# How Consumers Budget 

## Appendix

C. Yiwei Zhang ${ }^{\dagger}$<br>Abigail B. Sussman<br>Jennifer K. Lyu

[^0]
## A Appendix Figures and Tables



Note.-This figure plots, by amount of assets within the sample of those currently budgeting, the share of respondents who indicate a particular motivation as a main reason for budgeting for each of the following set of potential motivations: savings for long-term goals, saving for shortterm goals, to avoid debt from predictable overspending or from unforeseen expenses, to get out of debt, to provide for one's family, and to avoid overspending one's income. The overall share of respondents who indicate a particular motivation is shown in the dark red bar. The share of respondents disaggregated by the amount of assets is shown in pink.

Fig. A.1.-Reasons for Budgeting by Amount of Assets (\$)


Note.-This figure shows the distribution of frequencies at which individuals check their budget by responses to four questions designed to capture respondents' expectations about their future financial security and stress about their current money management: I will achieve the financial goals that I have set for myself (top left); I have saved (or will be able to save) enough money to last me to the end of my life (top right); I am behind on my finances (bottom left); and Because of my money situation, I feel I will never have the things I want in life (bottom right). Responses for each question are measured using a five-point scale that ranges from "Describes me not at all" to "Describes me completely." Scores from the four questions were combined to create a composite perceived wellbeing index ranging from -8 to 8 (the negative of scores were used for the two questions about current money management stress so that higher values represent more positive outcomes). All statistics in this figure are calculated for the sample of respondents who currently budget.

Fig. A.2.-Attention to Finances by Individual Perceived Wellbeing Component

(A) Accounts View

(B) Account Details

Note.- This figure presents sample screenshots of an Accounts View page (panel A) and Account Details page (panel B) within the CBA's mobile app and web platform.

Fig. A.3.-CBA "Accounts View" and "Account Details" Pages


Note.-This figure plots the distribution of digital engagement for CBA customers in the representative sample. For each customer, we define digital engagement as the average number of days per month where they visited either the Accounts View or Account Details page within the bank's mobile app or web platform. The median, standard deviation, and interquartile range of this distribution are also reported in the top right corner for reference.

Fig. A.3.-Distribution of Digital Engagement


Note.- This figure plots the distribution of CBA-MI Observed Financial Wellbeing Scale scores for CBA customers in the representative sample. This score is derived internally from customers' financial records and is comprised of five underlying component measures that capture a customer's savings and liquidity, spending, and any experiences of payment problems. See Haisken-DeNew et al. (2019) for additional details on the CBA-MI scale. The median, standard deviation, and interquartile range of this distribution are also reported in the top right corner for reference.

Fig. A.4.-Distribution of Financial Wellbeing Scores

(A) Card-LEvel

(B) INDIVIDUAL-LEVEL

Note.- This figure plots the cumulative distribution of the concentration metric for cards in the representative sample at the card-level (panel A) and the indivdiual-level (panel B). The concentration of a card is defined as the share of total spending that is accounted for by the top spending category. The top spending category for a card is the category that accounts for the largest share of total spending on that card over the sample period. The individuallevel distribution in panel B is calculated based on the card with the highest card spending concentration for each customer in the representative sample.

Fig. A.5.-Cumulative Distribution of Card Spending Concentration in the Representative Sample

APPENDIX TABLE A. 1
Benchmarking Exercise

|  | Survey Data | ACS 2010 | ACS 2018 | CES |
| :---: | :---: | :---: | :---: | :---: |
| Age Brackets |  |  |  |  |
| 18-24 yrs | 10.2 | 13.1 | 12.4 | - |
| $25-34$ yrs | 20.9 | 17.5 | 17.9 | - |
| $35-44$ yrs | 19.8 | 18.4 | 16.3 | - |
| $45-54$ yrs | 17.7 | 19.3 | 17.1 | - |
| $55+\mathrm{yrs}$ | 31.4 | 31.8 | 36.3 | - |
| Female | 53.5 | 51.5 | 51.3 | - |
| Employment Status |  |  |  |  |
| Employed | 56.3 | 59.4 | 59.3 | - |
| Unemployed or Not in Labor Force | 43.6 | 40.6 | 42.6 | - |
| Education |  |  |  |  |
| High-school degree or less | 24.8 | 44.5 | 40.0 | - |
| Some college or Associate's degree | 38.3 | 30.0 | 31.0 | - |
| Bachelor's degree or more | 36.9 | 25.4 | 29.0 | - |
| Household Income Brackets |  |  |  |  |
| $<20 \mathrm{~K}$ | 17.7 | 23.6 | 15.5 | - |
| 20K - 50K | 33.9 | 24.7 | 26.6 | - |
| 50K - 70/75K | 17.8 | 18.6 | 17.5 | - |
| $>70 / 75 \mathrm{~K}$ | 30.7 | 33.2 | 40.4 | - |
| Pay Frequency |  |  |  |  |
| Weekly | 25.4 | - | - | 33.8 |
| Semi-Monthly | 18.5 | - | - | 18.6 |
| Bi-weekly | 36.2 | - | - | 42.2 |
| Monthly | 14.2 | - | - | 5.4 |
| Irregular Pay or Other | 5.7 | - | - | - |

