for those with some college, who have significantly lower financial well-being scores than those with a high school degree or lower. This appears to be in contrast to our descriptive analysis, which shows education is positively associated with financial well-being. The negative relationship of FWB with some college maybe the result of having student loan debt but not having the potentially higher earning power associated with a bachelor's degree. As noted before, we recognize that some of the variables included in the regressions could be endogenous. This is another reason why we use several specifications. Moreover, the inclusion of many variables allows us to assess the robustness of the estimates when considering many potential determinants of financial well-being.

[Insert table 6 here]

When we account for demographics, income shocks, financial literacy, and proxies for wealth, we see that some subgroups of Millennials continue to display significantly lower financial well-being. We focus next on exploring the factors that influence financial well-being for younger versus older millennials, females and males, and those with lower versus higher educational attainment. We also consider whites versus African Americans or Hispanics to better understand the findings across race and ethnicity. These subgroups are also of interest because of their potential vulnerability.

In table 6A, we report separate regressions for young (23-29) versus old (30-37) Millennials and compare this with the older working-age population (38-61). We start by noting the impact of education on financial well-being, which is negative for older Millennials and not statistically significant for younger Millennials. The difference in coefficients across younger and older Millennials is not statistically significant for those with some college, but it is significant for those with a bachelor's degree and post-graduate degree. This difference may be driven by student loans, as younger Millennials may still be enrolled in school and not in the process of repayment, while older Millennials may feel the weight of student loans. Income, shocks to income, financial literacy, and the proxies for wealth are all statistically significant and associated with financial well-being. Among the three age groups, African-Americans and Hispanics report higher financial well-being scores. When considering Millennials and the older working-age population (ages 38 to 61), we see that gender differences persist for both younger and older Millennials but not for the older working-age population. This gender difference is statistically significant between the older working-age population and younger Millennials but not between the older working-age population and older Millennials. Additionally, for the older working-age population the impact of a higher education degree on the well-being score is not statistically significant. Differences in

the education coefficients vary across the three age groups, which may indicate that there are outside factors associated with education that are impacting financial well-being.

We next explore gender differences in more detail and we run regressions separately for males and females (table 6B). Our estimates from our descriptive analysis (shown in Table 2) suggest that females are significantly worse off when it comes to financial well-being. With the multivariate regression, we find a negative effect of some college on financial well-being for both females and males (the differences are not statistically significant) and a different effect of having a college degree for males than females (the coefficients for bachelor's degrees are statistically significantly different between males and females). This may be because student loans influence financial well-being more for males than females. We also find that the impact of family characteristics differ between genders. While having children lowers financial well-being for females, it does not have an impact for males. The difference in these coefficient estimates is statistically significant.

[Insert tables 6A and 6B here]

We also run separate regressions for education groups, splitting the sample across individuals who have a high school degree or less, some college (which includes those who have some college or an associate's degree) and those with a bachelor's degree or higher. The estimates shown in table 6B indicate important differences between these subpopulations. The gender difference we see in table 6 above is not statistically significant when we consider just individuals with a bachelor's degree or more. The gender gap in financial well-being remains, however, for those with less than a bachelor's degree. This indicates that education may play an important role in closing the financial well-being gap between men and women. Age also appears to play a role. Older Millennials with a bachelor's degree or higher have lower financial well-being than those with a high school degree or

less. This may, again, point to the impact of student loans. However, the difference in financial well-being between older Millennials with a bachelor's degree or higher and those with "some college" is not significant. Interestingly, financial literacy is linked to financial well-being only for those with higher levels of education. We note that African Americans and Hispanics display higher financial well-being across all education subgroups.

Table 6C reports estimates across whites, African-Americans, and Hispanics. As elsewhere, we find that women and older Millennials are worse off in terms of financial well-being across all racial groups. However, many of the demographic controls that were significant in our main model, table 6, no longer appear to be correlated with financial well-being. Higher education and income and being unemployed are no longer statistically significantly associated with financial well-being for African-Americans. These findings highlight the importance of examining financial well-being across demographic groups. Our previous work shows that African-Americans and Hispanics are more likely to exhibit poor financial behaviors than other groups. However, financial well-being is based on individual perception and may be influenced by factors beyond financial behaviors, such as cultural and social influences. Previous research shows that African-Americans are generally more optimistic about their future than whites (Blanchflower and Oswald, 2019). Additionally, other research shows that increases in income and education improved well-being for whites but did not have an impact for African-Americans (Shervin, Presier, and Kelly, 2018). An important question for future research is how financial well-being may be influenced by cultural values and social norms.

