WHY ARE SO MANY HOUSEHOLDS UNABLE TO COVER A $400 UNEXPECTED EXPENSE?

By Anqi Chen*

Introduction

Despite a strong economic recovery, about 40 percent of households in 2017 still said they would have trouble paying for a $400 unexpected expense. When households are operating under such a tight budget, building a nest egg for retirement can be challenging. This *brief* uses data from two Federal Reserve surveys – the *Survey of Household Economics and Decisionmaking* (SHED) and the *Survey of Consumer Finances* (SCF) – to understand why so many households say they are unable to cover a relatively small unexpected expense.

The discussion proceeds as follows. The first section uncovers a difference between what households *say* they can afford and what they *actually* have in their checking/savings accounts. The second section shows that many households, despite having enough in these accounts, may be unable to weather small financial surprises due to unpaid credit card debt. The third section examines whether financial literacy is the problem and finds that it is not. The fourth section uses latent class analysis to examine the characteristics of these vulnerable households. The final section concludes that credit card balances and installment loans (e.g., mortgages, student loans) may be seriously constraining household budgets and are the likely reason that so many middle and higher-income households feel cash-strapped.

Precautionary Savings

Every year since 2013, the Federal Reserve Board has conducted the SHED, which asks over 12,000 households about subjective and objective measures of their financial well-being. One important indicator is whether households have precautionary savings – a measure that could be either subjective or objective as discussed below. Precautionary savings can help buffer households from financial hardship or from dipping into their retirement savings when faced with modest unexpected expenses – such as a car repair or a leaky roof.

Therefore, it is concerning that 41 percent of households in 2017 reported that they do not have enough saved up to pay for an unexpected $400 expense.[1] Figure 1 (on the next page) shows these households by income and finds that this problem is not isolated to those with lower incomes. In fact, even 17 percent of households with over $100,000 in income say that they would have trouble meeting such an expense.

The specific SHED question is: "Suppose that you have an emergency expense that costs $400. Based on your current financial situation, how would you pay for this expense?" Households that *say* they would need to "borrow, sell, stop paying other bills, or just would not be able to pay" are deemed unable to cover such an expense. However, the SCF, which

* Anqi Chen is assistant director of savings research at the Center for Retirement Research at Boston College.

Figure 1. Percentage of SHED Households Ages 25-64 Reporting that They Could Not Cover a $400 Unexpected Expense, by Income, 2017
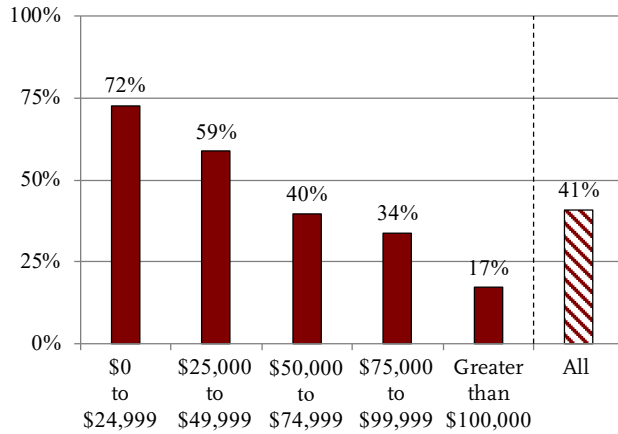
Source: U.S. Board of Governors of the Federal Reserve System, *Survey of Household Economics and Decisionmaking* (SHED) (2017).

instead is based on households' actual resources, tells a very different story. It finds that about 20 percent of households have less than $400 in their checking/savings accounts, and this group is much more concentrated among the lower income, as shown in Figure 2.[2] Only 1 percent of households with over $100,000 in income actually have less than $400 in their bank accounts.

