

Online Appendix

for “Learning in the Limit: Income Inference from Credit Extensions” by Xiao Yin

I. Proofs

a. Derivation of Equation (7)

After receiving the signal, posterior expectation of X_1 is captured by equation (2) in the main text, which is

$$\hat{X}_1 = X^0 + K[g(L) - X^0].$$

Then in period 1, the consumers’ expectation about income over the next two periods are respectively

$$\begin{aligned} E_1[Y_2] &= 2\alpha + \rho \hat{X}_1 \\ E_1[Y_3] &= 3\alpha + \rho^2 \hat{X}_1. \end{aligned}$$

For an average consumer that are not borrowing constrained at t_1 . Optimal consumption is given by

$$\bar{C}_{i,1}^* = r(Y_1 + L) + (1 - r)E_1[C_2^*], \quad (\text{A.1})$$

$$E_1[C_2^*] = \Phi_L \left(\frac{A_1 + E_1[Y_2] + E_1[Y_3]}{2} \right) + (1 - \Phi_L)(A_1 + E_1[Y_2] + L), \quad (\text{A.2})$$

where Φ_L is the probability that borrowing is not binding in t_2 , which is

$$\Phi_L \equiv P \left(\frac{A_1 + Y_2 + Y_3}{2} < A_1 + Y_2 + L \right) = \Phi \left(\frac{2L + A_1 - \alpha + \hat{X}_1}{\rho(1 - \rho)\hat{\sigma}} \right),$$

where $\Phi(\cdot)$ is the standard normal CDF. Then $E_1[C_2^*]$ can be written as

$$E_1[C_2^*] = \tilde{C}_2 - (1 - \Phi_L)(\tilde{C}_2 - \bar{C}_2),$$

where $\tilde{C}_2 = (A_1 + E_1[Y_2] + E_1[Y_3])/2$ and $\bar{C}_2 = A_1 + E_1[Y_2] + L$.

When consumers do not default, $A_1 = Y_1 - \bar{C}_{i,1}^* + A_0$ in (A.2) . Total differentiating equation (A.1) with respect to L gives

$$\frac{d\bar{C}_{i,1}^*}{dL} = r + (1 - r) \frac{dE_1[C_2^*]}{dL},$$

and

$$\begin{aligned} \frac{dE_1[C_2^*]}{dL} = & -\frac{1}{2} \frac{d\bar{C}_{i,1}^*}{dL} + \frac{\rho(1-\rho)}{2} \frac{d\hat{X}_1}{dL} + \frac{(\tilde{C}_2 - \bar{C}_2)\phi_L}{\rho(1-\rho)\hat{\sigma}} \left(2 + \frac{d\hat{X}_1}{dL} - \frac{d\bar{C}_{i,1}^*}{dL} \right) \\ & - (1 - \Phi_L) \left(\frac{1}{2} \frac{d\bar{C}_{i,1}^*}{dL} - 1 - \frac{\rho(1-\rho)}{2} \frac{d\hat{X}_1}{dL} \right). \end{aligned}$$

This gives

$$\begin{aligned} & \left(\frac{1}{1-r} + 1 - \frac{\Phi_L}{2} + \frac{(\tilde{C}_2 - \bar{C}_2)\phi_L}{\rho(1-\rho)\hat{\sigma}} \right) \frac{d\bar{C}_{i,1}^*}{dL} \\ & = \frac{r}{1-r} + \frac{2(\tilde{C}_2 - \bar{C}_2)\phi_L}{\rho(1-\rho)\hat{\sigma}} + (1 - \Phi_L) \\ & + \left(\left(1 - \frac{\Phi_L}{2} \right) \rho(1-\rho) + \frac{(\tilde{C}_2 - \bar{C}_2)\phi_L}{\rho(1-\rho)\hat{\sigma}} \right) \frac{d\hat{X}_1}{dL}, \end{aligned}$$

where $\frac{d\hat{X}_1}{dL} = Kg'$. This gives equation (6) in the main text.