[Insert tables 6C here]

Though it is not reported due to space constraints, we have run all of the above regressions with financial education in place of financial literacy. We have two main findings. First, the overall

estimates of the other variables do not change. Second, and most importantly, financial education is also linked to financial well-being; those who have been exposed to financial education are more likely to display higher financial well-being among the total sample of Millennials. When we look across subgroups, we find that the estimates of financial education are statistically significant for whites and, also, higher for women and for those with low education (high school degree or less).[2]

[2] Estimates are available upon request.

4. Discussion

This paper provides an in-depth analysis of financial well-being among Millennials. Our descriptive analysis suggests that financial well-being is lower among Millennials than older age groups. The majority of Millennials (58%) have a financial well-being score that is considered very low, low, or medium low. Additionally, many Millennials face financial struggles, including experiencing shocks to income and having unpaid medical bills. Many rely on high-cost methods of borrowing and carry credit card debt. Average well-being scores among Millennials hide differences across subgroups. Women display lower levels of financial well-being, even after accounting for many demographic characteristics, including income and income shocks. Additionally, Millennials who have some college, but no bachelor's degree, tend to have lower financial well-being than those with higher levels of education (bachelor's or post- graduate degrees). This differences may be due to student loan debt and the ability to repay student loans. The complex relationship of student loan debt, educational attainment, and financial well-being may be of interest for future research. We also find that those who are unemployed and those who are single are more likely to experience lower financial well-being than those who are employed and married. Moreover, older Millennials tend to have lower financial well-being than younger Millennials. In our analysis of subgroups of Millennials we find that having financially dependent children appears to significantly worsen financial well-being for females but not for males. Finally, when we examine financial well-being across race, we find differences, in particular among African Americans, that need to be studied further. In almost all subsamples we find that financial knowledge, shocks to income, and homeownership have a significant association with financial well-being.

Findings from this preliminary analysis suggest that a holistic approach, rather than a focus on a specific set of behaviors, may be a better strategy for improving financial well-being. For

example, programs that focus only on encouraging Millennials to save for retirement may miss the concerns that young people have around debt and debt management and other financial constraints. Financial knowledge appears to be important for improving financial well-being among Millennials, including subgroups of Millennials. Financial education programs may provide useful knowledge and skills to Millennials. Since the goal of financial education is to improve financial well-being, the knowledge that financial well-being can vary by demographic group, and that factors influencing financial well-being can also vary, can help those who create financial education programs to better tailor those programs to the needs of participants

This study contributes to the growing literature on financial well-being. However, we should note that these are initial findings. We have not yet examined the economic importance of the correlates of financial well-being. Moreover, some caution is warranted in interpreting the estimates of variables that are not strictly exogenous, among them financial literacy, employment status, and proxies for wealth. Some findings, including the estimates concerning education and race and ethnicity, require further investigation. We plan to address these and other issues in future work.

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Table 1: Distribution of financial well-being scores

	(1) Total population (ages 18-101)	(2) Older working-age population (ages 38-61)	(3) Millennial population (ages 23-37)
Total sample (weighted average)	52	49	47
Very low (0-29)	9%	11%	11%
Low (30-37)	9%	**10%**	**12%**
Medium low (38-49)	27%	**27%**	**35%**
Medium high (50-57)	20%	21%	21%
High (58-67)	18%	**17%**	**14%**
Very high (68-100)	17%	**12%**	**7%**
Observations	26,777	9,869	7,123

Note: All data are from the 2018 NFCS. Sample restricted to individuals who responded with sufficient information to allow calculation of a financial well-being score. Total number of observations is 26,777; all estimates are weighted. The older population is restricted to non-retired individuals ages 38-61. Millennials are restricted to non-retired individuals ages 23-37. Percentages in bold indicate statistically significant differences between Millennials and the older population (at the $p<.05$ level).

Table 2: Average financial well-being score by demographic characteristics

		NFCS		
	National Financial Well-Being Survey	Total Population (18-101)	Older working-age population (38-61)	Millennial population (23-37)
Total Sample	54	52	50	47
Gender				
Male	54	53	**51**	**49**
Female	54	51	**48**	**46**
Age				
18-24	51	48		
25-34	51	47		23-29: 48
35-44	52	48		30-37: 47
45-54	54	50		
55-64	55	54		
65-74	61	62		
75+	60	64		
Census Region				
Northeast		52	49	48
Midwest		52	49	47