Figure 2. Percentage of SCF Households Ages 25-64 with Less than $400 in their Checking/Savings Accounts, 2016
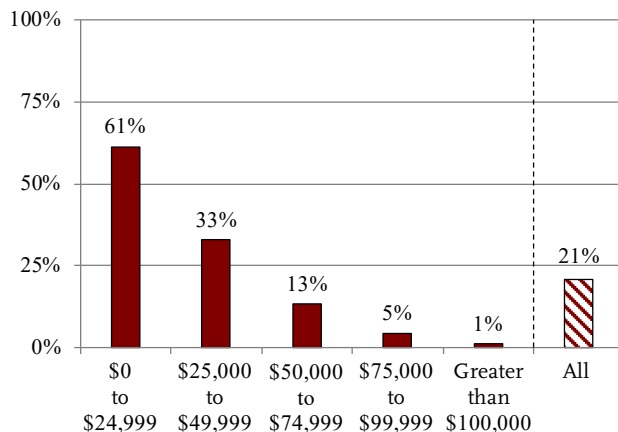

Note: See Endnote 3.
Source: U.S. Board of Governors of the Federal Reserve System, *Survey of Consumer Finances* (SCF) (2016).

Unpaid Credit Card Debt

At first glance, the discrepancy between the percentage of households that say they could not cover a small expense from the SHED and the percentage that actually do not have enough cash on hand from the SCF is puzzling. However, examining unpaid credit card debt helps clarify the picture. Although some households have at least $400 in their bank accounts, once their outstanding credit card debt is accounted for, they may also have trouble paying for an unexpected $400 expense.

Figure 3 shows three groups of households: 1) those that have less than $400 in cash on hand (the 21 percent from Figure 2); 2) those that would have less than $400 in cash once they paid off their credit cards (17 percent); and 3) the remaining 62 percent of households who have some form of precautionary savings. Even though households in the second group technically have enough cash on hand to cover a $400 expense, they may mentally allocate the amounts in their checking/savings accounts to paying off credit card debt, where rates are high on unpaid balances.[4]

**Figure 3. SCF Households Ages 25-64 by Checking/Savings and Unpaid Credit Card Balance, 2016**
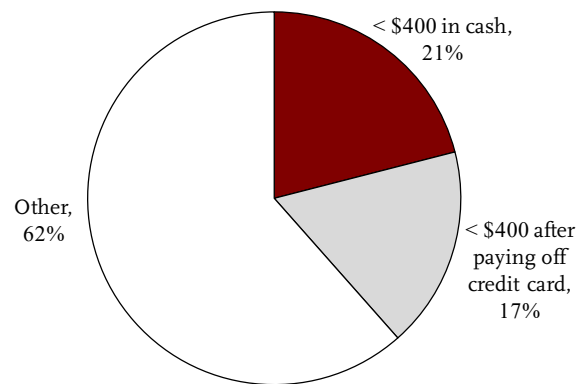
Source: SCF (2016).

Combining the two groups (in red and gray) from Figure 3 and arraying them by income suggests that the presence of credit card debt may explain why so many households say they would have trouble covering a small unexpected expense despite having the money in the bank. After subtracting out unpaid credit card balances, the percentage of households

that say they could not cover a $400 expense and the percentage that actually did not have enough cash on hand look almost identical (see Figure 4). This finding suggests that close to 40 percent of households have tight budgets and may be unable to weather a small unexpected expense.

FIGURE 4. PERCENTAGE OF HOUSEHOLDS AGES 25-64 THAT HAVE TROUBLE COVERING A $400 EMERGENCY EXPENSE, BY INCOME CATEGORY, 2016-2017
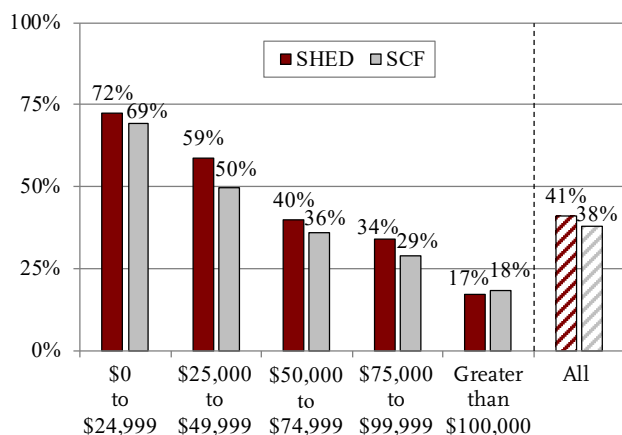
Sources: SHED (2017) and SCF (2016).

