

# IN THE Balance

*Perspectives on Household Balance Sheets*



## Cash on Hand Is Critical for Avoiding Hardship

By Emily Gallagher and Jorge Sabat

Why would someone keep \$1,000 in a low-earning bank account while owing \$2,000 on a credit card that charges a double-digit percentage interest rate?

Our research suggests that keeping a cash buffer greatly reduces the risk that a family will miss a payment for rent, mortgage or a recurring bill, will be unable to afford enough food or will be forced to skip needed medical care within the next six months.

Many families struggle to make ends meet. A Federal Reserve survey estimated that almost half of U.S. households could not easily handle an emergency expense of just \$400.<sup>1</sup>

Should more families be encouraged to hold a liquidity buffer even if it means incurring more debt in the short-term?

### Linking Balance Sheets and Financial Hardship

Using a novel data set, we investigated which types of assets and liabilities predicted whether a household would experience financial hardship over a six-month period.<sup>2</sup>

The survey data that we use is particularly apt to study this question, not only because it asks the detailed financial and demographic questions that are often missing from public surveys, but also because it includes two observations for the same household. One observation is collected at tax time and another observation is collected six months after tax time. This feature of our data set is ideal for capturing the probability that a household that is currently financially stable falls into financial hardship in the near term. Furthermore, the survey samples only from low-to-middle income households, our

population of interest for understanding the antecedents of financial hardship.

We tracked families who said in the first survey that they hadn't recently experienced any of four types of financial hardship: delinquency on rent or mortgage payments; delinquency on regular bills, e.g., utility bills; skipped medical care; and food hardship, defined as going without needed food.

To assess whether the composition of a family's balance sheet helped predict any of these forms of hardship, we asked in the initial survey if the family had any balances in the following categories:

- Liquid assets, such as checking and saving accounts, money market funds, and prepaid cards
- Other assets, including businesses, real estate, retirement or education savings accounts
- High-interest debt, such as that from credit cards or payday loans
- Other unsecured debt, such as student loans, unpaid bills and overdrafts
- Secured debt, including mortgages or debts secured by businesses, farms or vehicles.

More details on the categories can be found in the methodology.

We controlled for factors such as income and demographics and tracked whether the roughly 5,000 families had suffered a financial shock that would affect the results.

### Results: Balance Sheets Matter

Our results are summarized in the figure, which displays the estimated effects of variations in each balance-sheet category on the risk of encountering financial

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hardship. Point estimates (and confidence bands around them) above zero indicate that the presence of a particular balance-sheet item increased the risk of encountering a given hardship in the next six months. Estimates below zero indicate that having the particular balance-sheet item reduced the risk of encountering hardship.

The most striking finding is how similar the balance-sheet patterns of estimated effects are across the four measures of hardship. For example, having liquid assets or other assets always predicted lower risk of encountering hardship of any kind. Having debts generally increased the risk of hardship. Among all categories, secured debt was the closest to having no predictive relationship, positive or negative.

### Cash on Hand Matters Most of All

Liquid assets had the most predictive power: Having cash on hand predicted a significantly lower risk of all four types of hardship. A \$100 increase from the mean in the logarithm of liquid assets (equivalent to a \$100 increase from a mean of \$6) is associated with a 4.6 percentage point reduction in a household's probability of rent or mortgage delinquency. This effect is sizable, considering the probability of falling into rent or mortgage delinquency within six months was 4.5 percent.

Liquid assets also significantly reduced the likelihood of entering into more common forms of hardship. The estimates shown in panels B, C and D signal that a \$100 increase in liquidity is associated with a decline in the rate of regular bill delinquency, skipped medical care, and food hardship of 8.3 percentage points, 6.3 percentage points, and 5.2 percentage points, respectively. These estimated effects are substantial relative to the probability of encountering each hardship. In our sample, 7.3 percent of households fell behind on regular bills, 10.8 percent began skipping medical care and 8.4 percent began to experience food hardship in the six-month period after the initial survey. Other assets, comprising mainly vehicles and housing, had less predictive power for hardship.

Compared to liquid assets, an increase in high-interest debt made less of a difference in the likelihood of falling into sudden hardship. A possible explanation is that high-interest debt exacerbates financial problems but access to it also helps households absorb expense shocks. The estimate of 2.0 in Panel A implies a \$100 increase from a mean of \$85 boosts the likelihood of rent or mortgage delinquency by 2 percentage points. This equates to a 45 percent increase in the probability of falling into rent or mortgage delinquency within six months.