South		52	49	47
West		53	51	48
Education				
High school or lower	48/53	50	**47**	**46**
Some college	53	50	**49**	**44**
Bachelor degree	58	55	**52**	**50**
Post graduate	61	58	**55**	**52**
Race/Ethnicity				
White, Non-Hispanic	56	53	**50**	**47**
African-American, Non-Hispanic	52	50	**49**	**47**
Hispanic (any race)	51	49	49	48
Asian, Non-Hispanic	n/a	53	**53**	**49**
Other, Non-Hispanic	53	49	47	46
Income				
Below $25K (<20K*)	46	44	**41**	**43**
$25 – $49K (20-29K)	49	49	46	46
$50 – 100K (30-49K)	51	55	**51**	**49**
Over $100K (50-74K)	55	61	**58**	**54**
(75-100K)	56			
(>100K)	60			
Marital Status				
Single, Not married	51	48	**47**	**46**
Married	56	55	**52**	**49**
Divorced/Separated	51	49	45	44
Widowed	55	55	43	40
Work Status				
Employed (full-time, part-time, or self-employed)	54	51	**52**	**49**
Unemployed or temporarily laid off	45	43	42	42
Not in the labor force (homemaker, sick, disabled)	54	45	**44**	**45**
Full-time student	51	49	47	47
Retired	60	61	n/a	n/a
Financial Literacy				
Three questions correct (interest, inflation, risk)		58	54	53
Do not correctly answer three questions		49	**48**	**46**
Above average score		56	**53**	**51**
Below average score		49	**47**	**46**
Financial Education				

Were offered financial education		52	**52**	**48**
Were not offered financial education		52	**49**	**47**
Observations	**6,389**	**26,777**	**9,869**	**7,123**

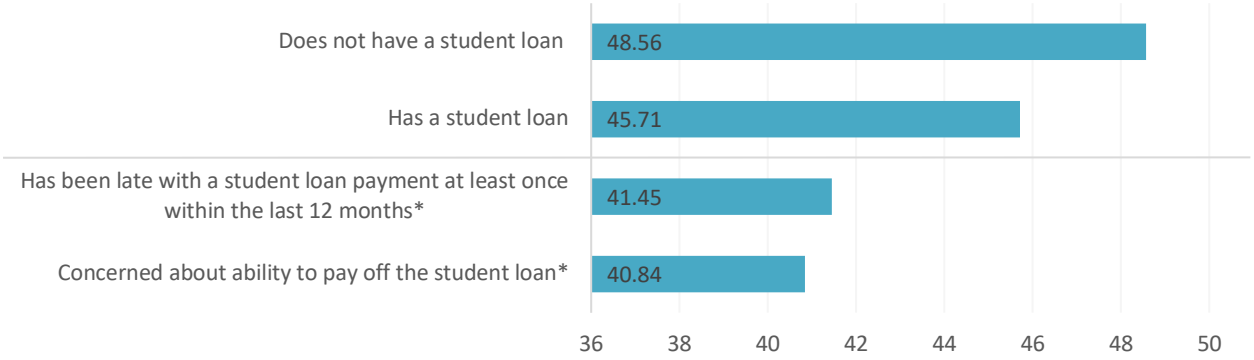
Note: The CFPB calculations are taken from the report *Financial well-being in America*, 2017. * Indicates calculation from the CFPB are measured at different income brackets. All remaining data are from the 2018 NFCS. Sample restricted to individuals who responded with sufficient information to allow calculation of a financial well-being score. The older working-age population is restricted to non-retired individuals ages 38-61. Millennials are restricted to non-retired individuals ages 23-37. All estimates are weighted. Financial well-being scores in bold indicate statistically significant differences between the older working-age population and Millennials. The financial well-being scores of men and women are significantly different for the older working-age and for Millennials. The financial well-being score for Millennials who have some college is significantly different from Millennials who have a bachelor degree or post-graduate degree (at the $p<.05$ level).

Table 3: Financial well-being score of Millennials based on asset and debt holdings

Assets	Average FWB score
Owns a home	49.12
No home	45.85
Difference	**-3.27**
Has a checking or savings account	47.78
No checking or savings account	43.70
Difference	**-4.08**
Has an employer sponsored plan	49.70
No employer sponsored plan	44.45
Difference	**-5.25**
Has an individual retirement plan (IRA, SEP, Keogh)	49.93
No individual retirement plan	46.30
Difference	**-3.63**
Has financial investments	50.45
No financial investments	46.35
Difference	**-4.11**
Debt	
Has a mortgage*	48.95
Has a home equity loan*	43.48
Currently owes more on their home than could sell it for today*	41.48
Carries credit card debt*	44.55
Has taken a loan from retirement*	43.38
Has taken a hardship withdraw from retirement*	42.50
Has an auto loan	46.69
Has a student loan	45.71

Note: All data are from the 2018 NFCS dataset. Millennials are restricted to non-retired individuals ages 23-37. All estimates are weighted. * Indicates statistics are conditional on having the related asset. Differences in bold indicate statistical significance between those who have the asset and those who do not. The financial well-being score of Millennials who have a retirement plan and no loan is 54, this is statistically significant from those who have a plan and have taken a loan or taken a hardship withdrawal. The financial well-being score for those who own a home and no debt is 51, it is significantly different from those who have a mortgage or have a home equity loan. At $p<0.05$.