b. Proof of Corollary 1

Optimal credit limit is set such that

$$\Phi_d \equiv \Pr(Y_1 - C_{i,1}^* < \psi) = \Phi \left(\frac{\psi + C_{i,1}^* - \alpha - \hat{X}_1}{\hat{\sigma} \rho} \right) = r.$$

This gives

$$\psi + c_1 - \alpha - \hat{X}_1 = \Phi^{-1}(r) \hat{\sigma} \rho, \quad (\text{A.3})$$

Apply implicit function theorem to (A.3) gives

$$\frac{dL}{d\tilde{s}} = -\frac{1}{K} \frac{\frac{dC_{i,1}^*}{d\hat{X}_1} - 1}{\frac{dC_{i,1}^*}{dL} - \frac{d\hat{X}_1}{dL}}, \quad (\text{A.4})$$

From equation (6) in the main text,

$$\frac{d\bar{C}_{i,1}^*}{dL} = a_0 + \frac{\chi}{\omega} \frac{d\hat{X}_1}{dL}. \quad (\text{A.5})$$

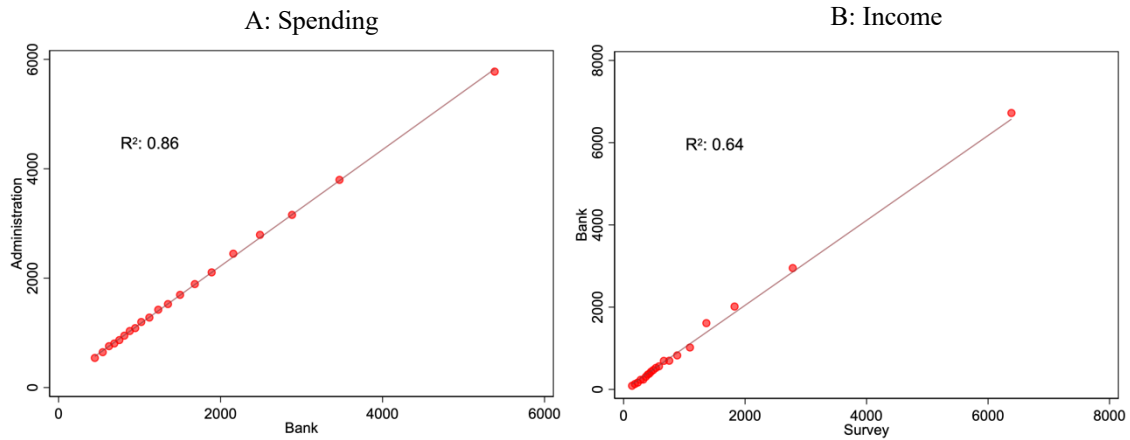
Since $a_0 > 0$ and $\chi < \omega$, the denominator on the right-hand side of (A.4) is positive. Then when $\frac{dC_{i,1}^*}{d\hat{X}_1} < 1$, (A.5) is positive.

c. Proof of Proposition 1 and 2

Equation (6) in the main text can be written as (A.5) When $\frac{dC_{i,1}^*}{d\hat{X}_1} < 1$, $f' = \frac{dL}{d\tilde{s}} > 0$. Therefore $\frac{d\hat{X}_1}{dL} = Kg' > 0$, and the income-inference channel is positive. Looking at (A.5), the total amount of MPCL is $\frac{d\bar{C}_{i,1}^*}{dL}$, and is a_0 when controlling for the income-inference channel. Since $\frac{\chi}{\omega} \frac{d\hat{X}_1}{dL} > 0$ when $d\bar{C}_1^*/d\hat{X}_1 < 1$, $\frac{d\bar{C}_{i,1}^*}{dL} > a_0$.