The question is: Why are so many households, especially middle- and high-income households, unable to cover a relatively small unexpected expense?
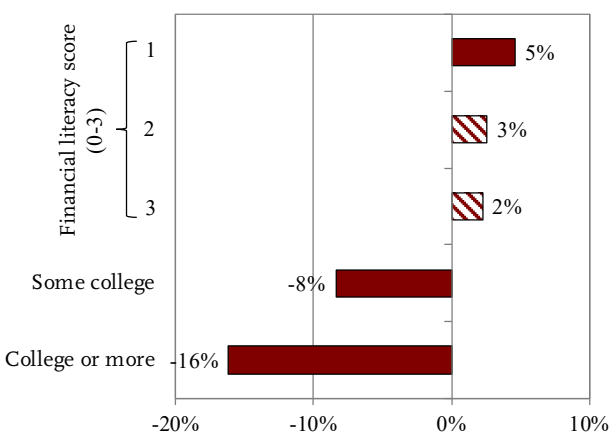
Financial Literacy

One potential explanation could be that households without precautionary savings are less financially knowledgeable. To test this hypothesis, the analysis compares how the financial literacy of households in each group – those who say they cannot cover a $400 emergency, those who actually cannot cover it, and those who can cover it – scored on a common financial literacy test. This test asks households three simple questions about money and investments.[5]

Interestingly, financial literacy, as measured by these three questions, varies very little across the three groups – each group gets about two of the three

questions right. However, while financial literacy doesn't seem to have a noticeable effect on precautionary saving, prior research suggests that differences in educational attainment could.[6] In fact, these differences turn out to be dramatic. For example, only 10 percent of households in the group without $400 have a college degree compared to 44 percent of households in the group that reports that they can cover this expense.

Not surprisingly, then, a probit regression that includes measures for both financial literacy and educational attainment finds that financial literacy scores have little ability to predict whether a household will have trouble covering a $400 unexpected expense while educational attainment does have strong predictive power (see Figure 5).

FIGURE 5. PROBABILITY OF NOT BEING ABLE TO COVER A $400 UNEXPECTED EXPENSE, AFTER ADJUSTING FOR UNPAID CREDIT CARD DEBT

Note: Marginal effects are shown. Solid bars represent statistical significance at the 5-percent level. See Appendix Table A1 for the full set of controls.
Source: Author's calculations using SCF (2016).

Since financial literacy does not seem to be the answer, the question is what characteristics – besides educational attainment – explain why so many households have trouble covering a small unexpected expense.

Characteristics of Households with Less than $400

Latent class analysis is one way to see common characteristics among the households in this analysis. This method is used to identify whether some identifiable subgroups exist within a population.[7]

Applying the analysis to the 21 percent of households that actually held less than $400 in their checking/savings accounts reveals three different subgroups (see Table 1). The largest subgroup, consisting of about two thirds of the full group, is the "disadvantaged." These households mainly have very low incomes and a high school degree or less.

The "borrowers" are the second largest, representing about a quarter of the full group. Borrowers all have student loan debt and other installment loans, and their median net worth is negative. This subgroup also faces financial risks such as recently losing a job or being denied credit. The final subgroup, representing only about one tenth of those without $400, consists completely of homeowners with a mortgage – perhaps suggesting that homeownership costs may be constraining household budgets. A high proportion of these homeowners also have a high school degree or less. Overall, all three of the subgroups tend to have a low socioeconomic status, with a high proportion of non-college graduates with low incomes.