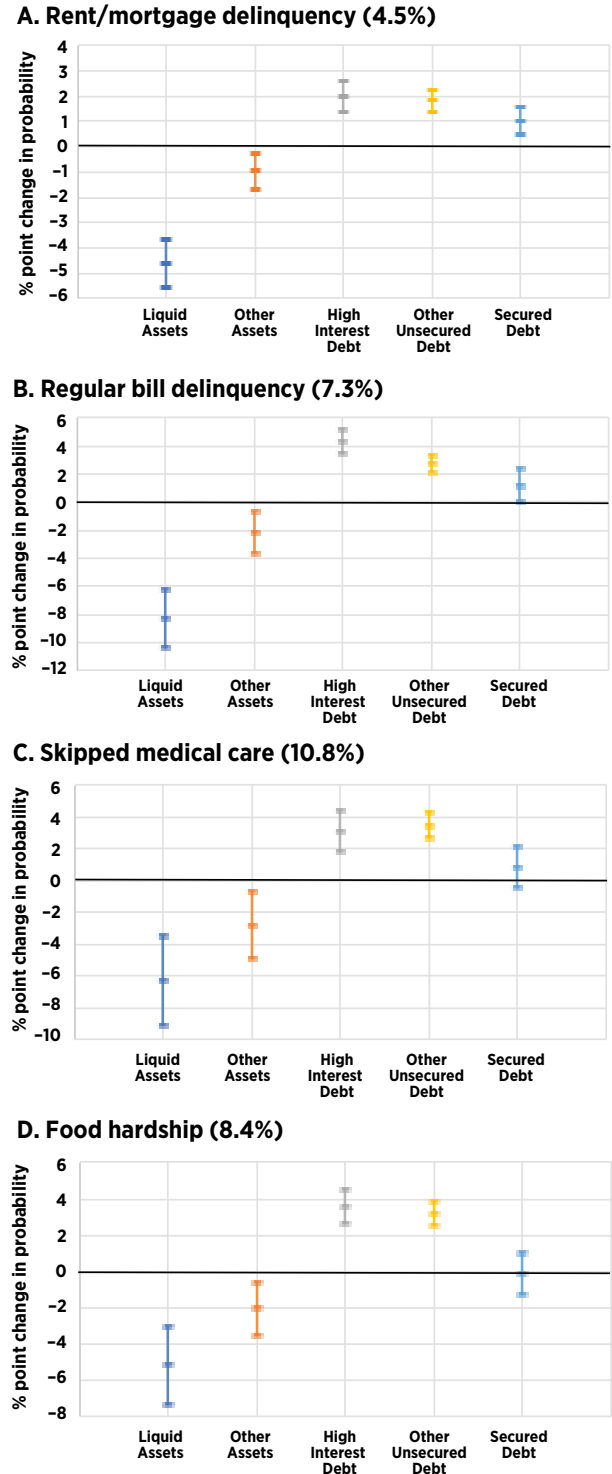
The effect of other unsecured debt is slightly less than that of high-interest debt. Student debt makes up 69 percent of the average household's "other unsecured debt." The rest is mostly medical debt. The estimates in the figure indicate that a \$100 increase from the mean in the logarithm of other unsecured debt (equivalent to a \$100 increase on a mean of \$652) is associated with a 1.8 percentage point (or relative 40 percent) increase in the probability of falling into rent or mortgage delinquency. This effect is similar for the other forms of hardship measured. Finally, secured debt, which is primarily mortgages and car loans, appears to have no consistent association with hardship.

### Holding Cash Beats Paying Debt

Our findings suggest that households should be encouraged to maintain at least a small buffer of liquid savings, even if the cash in that buffer is not being used to pay down high-interest debt.

FIGURE 1

## Balance-Sheet Items' Effect on Risk of Hardship



NOTE: The figure displays the estimated percentage point effects of an additional \$100 in each balance-sheet category, starting from its mean, on the probability of encountering financial hardship. For context, the share of the sample that encounters each form of hardship is reported in parentheses above each graph. Point estimates (and confidence bands around them) above zero indicate that the presence of a particular balance-sheet item increased the risk of encountering a given hardship in the next six months. Estimates below zero indicate that having the particular balance-sheet item reduced the risk of encountering hardship.