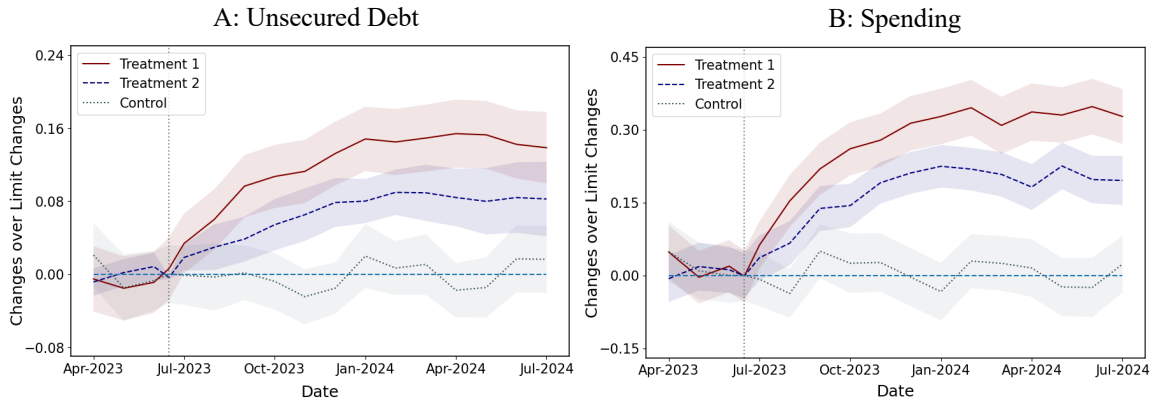
II. Additional Results

Figure A.1. Evolution of Debt and Spending - Surveyed Sample



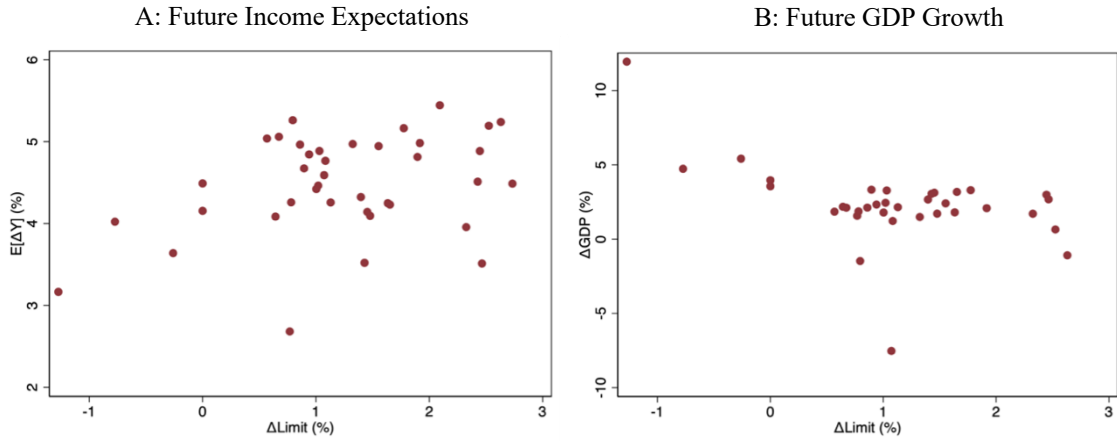
Note: In Panel A, the y -axis is the total spending over the past 12 months calculated based on transaction histories, and x -axis is the answers from the pre-experiment surveys. In Panel B, the y -axis is the total income over the past 12 months from the social security administrative department, and the x -axis is total income calculated based on transaction histories.

Figure A.2. Evolution of Debt and Spending - Unsurveyed Sample



Note: This figure plots the evolution of total unsecured debt and spending on both sides of the experimental period for Sample I. The x -axis gives the dates. The solid red line shows the evolution of T1, the blue dashed line shows the evolution of T2, and the gray dotted line shows the evolution of the control group. The gray vertical line gives the time of the treatment. All lines are vertically shifted so that the value for the control group at the treatment time is 0.