Note.-This table compares the distribution of individuals in the survey data (column (1)) along key characteristics to the 2010 American Community Survey (ACS) 5-Year Estimates (column (2)), the 2018 American Community Survey (ACS) 5Year Estimates (column (3)) and the February 2019 U.S. Bureau of Labor Statistics Current Employment Statistics (CES) survey (column (4)). ACS estimates for employment status are based on the population of U.S. residents 16 and older, not 18 and older as in the survey data. The top two household income brackets for the survey data represent those with incomes between $\$ 50,000$ to $\$ 70,000$ and $\$ 70,000$ or more. The top two household income brackets for the ACS data represent those with incomes between $\$ 50,000$ to $\$ 75,000$ and $\$ 75,000$ or more.

APPENDIX TABLE A. 2
Most Common Budget Category Descriptors

|  | Fraction of Participants |
| :--- | :---: |
| Food | 39.1 |
| Bills | 20.0 |
| Utilities | 19.6 |
| Rent | 19.4 |
| Groceries | 18.6 |
| Gas | 13.1 |
| Mortgage | 12.4 |
| Savings | 9.6 |
| Entertainment | 8.3 |
| Insurance | 8.0 |
| Car | 5.8 |
| Car payment | 4.1 |
| Credit cards | 4.1 |
| Clothing | 3.7 |
| Clothes | 3.7 |
| Electric | 3.5 |
| Grocery | 3.2 |
| Medical | 3.1 |
| Transportation | 2.9 |
| Phone | 2.8 |
| Housing | 2.7 |
| Vacation | 2.5 |
| House | 2.5 |
| Car insurance | 2.4 |
| Cable | 2.4 |
|  |  |

Note.-Respondents were asked to list (free response) the five categories in their budget in which they spend the most money. This table shows the twenty-five most common budget categories along with the share of respondents who listed each category for the set of respondents who currently budget.

APPENDIX TABLE A. 3
Budgeting Periods by Pay Frequency

|  | Budgeting Periods |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Weekly | Twice <br> a Month | Monthly | Annually | Greater than <br> One Year |
| Weekly | $\mathbf{5 2 . 7}$ | 13.8 | 45.5 | 7.7 | 5.3 |
| Bi-weekly | 18.4 | $\mathbf{3 2 . 4}$ | 55.7 | 8.1 | 7.2 |
| Semi-monthly | 20.8 | $\mathbf{3 5 . 5}$ | 51.7 | 8.2 | 5.1 |
| Monthly | 12.1 | 7.8 | $\mathbf{8 0 . 2}$ | 8.6 | 4.7 |
| Irregular | 24.7 | 12.3 | 59.6 | 14.4 | 8.2 |
| Other/Unreported | 31.4 | 17.8 | 60.2 | 8.5 | 6.8 |
| Overall | 24.6 | 20.3 | 60.7 | 8.5 | 5.5 |

Note.-This table shows the share of survey respondents that indicate budgeting over a given time horizon by their pay frequency. Respondents were able to indicate more than one budgeting period, so numbers may sum to greater than 100 across columns. The last row provides this same information in aggregate across all pay frequencies. Statistics in bold highlight the fraction of respondents whose budgeting period matches the frequency at which they are paid. This table includes only those respondents who report either currently budgeting or having budgeted in the past.

## APPENDIX TABLE A. 4

CBA Customer Characteristics

|  | $(1)$ <br> Representative <br> Sample | $(2)$ <br> Multiple Cardholder <br> Sample |
| :--- | ---: | ---: |
| Demographics |  |  |
| Age (yrs) | 36.00 | 37.00 |
| Female | 0.50 | 0.49 |
| Bank Tenure (yrs) | 18.00 | 18.00 |
| Income (A\$) | $45,305.50$ | $48,958.50$ |
| Financial Wellbeing Score | 46.49 | 48.25 |
| Product Holdings |  |  |
| Number of Transaction Accounts | 1.00 | 1.00 |
| Number of Savings Accounts | 1.00 | 1.00 |
| Number of Debit Cards | 1.00 | 1.00 |
| Number of Credit Cards | 0.00 | 1.00 |
| Number of Personal Loans | 0.00 | 0.00 |
| Number of Home Loans | 0.00 | 0.00 |
| Monthly Transaction Outflows |  |  |
| Debit Cards $(A \$)$ |  | 674.60 |
| Credit Cards (A\$) | 769.98 | 1335.80 |
| Number of Customers | 958.48 | 96,411 |