SOURCES: Center for Social Development and authors' analysis

The importance of liquidity buffers in preventing hardship suggests that households are still subject to expense shocks that cannot always be put on credit. Rent payments, for example, typically cannot be put on credit cards. There is also reason to suspect that some of the effects we document are driven by borrowing constraints. Indeed, 67 percent of households in our sample reported owning a credit card. Among those with a credit card, 50 percent reported being more than 30 days late on their payments, with a mean balance of \$3,990, and 17 percent reported a declined card transaction in the last six months.

In sum, our analysis highlights the importance of emergency savings to the financial stability of struggling households. It also suggests that households should maintain a liquidity buffer that can be drawn down when households are confronted with financial shocks. ■

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## Methodology

Data used in this paper come from survey responses of households that used an online tax-preparation software (which is part of the **IRS Free File Alliance**) when filing their taxes in 2013-2017.<sup>3</sup> These households consented to their anonymized data being used for research on financial well-being. The software was offered at no cost to tax filers who had adjusted gross income of less than \$31,000, who qualified for the Earned Income Tax Credit, and/or who were active-duty members of the military with adjusted gross income of less than \$62,000. Participants responded to two surveys, one at tax-time and one six months later.

We restricted our analysis to households headed by someone aged 19-64 and who had reported at tax-time that they had not experienced one of four particular types of recent financial hardship. The follow-up survey asked about those same types of financial hardship: (1) rent or mortgage delinquency, (2) regular bill (e.g., utilities) delinquency, (3) skipped medical care, and (4) food hardship, defined as skipping needed food. To assess whether the composition of a family's balance sheet helped predict any of these forms of hardship, the initial survey asked if the family had any balances in the following categories:

- Liquid assets (checking and saving accounts, money market funds, and prepaid cards)
- Other assets (businesses, real estate, vehicles, retirement accounts, certificates of deposit, mutual funds, stocks, education savings accounts, loans to friends and family)
- High-interest debt (credit cards and payday loans)

- Other unsecured debt (student loans, bank loans, medical debt, unpaid bills, negative balances, and money borrowed from friends and family)
- Secured debt (mortgages, debts on property, businesses, and farms, and vehicle loans).

In the second part of the survey, we measured the probability of falling into each of the types of hardship within the next six months. This left us with between 4,423 and 7,589 observations, depending on the form of hardship considered.

To reduce the influence of extreme responses in each of the asset and liability categories, we take the logarithm of each balance sheet variable. We controlled for each household's income; health insurance status; and demographic information, including race, age, age squared, education, parental and marital status and whether family members were students. To reduce the impact of bad luck, we kept track of whether the household reported an unexpected financial shock (car or house repair, job loss or switch, legal problem, large medical expense, natural disaster, crime and life change) in the six months following tax time. Finally, we included control variables for the state of residence of the household and for the year of the observation.

The figure shows regression coefficients on balance sheet measures and their 95 percent confidence intervals. The dependent variables, listed in the graph titles, are binary measures of financial hardship. Coefficients may be interpreted as the marginal effect on the probability of hardship of increasing in the balance sheet measure from its mean by the logarithm of \$100.

## ENDNOTES

<sup>1</sup> Board of Governors of the Federal Reserve System, "Report on the Economic Well-Being of U.S. Households in 2016," May 2017. See [www.federalreserve.gov/publications/files/2016-report-economic-well-being-us-households-201705.pdf](http://www.federalreserve.gov/publications/files/2016-report-economic-well-being-us-households-201705.pdf).

<sup>2</sup> Gallagher, Emily; and Sabat, Jorge. "Tipping Points and the Size of Household Liquidity Buffers," Center for Household Financial Stability working paper, September 2017. The data set was made available by the Center for Social Development within Washington University's Brown School of Social Work and Public Health and are collected as part of the Refund to Savings Initiative, an ongoing partnership among Washington University in St. Louis, Duke University and Intuit Inc.

<sup>3</sup> Statistical compilations disclosed in this document relate directly to the bona fide research of, and public policy discussions concerning savings behavior as it relates to tax compliance. Compilations are anonymous and reflect taxpayer-level data with the prior explicit consent from taxpayers, or do not disclose information containing data from fewer than 10 tax returns. Compilations follow Intuit's protocols to help ensure the privacy and confidentiality of customer tax data.