Table 4: Financial well-being score of Millennials based on student loan debt characteristics



Note: All data are from the 2018 NFCS dataset. * Indicates statistics are conditional on having the related asset. Total observations of Millennials who have a student loan is 3,185, 45%. The financial well-being score of Millennials with a loan is statistically significantly different from Millennials without a loan and from the average fwb score of the total sample of Millennials (at $p<0.05$ level).

Table 5: Correlations between financial experiences and financial well-being among Millennials

	% of Millennials	FWB
Experienced drop in income	31%	40.76
No drop		50.42
Difference		**-9.66**
Spends more than income	26%	40.64
Spends equal or less than income		49.77
Difference		**-9.13**
Finds it somewhat or very difficult to cover expenses	59%	41.27
Does not have difficulty		56.20
Difference		**-14.93**
Has unpaid medical bills	34%	41.21
Doesn't have unpaid medical bills		50.58
Difference		**-9.37**
Is financially fragile	37%	40.01
Is not financially fragile		51.62
Difference		**-11.61**
Occasionally overdraws checking account*	31%	41.09
Doesn't overdraw		50.95
Difference		**-9.86**
Demonstrated at least one expensive behavior in credit card management*	61%	44.83
No expensive behavior		54.55
Difference		**-9.72**
Used at least one form of alternative financial services	43%	43.59
Hasn't used AFS		50.31
Difference		**-6.72**
Self-reported bad or very bad credit score	23%	39.71
Self-reported average, good or very good score		49.89

Difference	**-10.18**

Note: All data from the 2018 NFCS dataset. Sample restricted to non-retired individuals age 23-37 who have sufficient information to calculate the financial well-being score. *Indicates statistics are conditional on having the related asset. Statistically significant differences are indicated in bold (at the p<.05 level).

Table 6: Multivariate regressions of financial well-being

Dependent variable: financial well-being (continuous variable 0 -100)	Model 1	Model 2	Model 3	Model 4
Gender *(omitted category: male)*				
Female	-1.815***	-1.935***	-1.748***	-1.623***
	(0.323)	(0.310)	(0.310)	(0.311)
Age *(omitted category: ages 23-29)*				
Old Millennials (ages 30-37)	-1.418***	-1.134***	-1.230***	-1.417***
	(0.332)	(0.308)	(0.308)	(0.308)
Census region*(omitted category: West region)*				
Northeast region	-0.103	-0.281	-0.250	-0.108
	(0.500)	(0.463)	(0.462)	(0.461)
Midwest region	0.127	0.102	0.131	0.111
	(0.479)	(0.443)	(0.442)	(0.441)
South region	-0.180	0.0590	0.0954	0.167
	(0.417)	(0.387)	(0.386)	(0.385)
Education *(omitted category: high school degree or less)*				
Some college	-1.691***	-1.470***	-1.632***	-1.709***
	(0.403)	(0.377)	(0.377)	(0.376)
Bachelor degree	2.182***	0.371	-0.0886	-0.246
	(0.485)	(0.458)	(0.463)	(0.463)
Post graduate degree	2.325***	0.492	-0.0875	-0.175
	(0.616)	(0.578)	(0.585)	(0.584)
Income *(omitted category: less than $25K)*				
$25-$49K	1.795***	1.052**	1.093***	0.665
	(0.447)	(0.423)	(0.422)	(0.427)
$50-$99K	4.691***	3.772***	3.776***	2.946***
	(0.456)	(0.439)	(0.438)	(0.452)
>$100K	8.773***	6.755***	6.550***	5.550***
	(0.603)	(0.573)	(0.573)	(0.589)
Race/ethnicity *(omitted category: White)*				
African-American	1.904***	3.490***	3.693***	3.748***
	(0.478)	(0.446)	(0.446)	(0.444)
Hispanic	2.441***	2.209***	2.365***	2.541***
	(0.404)	(0.375)	(0.374)	(0.374)
Asian	0.841	0.358	0.456	0.475
	(0.616)	(0.571)	(0.569)	(0.567)
Other	0.0519	0.347	0.339	0.458
	(0.935)	(0.866)	(0.864)	(0.861)