Note.-This table presents descriptive statistics for the representative sample of CBA customers (column (1)) as well as a restricted sample of customers who hold multiple bank cards. All table entries are sample medians. The count of CBA customers is listed in the final row. $\dagger$ Income estimates could only be calculated for customers who were paid into their CBA accounts. As a result, the median estimate is based on approximately half of each sample ( 46,668 customers in the representative sample and 46,748 customers in the multiple cardholder sample). $\ddagger$ Median estimates for monthly transaction outflows exclude customers who do not hold a debit or credit card.

APPENDIX TABLE A. 5
CBA Card Spending by Category

|  | $(1)$ <br> Median Proportion of <br> Individual Spend (\%) | $(2)$ <br> Proportion of Cards with <br> Top Spending Category (\%) | $(3)$ <br> Median Proportion of <br> Card Spend (\%) |
| :--- | :---: | :---: | :---: |
| Shopping | 20.57 | 33.95 | 38.74 |
| Transport | 11.74 | 13.76 | 38.22 |
| Groceries | 9.11 | 10.98 | 36.52 |
| Utilities | 7.37 | 9.54 | 40.82 |
| Travel | 3.94 | 7.97 | 38.98 |
| Entertainment | 5.55 | 6.77 | 49.80 |
| Eating Out | 6.35 | 5.84 | 34.77 |
| Home | 2.12 | 3.57 | 40.08 |
| Health | 3.86 | 3.08 | 39.93 |
| Education | 0.09 | 2.19 | 45.30 |
| Cash | 0.00 | 1.63 | 52.73 |
| Donations | 0.05 | 0.42 | 51.13 |
| Tax Paid | 0.00 | 0.31 | 45.73 |

Note.-This table presents statistics on card spending for CBA customers in the multiple cardholder sample. For each spending category, the table reports the median share of overall individual spending accounted for by that category (column (1)), the fraction of cards for which that category is the top spending category (column (2)), and the median share of overall card spending accounted for by that category for the subset of cards where the given category is the top spending category (column (3)). The top spending category for a card is the category that accounts for the largest share of total spending on that card over the sample period.

## B Main Analyses: Formal Budgeting Sample

In Section 3.1, we discuss how we asked survey respondents who reported budgeting to indicate whether they did so formally (e.g., written down or on a website) or informally (e.g., keep it in your head). Of the respondents who currently budget, only 58.9 percent reported doing so formally. One important concern is the seriousness and intentionality of the efforts to budget by those who report only doing so informally. In this Appendix, we repeat our main analyses for the five facts we document, focusing on just the sub-sample of respondents who report budgeting formally. The one exception is that we do not repeat Table 2 since Column 2 of the table already presents statistics on the propensity to budget for the sub-sample of respondents who report budgeting formally.

We generally find very similar results when looking at this restricted sample of respondents who budget formally. Appendix Figures B. 1 and B. 2 repeat the analyses in Figure 1 and Appendix Figure A. 1 and show similar patterns for respondents' reasons for budgeting. The desire to avoid overspending one's income is still by far the predominant reason why people budget, regardless of income or wealth. We also continue to see that lower wealth people budget more for short-term needs whereas higher wealth people budget for longer-term needs.

Appendix Figures B. 3 and B. 3 repeats the analyses in Figure 2 and Appendix Figure A. 2 and show how respondents' attention varies with their financial well-being for the sub-sample of respondents who budget formally. When looking at the extensive margin of engagement, we see that attention is positively correlated with financial wellbeing. The propensity to budget formally is increasing with financial wellbeing across all three measures we use. When looking at the intensive margin of engagement, we once again see that attention is negatively correlated with financial wellbeing. Conditional on budgeting formally, respondents with lower financial wellbeing check their budgets more frequently than respondents with higher financial wellbeing.