Figure A.3. Limit Growth and Income Growth in the US



This figure plots the relationship between measures of future income growth on year-on-year quarterly credit limit growth. On both panels, the x-axis is the log changes in aggregate credit limits from quarter $t - 3$ to quarter t . Data is from New York Fed's Survey of Consumer Expectations. On Panel A, the y-axis is the average quarter- t one-year-ahead expected income growth from New York Fed's Survey of Consumer Expectation. On Panel B, the y-axis is the quarterly GDP growth from a quarter t to quarter $t+3$. Data is from Fred. Sample periods are from 1999Q1 to 2023Q3.

Table A.1. The Effects of Treatments on Net Transfers

	Net Transfer	Net Transfer	Net Withdrawal	Net Withdrawal
	(1)	(2)	(3)	(4)
T1	-0.004 (0.032)	-0.007 (0.031)	0.003 (0.044)	0.005 (0.043)
T2	0.017 (0.021)	0.012 (0.020)	0.002 (0.037)	0.002 (0.042)
Controls	No	Yes	No	Yes
N	5500	5500	5500	5500

Note: Net Transfer is the net transfer with other financial institutions. Net Withdrawal is the difference between total withdraws and deposits. T1 and T2 are respectively the two treatment group identifiers. Coefficients are divided by the pre-determined average increase in credit limit to give an interpretation of marginal propensity. All variables are winsorized at the 1% - 99% level. Standard errors clustered at city level are in parentheses. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$.

Table A.2. The Effects of Treatments on Beliefs – Non-relationship Sample

	E[ΔC] (1)	E[ΔY] (2)	E[ΔW] (3)	E[ΔHrs] (4)
T1	0.268* (0.151)	0.362*** (0.102)	0.004 (0.003)	0.002 (0.002)
T2	-0.032 (0.173)	0.072 (0.133)	-0.003 (0.003)	0.001 (0.003)
Controls	Yes	Yes	Yes	Yes
N	1232	1232	1232	1232

	E[u] (5)	E[p(d)] (6)	E[ΔL] - 1Y (7)	E[ΔL] - 5Y (8)
T1	-0.312* (0.187)	-0.022 (0.210)	0.833 (1.057)	-0.127 (2.798)
T2	-0.030 (0.245)	0.100 (0.278)	0.542 (0.909)	0.293 (3.882)
Controls	Yes	Yes	Yes	Yes
N	1232	1232	1232	1232

Note: This table studies the effects of treatment on beliefs focusing on the sample of consumers who have positive credit line balance in other banks but not the bank in the sample. $E[\Delta C]$, $E[\Delta Y]$, $E[\Delta W]$, $E[\Delta Hrs]$ are respectively the difference between expected total spending, total income, total wealth, and hours to work every week over the 12 months after and before the experiment. $E[u]$ and $E[p(d)]$ are the expected unemployment probability and delinquent probability over the 12 months after the experiment. $E[\Delta L]-1Y$ and $E[\Delta L]-5Y$ are the expected growth rate of one-year and five-year credit limits. T1 and T2 are respectively the two treatment group identifiers. Coefficients are divided by the pre-determined average increase in credit limit to give an interpretation of marginal propensity. All variables are winsorized at the 1% - 99% level. Standard errors clustered at city level are in parentheses. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$.

Table A.3. Sample Comparison

	Mean	SD	P25	Median	P75
A: Surveyed Sample					
Age	37.85	9.83	28	39	49
Female	0.43	0.50	0	0	1
Spending	7.92	12.35	2.25	5.32	10.40
Income	9.72	9.32	4.21	7.10	16.33
Liquid Wealth	152.33	212.05	37.02	82.37	217.32
Limit	89.93	110.88	43.34	74.87	155.27
Debt	7.67	16.08	0	0	9.53
Debt Debt > 0	17.83	10.54	4.36	11.81	29.82
B: Whole Sample					
Age	38.83	10.21	29	39	50
Female	0.47	0.50	0	0	1
Spending	8.03	13.42	2.12	5.19	11.96
Income	10.65	14.81	4.58	8.40	20.65
Saving	172.29	236.17	21.82	92.01	233.84
Limit	92.77	152.81	38.10	85.86	183.17
Debt	7.03	15.78	0	0	14.21
Debt Debt > 0	19.12	9.57	2.90	12.9	26.34

Note: This table compares the surveyed sample and a 3% random sample of active users from the bank database. All variables are winsorized at 1% - 99%.