TABLE 1. LATENT CLASS ANALYSIS OF HOUSEHOLDS AGES 25-64 WITH LESS THAN $400

Characteristic	Disadvantaged	Borrowers	Homeowners with mortgage
Percentage	64%	24%	12%
Education			
High school or less	75%	33%	69%
Some college	20%	43%	23%
College or more	5%	24%	8%
Financial			
Homeowner	16%	22%	100%
Homeowner w/ mortgage	0%	16%	100%
Median income	$24,511	$34,724	$40,852
Median net worth	$4,575	-$4,800	$52,291
Participating in retirement plan	50%	49%	53%
Median 401(k)/ IRA balance	$0	$0	$0
Has student loans	0%	100%	0%
Has installment loans	31%	100%	50%
Median student loan(s) balance	$0	$14,196	$0
Median installment loan(s) balance	$0	$20,426	$511
Median credit card balance	$0	$0	$0
Financial risks and literacy			
Employment shock	34%	43%	22%
Denied credit*	46%	63%	40%
Financial literacy score (0-3)	2	2	2

*Includes households who did not apply for a loan because they thought they might be denied credit.
Source: Author's calculations using SCF (2016).

Applying the same type of analysis to the 17 percent of households with less than $400 after paying off their credit card balance reveals four different sub-groups (see Table 2). About half of them are a more advantaged group of the "homeowners with mort-gage" in Table 1. This group consists of households with high incomes, net worth, and participation in retirement plans. But at the same time, most of them have a mortgage and many of them also have other loan payments. This group also has a high level of credit card debt. The second group is middle-income households with a high school degree or less. A large share of these households also have a mortgage. The last two groups are smaller and are recently unemployed or are a more advantaged "borrower" group. These borrowers, despite having high incomes, hold a substantial amount of debt.

Conclusion

Many U.S. households have little set aside to absorb financial shocks. Living on such a tight budget can have important implications for short- and long-term financial security. In the short term, households may routinely use high-cost forms of borrowing, such as leaving a portion of credit card balances unpaid. In the long term, households may dip into assets set aside for retirement in order to smooth financial shocks. They may also have trouble saving for retirement in the first place.

The results show that many households are living on tight budgets for two main reasons. The first is that they are less advantaged; they either recently lost their job, have low incomes, or have a high school degree or less. A second reason is debt. Many of

TABLE 2. LATENT CLASS ANALYSIS OF HOUSEHOLDS AGES 25-64 WITH LESS THAN $400, AFTER ADJUSTING FOR UNPAID CREDIT CARD DEBT

	Cash-strapped homeowners	High school or less	Recently unemployed	Borrowers
Percentage	49%	29%	14%	8%
Education				
High school or less	7%	82%	29%	6%
Some college	42%	12%	37%	40%
College or more	51%	6%	34%	53%
Financial				
Homeowner	77%	63%	25%	59%
Homeowner w/ mortgage	70%	51%	12%	57%
Median income	$82,726	$61,278	$61,278	$81,704
Median net worth	$98,964	$68,734	$8,313	$8,416
Participating in retirement plan	72%	59%	51%	69%
Median 401(k)/ IRA balance	$18,383	$3,064	$409	$3,064
Has student loans	46%	0%	68%	100%
Has installment loans	76%	59%	83%	100%
Median student loan(s) balance	$0	$0	$10,213	$30,639
Median installment loan(s) balance	$16,954	$2,349	$20,426	$53,108
Median credit card balance	$9,192	$6,158	$5,617	$5,924
Financial risks and literacy				
Employment shock	6%	9%	75%	2%
Denied credit*	19%	21%	69%	29%
Financial literacy score (0-3)	2	2	2	2

*Includes households who did not apply for a loan because they thought they might be denied credit.
Source: Author's calculations using SCF (2016).

these households may have enough liquid assets to cover a modest emergency expense but they also have mortgages, student loans, and/or other install-ment loans. These loan payments, which constrain their household budgets, could explain why so many middle- and higher-income households do not have precautionary savings.

Endnotes

1 The 2018 SHED showed a small reduction in this percentage. This *brief*, however, relies on the 2017 SHED for easier comparability with the *Survey of Consumer Finances,* which was last conducted in 2016.