Marital Status *(omitted category: Single)*				
Married	2.676***	2.662***	2.627***	2.347***
	(0.376)	(0.352)	(0.351)	(0.353)
Divorced/Separated	-0.121	0.447	0.328	0.548
	(0.791)	(0.733)	(0.731)	(0.730)
Widowed	-4.840*	-2.060	-1.999	-1.968
	(2.811)	(2.604)	(2.597)	(2.589)
Have children *(omitted category: No financially dependent children)*				
Have financially dependent children	-0.970***	-0.205	-0.183	-0.220
	(0.150)	(0.142)	(0.142)	(0.142)
Work Status *(omitted category: Employed)*				
Unemployed		-3.173***	-3.042***	-2.696***
		(0.621)	(0.620)	(0.620)
Full-time student		-0.0114	-0.0137	0.0951
		(0.696)	(0.694)	(0.692)
Homemaker/sick, disabled or unable to work		-1.035**	-0.977**	-0.750
		(0.475)	(0.474)	(0.474)
Income Shock				
Experience a drop in income		-6.922***	-6.759***	-6.877***
		(0.337)	(0.337)	(0.336)
Health Shock				
Have unpaid medical bills		-6.415***	-6.255***	-6.292***
		(0.338)	(0.338)	(0.337)
Financial Literacy				
Three questions correct (interest, inflation, risk)			2.440***	2.458***
			(0.410)	(0.410)
Home Ownership				
Own a home				1.741***
				(0.325)
Have a checking or savings account				2.134***
				(0.510)
Constant	44.65***	49.56***	49.12***	47.12***
	(0.574)	(0.575)	(0.578)	(0.699)
Observations	6,623	6,623	6,623	6,623
R-squared	0.109	0.238	0.242	0.248

Note: All data are from the 2018 NFCS dataset. Sample restricted to non-retired individuals ages 23-37 who responded with sufficient information to allow calculation of a financial well-being score; all estimates are weighted. Income shock is a dummy variable taking value 1 if the respondent reported the household experienced a large and unexpected drop in income in the previous 12 months and 0 otherwise. Health shock is a dummy variable taking value 1 if the respondent reported the household has unpaid medical bills that are past due and 0 otherwise. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, *p<0.1

Table 6A: Multivariate regressions of young and old Millennials

Dependent variable: financial well-being (continuous variable 0 - 100)	Older working-age population (38-61)	Young Millennials (23-29)	Old Millennials (30-37)
Gender *(omitted category: male)*			
Female	-0.378	-2.335***	-1.121***
	(0.277)	(0.486)	(0.407)
Census region *(omitted category: West region)*			
Northeast region	-0.760*	-0.576	0.151
	(0.410)	(0.721)	(0.602)
Midwest region	0.0535	0.817	-0.498
	(0.402)	(0.690)	(0.575)
South region	0.106	0.333	-0.0292
	(0.358)	(0.613)	(0.495)
Education *(omitted category: high school degree or less)*			
Some college	-0.585*	-0.698	-2.491***
	(0.325)	(0.584)	(0.496)
Bachelor degree	-0.466	1.087	-1.452**
	(0.414)	(0.707)	(0.618)
Post graduate degree	-0.378	1.560*	-1.584**
	(0.488)	(0.948)	(0.746)
Income *(omitted category: less than $25K)*			
$25-$49K	3.469***[a]	0.659[a]	0.550
	(0.435)	(0.609)	(0.603)
$50-$99K	7.177***[a]	3.759***[a]	2.375***
	(0.456)	(0.674)	(0.621)
>$100K	11.99***[a]	5.300***[a]	5.600***
	(0.537)	(0.987)	(0.762)
Race/ethnicity *(omitted category: White)*			
African-American	3.611***	4.930***	3.314***
	(0.442)	(0.730)	(0.562)
Hispanic	1.398***	3.394***	1.857***
	(0.374)	(0.558)	(0.509)
Asian	0.370	-0.0188	0.822
	(0.589)	(0.901)	(0.731)
Other	0.203	0.442	0.683
	(0.824)	(1.327)	(1.134)
Marital Status *(omitted category: Single)*			
Married	1.275***	2.755***	2.058***
	(0.365)	(0.561)	(0.456)
Divorced/Separated	-0.747*	1.608	-0.00795
	(0.423)	(1.476)	(0.839)