We also continue to observe a high share of respondents ( 93 percent) who report tracking their spending within distinct budget categories when restricting to just those who budget formally. Appendix Table B. 1 lists the twenty-five most common category descriptors that were provided by respondents who currently keep a budget and do so formally. While there are small changes to the rank ordering for a few of the categories, the set of category descriptors in the table is almost identical to those of Appendix Table A. 2 for the broader set of respondents who budget. Importantly, we continue to see clear variation in the level of detail at which individuals categorize their spending. Appendix Figure B. 4 repeats the analyses in Figure 3 and shows the level of detail at which individuals indicate most closely aligns which how they categorize their spending. In comparison with the set of all respondents who currently budget, those who do so formally keep slightly more detailed budget categories. However, the broader pattern we observe that there is substantial cross-sectional heterogeneity in the level of detail at which individuals categorize their spending remains consistent.

Finally, Appendix Figure B. 4 repeats the analyses presented in Figure 4 and shows how those who formally budget respond to changes in their budgetary slack. Respondents who budget formally are slightly more likely to make an adjustment if they were to underspend their overall budget in comparison with the broader set of respondents who budget. However, once again, the broader pattern we observe that people generally make little adjustment when faced with an increase in the slack in their budgets remains consistent.


Note.-This figure plots, by level of household income within the sample of those currently budgeting formally, the share of respondents who indicate a particular motivation as a main reason for budgeting for each of the following set of potential motivations: savings for long-term goals, saving for short-term goals, to avoid debt from predictable overspending or from unforeseen expenses, to get out of debt, to provide for one's family, and to avoid overspending one's income. The overall share of respondents who indicate a particular motivation is shown in the dark red bar. The share of respondents disaggregated by level of household income is shown in pink.

Fig. B.1.-Reasons for Budgeting by Household Income (\$): Formal Budgeting Sample


Note.-This figure plots, by amount of assets within the sample of those currently budgeting formally, the share of respondents who indicate a particular motivation as a main reason for budgeting for each of the following set of potential motivations: savings for long-term goals, saving for shortterm goals, to avoid debt from predictable overspending or from unforeseen expenses, to get out of debt, to provide for one's family, and to avoid overspending one's income. The overall share of respondents who indicate a particular motivation is shown in the dark red bar. The share of respondents disaggregated by the amount of assets is shown in pink.

Fig. B.2.-Reasons for Budgeting by Amount of Assets (\$): Formal Budgeting Sample

(A) Confidence in Ability to Come up with $\$ 500$

(B) Perceived Wellbeing Index


Note.-This figure plots the share of respondents who currently budget formally (extensive margin) and, conditional on budgeting formally, the frequency at which respondents check their budgets (intensive margin) across three measures of financial wellbeing. Panel A shows this distribution using a respondent's confidence in their ability to come up with $\$ 500$ if an unexpected need rose as a measure of financial wellbeing. Panel B shows this distribution using an index of respondents' perceived wellbeing as a measure of financial wellbeing. Panel C shows this distribution using asset levels as a measure of financial wellbeing.

Fig. B.3.-Attention to Finances by Measures of Financial Wellbeing: Formal Budgeting Sample


Note.-This figure shows the distribution of frequencies at which individuals check their budget by responses to four questions designed to capture respondents' expectations about their future financial security and stress about their current money management: I will achieve the financial goals that I have set for myself (top left); I have saved (or will be able to save) enough money to last me to the end of my life (top right); I am behind on my finances (bottom left); and Because of my money situation, I feel I will never have the things I want in life (bottom right). Responses for each question are measured using a five-point scale that ranges from "Describes me not at all" to "Describes me completely." Scores from the four questions were combined to create a composite perceived wellbeing index ranging from -8 to 8 (the negative of scores were used for the two questions about current money management stress so that higher values represent more positive outcomes). All statistics in this figure are calculated for the sample of respondents who currently budget formally.

Fig. B.3.-Attention to Finances by Individual Perceived Wellbeing Component: Formal Budgeting Sample


Note.- This figure plots the distribution of responses given regarding the level of detail that most closely aligns with their budget for the subset of respondents who currently budget formally. Panel A shows this distribution for respondents' actual budgets. Panel B shows this distribution for the budget that respondents think they should keep. Response options were mutually exclusive to one another. Possible responses are shown on the $y$-axis in increasing levels of detail.

Fig. B.4.-Level of Categorization: Formal Budgeting Sample


Note.-This figure plots the distribution of responses given in response to four hypothetical scenarios in which respondents face changes to their budgetary slack. Panel A shows the distribution of responses to exceeding the spending limit for one of their budget categories. Panel B shoes the distribution of responses to failing to stick to their budget in a particular week or month. Panel C shows the distribution of responses to under-spending their budget in the current period. Panel D shows the distribution of responses in a week or month where the respondent earned more money. For each hypothetical scenario, response options were mutually exclusive to one another. Possible responses are shown on the $y$-axis. All statistics in this figure are calculated for the sample of respondents who currently budget formally.