2 Uninvested money from brokerage accounts is included.

3 For this analysis, the 2016 SCF data were inflated to 2017 dollars for a direct comparison with the 2017 SHED data.

4 Telyukova (2013) explains that households may simultaneously hold savings and credit-card debt due to liquidity needs. Money in the bank may already be committed to expenses that cannot be paid by credit cards (e.g., mortgage or rent, utilities, babysitting, child/elder care services, or taxes).

5 These questions, sometimes referred to as the "Big Three" in financial literacy, have been used in more than 20 countries: 1) Suppose you had $100 in a savings account and the interest rate was 2 percent per year. After 5 years, how much do you think you would have in the account if you left the money to grow?; 2) Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After 1 year, how much would you be able to buy with the money in this account?; and 3) Please tell me whether this statement is true or false. "Buying a single company's stock usually provides a safer return than a stock mutual fund."

6 For a review of the literature on financial literacy, financial education, and financial outcomes, see Hastings, Madrian, and Skimmyhorn (2013).

7 Latent class analysis (LCA) is a tool that allows researchers to identify relationships among observed categorical variables as a function of some unobserved grouping. Conditional on an assumed number of classes, LCA provides two sets of estimates: 1) the share of the population within each class; and 2) the conditional probabilities of having a given value for each observed variable within each class. These parameters are estimated by maximum likelihood estimation, where the inputs are the observed probabilities. The conditional probabilities have a special interpretation within LCA since they represent a measure of association between the class and the observed characteristic.

References

Hastings, Justine S., Brigitte C. Madrian, and William L. Skimmyhorn. 2013. "Financial Literacy, Financial Education, and Economic Outcomes." *Annual Review of Economics* 5(1): 347-373.

Telyukova, Irina A. 2013. "Household Need for Liquidity and the Credit Card Debt Puzzle." *Review of Economic Studies* 80(3): 1148-1177.

U.S. Board of Governors of the Federal Reserve System. *Survey of Consumer Finances,* 2016. Washington, DC.

U.S. Board of Governors of the Federal Reserve System. *Survey of Household Economics and Decisionmaking,* 2017. Washington, DC.

APPENDIX

TABLE A1. EFFECT OF SELECTED CHARACTERISTICS ON PROBABILITY OF NOT BEING ABLE TO COVER A $400 UNEXPECTED EXPENSE, AFTER ADJUSTING FOR UNPAID CREDIT CARD DEBT

	(1)	(2)
Financial literacy score (0-3)		
1	0.0327	0.0464**
	(0.0204)	(0.0204)
2	-0.0215	0.0261
	(0.0191)***	(0.0192)
3	-0.0726	0.0225
	(0.0529)***	(0.0194)
Some college = 1	-0.2271	-0.0837***
	(0.0258)***	(0.0093)
College or more = 1	-0.4434	-0.1617***
	(0.0274)	(0.0096)
Age of head		0.0226***
		(0.0031)
Age ^2		-0.0002***
		(0.0000)
Income tercile		
Middle		-0.2084***
		(0.0098)
Highest		-0.3046***
		(0.0108)
Homeowner = 1		-0.1738***
		(0.0129)
Homeowner, w/ mortgage = 1		0.1127***
		(0.0130)
Has student loan = 1		0.0554***
		(0.0109)
Has installment loans = 1		0.0857***
		(0.0092)
Employment shock = 1		0.0850***
		(0.0103)
Credit access risk = 1		0.1866***
		(0.0096)
Observations	22,525	22,525

Note: Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$.
Source: Author's calculations using SCF (2016).

CENTER *for*
RETIREMENT
RESEARCH
at BOSTON COLLEGE

About the Center

The mission of the Center for Retirement Research at Boston College is to produce first-class research and educational tools and forge a strong link between the academic community and decision-makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception in 1998, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

Affiliated Institutions

The Brookings Institution
Mathematica – Center for Studying Disability Policy
Syracuse University
Urban Institute

Contact Information

Center for Retirement Research
Boston College
Hovey House
140 Commonwealth Avenue
Chestnut Hill, MA 02467-3808
Phone: (617) 552-1762
Fax: (617) 552-0191
E-mail: crr@bc.edu
Website: https://crr.bc.edu