Widowed	-1.373	n/a	-1.945
	(0.851)		(2.558)
Have children *(omitted category: No financially dependent children)*			
Have financially dependent children	-1.298***	-0.497**	-0.0666
	(0.122)	(0.253)	(0.171)
Work Status *(omitted category: Employed)*			
Unemployed	-1.972***	-2.661***	-2.728***
	(0.604)	(0.885)	(0.879)
Full-time student	1.519	0.410	-0.688
	(1.683)	(0.876)	(1.173)
Homemaker/sick, disabled or unable to work	-1.712***	-0.789	-0.808
	(0.371)	(0.778)	(0.598)
Income Shock			
Experience a drop in income	-7.421***	-6.446***	-7.082***
	(0.338)	(0.522)	(0.445)
Health Shock			
Have unpaid medical bills	-7.277***	-5.702***	-6.510***
	(0.316)	(0.530)	(0.442)
Financial Literacy			
Three questions correct (interest, inflation, risk)	0.936***	1.929***	2.920***
	(0.304)	(0.677)	(0.515)
Home Ownership			
Own a home	2.646***	1.815***	1.847***
	(0.314)	(0.517)	(0.419)
Have a checking or savings account	0.632	2.712***	1.587**
	(0.537)	(0.760)	(0.694)
Constant	45.39***	45.17***	47.29***
	(0.703)	(1.033)	(0.928)
Observations	9,471	2,720	3,903
R-squared	0.312	0.233	0.267

Note: All data are from the 2018 NFCS dataset. Sample restricted to individuals who provided sufficient information to allow calculation of a financial well-being score. Young Millennials are non-retired individuals ages 23-29 and older Millennials are non-retired individuals ages 30-37. All estimates are weighted. Income shock is a dummy variable taking value 1 if the respondent reported the household experienced a large and unexpected drop in income in the previous 12 months and 0 otherwise. Health shock is a dummy variable taking value 1 if the respondent reported the household has unpaid medical bills that are past due and 0 otherwise. Coefficient differences between older working-age and young Millennials are significant for female and some college. Coefficient differences between older working-age and old Millennials are significant for some college. Coefficient differences between young and old Millennials are significant for those with a bachelor degree and post-graduate degree. Significance is at the $p<0.05$ level. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, *$p<0.1$

Table 6B: Multivariate regressions of subpopulations of Millennials

	Gender		Educational attainment		
Dependent variable: financial well-being (continuous variable 0 -100)	Female Millennials	Male Millennials	HS degree or less	Some college	Bachelor degree or more
Gender *(omitted category: male)*					
Female			-2.854***	-2.306***	-0.336
			(0.681)	(0.524)	(0.467)
Age *(omitted category: ages 23-29)*					
Old Millennials (ages 30-37)	-1.136***	-1.603***	0.0712	-1.622***	-2.490***
	(0.395)	(0.491)	(0.634)	(0.520)	(0.483)
Census region *(omitted category: West region)*					
Northeast region	-0.824	0.725	-0.741	-0.549	0.430
	(0.597)	(0.721)	(1.011)	(0.791)	(0.667)
Midwest region	0.0173	0.197	-0.373	0.0253	0.647
	(0.568)	(0.691)	(0.955)	(0.721)	(0.678)
South region	0.294	-0.00988	-0.822	0.598	0.408
	(0.491)	(0.609)	(0.833)	(0.623)	(0.600)
Education *(omitted category: high school degree or less)*					
Some college	-1.158**	-2.106***			
	(0.483)	(0.591)			
Bachelor degree	1.164*	-1.589**			
	(0.595)	(0.731)			
Post graduate degree	0.487	-0.421			
	(0.781)	(0.892)			
Income *(omitted category: less than $25K)*					
$25-$49K	0.103	0.954	0.898	0.985	-0.154
	(0.524)	(0.714)	(0.771)	(0.679)	(0.904)
$50-$99K	2.679***	2.921***	3.987***	3.190***	1.784**
	(0.583)	(0.722)	(0.901)	(0.724)	(0.869)
>$100K	6.490***	4.851***	3.873**	5.444***	5.414***
	(0.795)	(0.899)	(1.688)	(0.999)	(0.949)
Race/ethnicity *(omitted category: White)*					
African-American	4.009***	3.863***	5.611***	2.476***	4.493***
	(0.621)	(0.659)	(0.967)	(0.676)	(0.787)
Hispanic	1.342***	3.734***	4.259***	1.688***	2.281***
	(0.461)	(0.618)	(0.758)	(0.609)	(0.625)
Asian	1.578**	-0.878	3.462**	-0.430	-0.0658
	(0.712)	(0.912)	(1.662)	(1.089)	(0.680)