Fig. B.4.-Responses to Changes in Budgetary Slack: Formal Budgeting Sample

APPENDIX TABLE B. 1
Most Common Budget Category Descriptors:
Formal Budgeting Sample

|  | Fraction of Participants |
| :--- | :---: |
| Food | 35.7 |
| Bills | 20.7 |
| Utilities | 19.5 |
| Groceries | 18.1 |
| Rent | 17.5 |
| Gas | 13.1 |
| Mortgage | 13.0 |
| Savings | 10.7 |
| Insurance | 8.6 |
| Entertainment | 7.3 |
| Car | 5.7 |
| Credit cards | 4.6 |
| Car payment | 4.4 |
| Clothes | 4.1 |
| Electric | 3.3 |
| Grocery | 3.3 |
| Clothing | 3.3 |
| Medical | 2.8 |
| Transportation | 2.8 |
| Housing | 2.7 |
| Vacation | 2.4 |
| Car insurance | 2.4 |
| House | 2.4 |
| Household | 2.3 |
| Phone | 2.3 |

Note.-Respondents were asked to list (free response) the five categories in their budget in which they spend the most money. This table shows the twenty-five most common budget categories along with the share of respondents who listed each category for the set of respondents who currently budget formally.

## C Survey Questions

In this section, we present our survey questions. Participants were randomized into one of four conditions that differed in the order in which they presented the mental accounting questions. We present below one complete survey flow.

## Introduction

In this survey, we are interested in learning about how people budget. We will be asking you a series of questions about your own budgeting process.

If you currently keep a budget, please answer these questions with that budgeting process in mind. If you have previously kept a budget but no longer do, think about your most recent budget when answering these questions. If you have never kept a budget, then reply based on what kind of budget you think you would be most likely to keep if you were to start budgeting.

## Q1. Which of the following applies to you?

I currently keep a budget. I will answer the following questions with my current budgeting process in mind.O I have previously kept a budget but do not currently budget. I will answer the following questions with my previous budgeting process in mind.
$\bigcirc$ I have never kept a budget. I will answer the following questions based on the kind of budget I think I would keep if I were to start budgeting.

```
Display This Question:
If answer to Q1 is: I have previously kept a budget but do not currently budget. I will answer the
following questions with my previous budgeting process in mind.
Or
If answer to Q1 is: I have never kept a budget. I will answer the following questions based on the
kind of budget I think I would keep if I were to start budgeting.
```

Q2. You stated that you do not currently keep a budget. Do you think you should keep a budget?YesNo

Display This Question:
If answer to Q1 is: I have previously kept a budget but do not currently budget. I will answer the following questions with my previous budgeting process in mind.
Or
If answer to Q1 is: I have never kept a budget. I will answer the following questions based on the kind of budget I think I would keep if I were to start budgeting.

Q3. Why don't you keep a budget? Select all that apply.I think it's too difficult.I find budgeting unpleasant.I don't think budgeting is useful.I don't think I need to budget because I have enough money.Other (please specify) $\qquad$
Display This Statement:
If answer to Q1 is: I have previously kept a budget but do not currently budget. I will answer the following questions with my previous budgeting process in mind.

Remember to answer the following questions thinking of your previous budget.
Display This Statement:
If answer to Q1 is: I have never kept a budget. I will answer the following questions based on the kind of budget I think I would keep if I were to start budgeting.

Remember to answer the following questions thinking of the budget you would keep if you were to start budgeting.

Q4. Do you keep your budget formally (for example, written down or on a website) or informally (for example, keep it in your head)?FormallyInformally

Q5. What are your main reasons for budgeting? Select all that apply.To make sure I don't spend more than my incomeTo make sure that I can provide for my familyTo save for long-term goals (e.g., retirement)To save for short-term goals (e.g., a new computer)To avoid debt from predictable overspending (e.g., routine doctor visit)To avoid debt from unforeseen expenses (e.g., an unexpected hospital visit)To get myself out of debt (e.g., repaying credit card debt)Other (please specify)I don't think it's important to budget.
Display This Question:
If answer to Q4 is: Formally
Q6. Which websites or apps do you use to budget, if any?

## Q7. How many children are in your household?

Next, you will be asked some questions about how you created your budget.
Q8. What resources did you use when creating a budget? Select all that apply.
Family or friendsProfessional financial advisorInternet
BooksPersonal finance seminarsOther (please specify)Did not use any resources

Q9. When you first set your budget, how do you decide how much you should spend in each budget category? Select all that apply.Consider how much I've spent in the pastConsider how much my friends and neighbors are spendingConsider a financial goal (e.g., build savings or eliminate debt) and work backwards
Other (please specify)
Q10. Do you intentionally separate your money into different formal financial accounts to help you organize your spending? Select all that apply.Yes, I save money for different goals in different bank accounts.Yes, I use different credit cards for different types of expenses.I don't separate my money into different financial accounts, but I do have strategies for physically separating my money (e.g., using different jars for different spending purposes).No, I don't separate my money into different financial accounts and I do not have strategies for physically separating my money.

Display This Question:
If answer to Q10 is: Yes, I save money for different goals in different bank accounts.
Q11. When using multiple bank accounts, what purpose do you have for each account? Please list a purpose for each account below. If you have an account with no specific purpose, you can state that too.Account 1Account 2 $\qquad$Account 3 $\qquad$Account 4 $\qquad$Account 5

Display This Question:
If answer to Q10 is: Yes, I use different credit cards for different types of expenses.
Q12. When using multiple credit cards for different types of expenses, what purpose do you have for each credit card? Please list the type of expense for each card below. If you have a card with no specific purpose, you can state that too.Card 1Card 2
Card 3 $\qquad$
Card 4 $\qquad$
Card 5 $\qquad$
Display This Question:
If answer to Q10 is: I don't separate my money into different financial accounts, but I do have strategies for physically separating my money (e.g., using different jars for different spending purposes).

Q13. When physically separating your money, what purpose do you have for each group that you separate? Please list the purpose for each group below. If you have a group with no specific purpose, you can state that too.Group 1Group 2 $\qquad$Group 3 $\qquad$Group 4 $\qquad$Group 5 $\qquad$
Q14. What time frame(s) do you keep a budget for? Select all that apply.WeeklyBimonthly (twice a month)MonthlyAnnualLonger than 1 year
Q15. Do you try to match the timing of at least one of your budgeting periods with your pay schedule?YesNo

Q16. When you think about setting your budget for the month, do you plan to spend all your income for the month, or do you plan to set aside money for savings?
$\bigcirc$ I plan to spend all of my income for the month.I plan to set aside some of my income for savings.
Display This Question:
If answer to Q16 is: I plan to set aside some of my income for savings.
Q17. When you set aside money for savings, do you set aside a general savings amount? Or do you set aside amounts for specific expenses, such as a vacation?General savings accountSpecific savings accountsBothOther (please describe)
Display This Question:
If answer to Q16 is: I plan to set aside some of my income for savings.
Q18. Last month, approximately how much did you save?$\$ 0$\$1-49\$50-99\$100-\$499\$500-\$999$\$ 1000+$

The next questions are going to be about the categories in your budget.
Q19. Please list the five categories in your budget that you spend the most money in. If you do not have five categories that you track, you can list fewer than five.

As a reminder, if you don't currently budget, think of the most recent budget that you've kept or the budget you think you would keep as you answer the following questions.Category 1:Category 2: $\qquad$Category 3: $\qquad$Category 4:Category 5:I have spending limits, but I don't track categories in my spending.
Q20. Some people create very general budget categories while others create very specific budget categories. When thinking about the level of detail in your budget, which of the following looks most similar to your actual budget?

The options below are listed from the least amount of detail at the top to the most amount of detail at the bottom.Necessities, DiscretionaryHousing \& Transportation, Food, Discretionary, OtherHousing \& Transportation, Food, Entertainment, Clothing, OtherHousing, Car, Groceries, Dining Out, Entertainment, Clothing, OtherRent, Utilities, Cell phone, Car, Groceries, Dining Out, Movies, Travel, Clothing, Other
Rent, Utilities, Cell phone, Internet, Car, Groceries, Dining Out, Movies, Travel, Clothing, Exercise, Healthcare, Other

Q21. Some people create very general budget categories while others create very specific budget categories. When thinking about the level of detail in your budget, which of the following looks most similar to the budget you think you should keep?

The options below are listed from the least amount of detail at the top to the most amount of detail at the bottom.Necessities, DiscretionaryHousing \& Transportation, Food, Discretionary, OtherHousing \& Transportation, Food, Entertainment, Clothing, OtherHousing, Car, Groceries, Dining Out, Entertainment, Clothing, OtherRent, Utilities, Cell phone, Car, Groceries, Dining Out, Movies, Travel, Clothing, OtherRent, Utilities, Cell phone, Internet, Car, Groceries, Dining Out, Movies, Travel, Clothing, Exercise, Healthcare, Other

Q22. Do you change these categories from time to time, or do you keep the same budget over time?Change them from time to timeKeep them the same
Q23. How often do you check in with your budget to see how you're doing?Every day2-3 times per weekWeeklyEvery other weekMonthlyOther (please specify)

On the next pages, you will be asked to imagine a few different possible financial situations, and to state what choices you would make.