Other	0.764	-0.181	2.438	0.247	-0.589
	(1.019)	(1.490)	(1.844)	(1.476)	(1.259)
Marital Status *(omitted category: Single)*					
Married	3.317***	1.222**	2.756***	2.810***	1.285**
	(0.450)	(0.566)	(0.758)	(0.571)	(0.578)
Divorced/Separated	1.121	-0.369	2.245	-0.585	0.0445
	(0.872)	(1.258)	(1.452)	(1.093)	(1.424)
Widowed	-2.487	-2.163	4.758	-3.587	-7.054
	(3.350)	(4.044)	(5.615)	(3.632)	(5.239)
Have children *(omitted category: No financially dependent children)*					
Have financially dependent children	-0.620***	0.329	-0.451	-0.167	-0.0234
	(0.172)	(0.242)	(0.279)	(0.223)	(0.261)
Work Status *(omitted category: Employed)*					
Unemployed	-1.157	-4.361***	-2.088**	-2.272**	-4.476***
	(0.827)	(0.953)	(1.029)	(1.060)	(1.317)
Full-time student	-0.0827	-0.381	-2.371	0.208	-0.314
	(0.893)	(1.090)	(1.895)	(0.998)	(1.116)
Homemaker/sick, disabled or unable to work	-0.199	-2.134*	-1.057	-0.532	1.632
	(0.496)	(1.244)	(0.818)	(0.771)	(1.013)
Income Shock					
Experience a drop in income	-5.931***	-7.431***	-5.390***	-7.140***	-7.755***
	(0.429)	(0.551)	(0.679)	(0.531)	(0.592)
Health Shock					
Have unpaid medical bills	-5.091***	-7.340***	-4.455***	-6.611***	-7.505***
	(0.413)	(0.572)	(0.663)	(0.526)	(0.619)
Financial Literacy					
Three questions correct (interest, inflation, risk)	2.436***	2.520***	0.522	1.275*	3.558***
	(0.578)	(0.600)	(1.376)	(0.730)	(0.501)
Home Ownership					
Own a home	2.608***	1.116**	2.160***	1.016*	2.520***
	(0.424)	(0.510)	(0.694)	(0.532)	(0.509)
Have a checking or savings account	2.161***	1.996**	3.189***	0.475	0.617
	(0.648)	(0.809)	(0.820)	(0.840)	(1.340)
Constant	43.84***	48.69***	44.25***	48.09***	48.81***
	(0.884)	(1.099)	(1.231)	(1.167)	(1.611)
Observations	3,856	2,767	1,583	2,458	2,582
R-squared	0.247	0.258	0.190	0.237	0.255

Note: All data are from the 2018 NFCS dataset. Sample restricted to individuals who provided sufficient information to allow calculation of a financial well-being score; non-retired individuals ages 23-37. All estimates are weighted. All respondents who chose "do not know" or "prefer not to say" have been excluded. Income shock is a dummy variable taking value 1 if the respondent reported the household experienced a large and unexpected drop in income

in the previous 12 months and 0 otherwise. Health shock is a dummy variable taking value 1 if the respondent reported the household has unpaid medical bills that are past due and 0 otherwise. Coefficient differences between male and female are significant for bachelor degree, having children, and unemployed. Coefficient differences between educational attainment of HS degree or less and bachelor degree or more are significant for female and old Millennial. Coefficient differences between educational attainment of some college and bachelor degree or more is significant for female. Significance is at the p<0.05 level. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, *p<0.1

Table 6C: Multivariate regressions of Millennials by race

Dependent variable: financial well-being (continuous variable 0 -100)	White	African-American	Hispanic
Gender *(omitted category: male)*			
Female	-1.014***	-1.997**	-4.413***
	(0.383)	(0.989)	(0.871)
Age *(omitted category: ages 23-29)*			
Old Millennials (ages 30-37)	-0.931**	-2.015**	-1.916**
	(0.381)	(0.973)	(0.831)
Census region *(omitted category: West region)*			
Northeast region	-0.678	4.166**	-1.404
	(0.579)	(1.967)	(1.176)
Midwest region	-0.639	0.685	2.924**
	(0.510)	(1.948)	(1.321)
South region	-0.675	2.987*	0.474
	(0.483)	(1.668)	(0.967)
Education *(omitted category: high school degree or less)*			
Some college	-0.738	-1.585	-2.503***
	(0.471)	(1.133)	(0.970)
Bachelor degree	0.773	-0.428	-1.404
	(0.563)	(1.560)	(1.301)
Post graduate degree	-0.380	1.566	-0.865
	(0.690)	(2.122)	(1.854)
Income *(omitted category: less than $25K)*			
$25-$49K	1.102**	0.110	0.668
	(0.542)	(1.264)	(1.129)
$50-$99K	3.842***	0.975	3.430***
	(0.572)	(1.370)	(1.237)
>$100K	6.862***	0.896	6.290***
	(0.717)	(1.866)	(1.760)
Marital Status *(omitted category: Single)*			
Married	1.566***	4.259***	3.309***
	(0.433)	(1.084)	(0.989)
Divorced/Separated	-0.0646	3.894	0.289
	(0.868)	(2.662)	(1.934)
Widowed	-1.984	1.445	-8.282