Q24. Imagine that you are about to purchase a watch for $\$ 200$ and a jacket for $\$ 25$.
The watch salesman informs you that the watch you wish to buy is on sale for $\$ 190$ at the other branch of the store, which is a 10 minute drive away.

Would you make the trip to the other store?YesNo

Q25. Imagine that you have decided to see a play and paid the admission price of $\$ 20$ per ticket. As you enter the theater you discover that you have lost the ticket. The seat was not marked and the ticket cannot be recovered.

Would you pay $\$ 20$ for another ticket?YesNo

On the next pages, you will be asked questions about meeting your budget.
Q26. How guilty do you feel if you don't meet your budget?
$\bigcirc 1$ - Not guilty at all234567 - Extremely guilty

Q27. On a scale of $\mathbf{1 - 1 0}$, how much effort do you put in to stay within your budget?
○ 1 - No effort at all34589-A very large amount of effort
Q28. When you encounter an expense that doesn't quickly or easily fit into one of your budget categories, which of the following are you most likely to do?Don't log itPut it in the closest category in your budgetCreate a new category for it in your budgetStop budgeting for this periodOther (please specify)
Q29. If I go over in one of my categories, I:Reduce my spending in another category in responseDon't do anything differentlyMake note of it and change my category spending limits for the next budget periodOther (please specify)

Q30. How often do you update your allowed spending limits under each category?Weekly
$\bigcirc$ Every other week
$\bigcirc$ About once a monthAbout every other monthA few times per yearNever
Q31. What is the most common reason why you have updated your budget in the past?I spent more than the amount I set aside for a certain category onceI spend more than the amount I set aside for a certain category multiple timesI spend less than the amount I set aside for a certain category onceI spend less than the amount I set aside for a certain category multiple timesI spend on one unusual expense that doesn't clearly fall into any existing budget categoryI spend on several different unusual expenses that don't clearly fall into any existing budget categoryOther (please specify)
Q32. When you end up not sticking to your budget in a particular week/month, what do you do in response?
$\bigcirc$ Work more to have more money to spendChange the budget amounts (for example, save less)Give up on budgeting entirelyOther (please specify)

Q33. In a week or month where I make more money, I:Don't change my budget or my spending
O Don't change my budget but informally allow myself to spend more than I have listed in my budgetFormally change my budget to allow for increased spending in this period onlyFormally change my budget to allow for increased spending in this period and for future periods

Q34. If you underspend on your budget this period, do you adjust your budget for the following period?
$\bigcirc$ Yes, I plan to spend more next month and adjust upwards
$\bigcirc$ Yes, I plan to stay within tighter spending limits and adjust downwards
$\bigcirc$ I do not change my spending for the following periodOther (please specify)
Q35. If I were to go five dollars over my budget:It would be a big dealIt wouldn't be a big deal
Q36. If I were to go fifty dollars over my budget:
$\bigcirc$ It would be a big deal
○ It wouldn't be a big deal
Q37. On a scale of 1 ("I find keeping a budget very unpleasant.") to 7 ("I find keeping a budget very fun."), how unpleasant do you find budgeting?1 - I find keeping a budget very unpleasant
$\bigcirc 5$
$\bigcirc 6$7 - I find keeping a budget very fun

Display This Question:
If answer to Q37 is: 1
Or
If answer to Q37 is: 2
Or
If answer to Q37 is: 3
Q38. Why do you find it unpleasant to keep a budget? Select all that apply.It takes too much timeIt's too hard to follow a budget long-termBudgeting makes me feel like I have less money than I thought I didBudgeting doesn't help me reach my financial goalsOther

Q39. Do you think budgeting helps you spend your money more wisely than if you didn't use a budget?YesNo

Please indicate on a scale of 1 - 5 how the following statements describe you, from (1) "does not describe me at all" to (5) "describes me completely."

Q40. I will achieve the financial goals that I have set for myself.
$\bigcirc 1$ - Does not describe me at all2345 - Describes me completely
Q41. I have saved (or will be able to save) enough money to last me to the end of my life.1 - Does not describe me at all345 - Describes me completely

Q42. I am behind with my finances.
○ 1 - Does not describe me at all
$\bigcirc 3$45 - Describes me completely
Q43. Because of my money situation, I feel I will never have the things I want in life.1 - Does not describe me at all45 - Describes me completely
On the next pages, you will be asked some questions about your finances.
Q44. Do you live with a spouse or partner?YesNo
Display This Question:
If answer to Q44 is: Yes

Q45. Which of the following best describes you and your partner's finances?We set and manage our own (separate) budgetsI set a budget for both of us and am responsible for managing itMy partner sets a budget for both of us and is responsible for managing it

Display This Question: If answer to Q45 is: I set a budget for both of us and am responsible for managing it.
Or
If answer to Q45 is: My partner sets a budget for both of us and is responsible for managing it.
Q46. Which of the following best describes how you manage your bank accounts?
$\bigcirc$ We put all of our money in joint bank accounts
We put some of our money in joint bank accounts and some of our money in our own individual bank accounts
$\bigcirc$ We keep all of our money in separate, individual bank accounts
Q47. Are your bills generally all due at the same time, or are they spread out across the month?Due at the same timeDue dates spread out
Q48. Looking out over the upcoming year, how predictable is your income from month to month?

○ 1 - Completely unpredictable4567 - Completely predictable

Q49. How confident are you that you could come up with the following amounts of money if an unexpected need arose? Please answer for each amount.

For each of the following amounts, please choose the statement that best describes you, from "I am certain I could not come up with" to "I am certain I could come up with".


Q50. Do you depend on lumpy income, for example, tax refunds or work bonuses?YesNo
Q51. Do you spend your tax refund money before it arrives?YesNo

Q52. About how often do you get paid?
$\bigcirc$ Weekly
$\bigcirc$ Twice a month
$\bigcirc$ MonthlyMy paychecks do not arrive at regular time intervalsOther
Q53. Which of the following is true?
○ My paychecks always arrive on the same day of the week (e.g., Fridays)My paychecks always arrive on the same date of the month (e.g., the 15 th or 30 th)Neither (please describe)
Q54. How much money do you have in total in liquid savings, investments, and retirement accounts?\$0-\$249\$250 - \$499$\$ 500-\$ 999$\$1000 - \$4999$\$ 5000$ - \$9,999\$10,000 - \$49,999\$50,000 - \$99,999\$100,000+

Q55. What kind of debt do you have? (select all that apply)Student loansCredit card debtPersonal loan from bank or other institutionPayday loanDebt to family or friendsAuto loansMortgageOther (please specify)I do not have any debt
Q56. How much debt do you have?\$0-\$249\$250-\$499$\$ 500$ - $\$ 999$\$1000-\$4999$\$ 5000-\$ 9,999$\$10,000 - \$49,999$\$ 50,000-\$ 99,999$$\$ 100,000+$

On the following pages, you will again be asked to imagine a few different possible financial situations, and to state what choices you would make. Although these questions are similar to questions you responded to earlier, the specific details are different, so please read them closely before responding.

Q57. Imagine that you are about to purchase a watch for $\$ 25$ and a jacket for $\$ 200$.
The watch salesman informs you that the watch you wish to buy is on sale for $\$ 15$ at the other branch of the store, which is a 10 minute drive away.

Would you make the trip to the other store?YesNo
Q58. Imagine that you have decided to see a play where admission is $\$ 20$ per ticket. As you enter the theater you discover that you have lost a $\$ 20$ bill.

Would you still pay $\$ 20$ for a ticket for the play?YesNo
Lastly, you will be asked some questions about yourself.
Q59. Which of the following best describes your age?
○ 18-24 years
25-29 years
〇30-34 years35-39 years40-44 years45-49 years50-54 years55 years or more
Q60. Which of the following best describes your gender?MaleFemale

Q61. Which of the following best describes your education?Some high schoolHigh School DiplomaGEDSome collegeAssociates DegreeBachelors DegreeSome graduate studyGraduate Degree
Q62. What is your employment status? Choose the answer that best describes your current employment status.StudentEmployed part-timeEmployed full-timeWork at home without payNot currently employed
Q63. Which of the following best describes your annual household income?Less than $\$ 20,000$\$20,000 - \$29,999$\$ 30,000$ - \$39,999\$40,000 - \$49,999\$50,000 - \$59,999$\$ 60,000-\$ 69,999$$\$ 70,000$ or more
Q64. How many children are in your household?


[^0]:    ${ }^{\dagger}$ Corresponding Author. University of Wisconsin-Madison, 1300 Linden Drive, Madison, WI 53706, USA, cyzhang@wisc.edu
    ${ }^{\ddagger}$ University of Chicago Booth School of Business, Chicago, IL 60637, abigail.sussman@chicagobooth.edu
    ${ }^{\S}$ Commonwealth Bank of Australia and University of New South Wales, Sydney, AU, nathan.wangly@cba.com.au
    ${ }^{\text {4}}$ University of Colorado-Boulder, Boulder, CO 80309, jennifer.lyu@colorado.edu