	(3.722)	(5.783)	(8.146)
Have children *(omitted category: No financially dependent children)*			
Have financially dependent children	-0.563***	0.331	-0.619
	(0.180)	(0.394)	(0.396)
Work Status *(omitted category: Employed)*			
Unemployed	-3.010***	-2.370	-2.753*
	(0.817)	(1.620)	(1.664)
Full-time student	0.333	-2.466	1.031
	(0.998)	(2.081)	(1.697)
Homemaker/sick, disabled or unable to work	-0.207	-4.283**	0.421
	(0.561)	(1.769)	(1.281)
Income Shock			
Experience a drop in income	-7.346***	-8.766***	-4.755***
	(0.424)	(1.027)	(0.913)
Health Shock			
Have unpaid medical bills	-5.416***	-7.641***	-6.246***
	(0.421)	(0.983)	(0.907)
Financial Literacy			
Three questions correct (interest, inflation, risk)	2.559***	1.735	1.969
	(0.464)	(1.667)	(1.312)
Home Ownership			
Own a home	1.959***	1.969*	1.077
	(0.405)	(1.048)	(0.892)
Have a checking or savings account	1.518**	0.672	4.352***
	(0.664)	(1.431)	(1.301)
Constant	46.86***	51.83***	49.09***
	(0.866)	(2.390)	(1.705)
Observations	4,183	862	877
R-squared	0.269	0.270	0.257

Note: All data are from the 2018 NFCS dataset. Sample restricted to non-retired individuals ages 23-37 who responded with sufficient information to allow calculation of a financial well-being score; all estimates are weighted. White, African-American, and Hispanic refer to race dummies. Income shock is a dummy variable taking value 1 if the respondent reported the household experienced a large and unexpected drop in income in the previous 12 months and 0 otherwise. Health shock is a dummy variable taking value 1 if the respondent reported the household has unpaid medical bills that are past due and 0 otherwise. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, *p<0.1

Appendix A

Table A1: Correlations between financial experiences and financial well-being among older working-age

	% of older working-age	FWB
Experienced drop in income	21%	40.02
No drop		52.23
Difference		**-12.21**
Spends more than income	19%	39.83
Spends equal or less than income		52.15
Difference		**-12.32**
Finds it somewhat or very difficult to cover expenses	50%	40.07
Does not have difficulty		59.36
Difference		**-19.29**
Has unpaid medical bills	26%	40.92
Doesn't have unpaid medical bills		52.86
Difference		**-11.94**
Is financially fragile	34%	38.43
Is not financially fragile		55.74
Difference		**-17.31**
Occasionally overdraws on checking account*	19%	41.04
Doesn't overdraw		52.59
Difference		**-11.55**
Demonstrated at least one expensive behavior in credit card management*	44%	45.07
No expensive behavior		56.68
Difference		**-11.61**
Used at least one form of alternative financial services	26%	42.76
Hasn't used AFS		52.17
Difference		**-9.41**
Self-reported bad or very bad credit score	21%	38.53
Self-reported average, good or very good score		52.94
Difference		**-14.41**

Note: All data from the 2018 NFCS dataset. *Indicates statistics are conditional on having the related assets. Statistically significant differences are indicated in bold ($p<0.05$).

Table A2: Percentage of older working-age population and Millennials who are concerned about repayment by educational attainment.

	Millennials (23-37)	Older working-age (38-61)
High school or lower	59%	50%
Some college	66%	53%
Bachelor's degree	46%	47%
Post graduate degree	44%	42%

Note: All data are from the 2018 NFCS. Concern about repayment is a dummy variable equal to 1 if the respondent answers they are concerned that they might not be able to pay off their student loans and 0 otherwise. Observations exclude do not know or prefer not to say answers and are conditional on having a student loan. All estimates are weighted.

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