Table A.4. Summary Statistics – Unsurveyed sample

	Mean	SD	N	Mean	SD	Diff	t-stats	N	Mean	SD	Diff	t-stats	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Panel 1: Control			Panel 2: T1					Panel 3: T2				
Age	38.82	9.85	2050	38.71	9.49	-0.11	-0.38	2331	38.81	9.91	-0.01	-0.01	1119
Female	0.50	0.50	2050	0.50	0.50	0.00	0.18	2331	0.50	0.50	-0.01	-0.32	1119
College	0.56	0.50	2050	0.55	0.50	-0.02	-1.20	2331	0.54	0.50	-0.02	-1.01	1119
Income	10.46	8.41	2050	10.18	7.19	-0.04	-1.17	2331	10.66	8.20	0.21	0.70	1119
Saving	168.13	214.53	2050	171.39	184.64	0.53	0.31	2331	172.42	208.51	4.29	0.57	1119
Debt	7.34	13.48	2050	7.25	9.83	-0.01	-0.24	2331	7.91	14.45	0.57	1.24	1119
Debt Debt>0	17.69	15.95	851	16.86	7.90	-0.13	-1.33	1003	18.03	17.14	0.34	0.44	491
Limit	92.29	99.45	2050	90.99	103.65	-0.20	-0.41	2331	94.39	117.43	2.10	0.54	1119
Δ Limit	11.93	8.75	2050	11.62	7.73	-0.05	-1.25	2331	12.02	9.02	0.09	0.27	1119

Note: This table gives the summary statistics of the un-surveyed sample. The units of the variables excluding Age, Female, and College are in thousands of CNY. The column Diff gives the differences in the average values between the given group and the control group. t-stats are the associated t-statistics, testing the significance of the differences in the means. All variables are winsorized at 1% - 99% level.

Table A.5. Limit Changes, Borrowing, and Spending – Alternative Specifications

	6 Months			
	ΔB (1)	ΔB (2)	ΔC (3)	ΔC (4)
$\Delta Limit$	0.097*** (0.037)	0.096*** (0.039)	0.156*** (0.052)	0.154*** (0.056)
$E[\Delta Y]$	0.030 (0.043)	0.028 (0.047)	0.092 (0.069)	0.089 (0.072)
$E[\Delta GDP]$	0.059*** (0.019)	0.060*** (0.021)	0.027 (0.018)	0.029 (0.022)
$E[\Delta Unemp Rate]$	-0.018 (0.012)	-0.021 (0.015)	-0.046*** (0.017)	-0.045*** (0.018)
$E[\Delta L] - 5Y$		0.003 (0.086)		0.006 (0.099)
First-stage F	187.17	89.85	187.17	89.85
N	5500	5500	5500	5500
	12 Months			
	ΔB (5)	ΔB (6)	ΔC (7)	ΔC (8)
$\Delta Limit$	0.111*** (0.038)	0.108** (0.044)	0.321*** (0.059)	0.317*** (0.064)
$E[\Delta Y]$	0.037 (0.045)	0.033 (0.048)	0.081 (0.075)	0.077 (0.084)
$E[\Delta GDP]$	0.058*** (0.020)	0.062*** (0.021)	0.021 (0.022)	0.024 (0.029)
$E[\Delta Unemp Rate]$	-0.022 (0.016)	-0.025 (0.018)	-0.067*** (0.022)	-0.069*** (0.025)
$E[\Delta L] - 5Y$		0.005 (0.077)		0.009 (0.094)
First-stage F	187.17	89.85	187.17	89.85
N	5500	5500	5500	5500

Note: This table reports the IV estimates of equation (7) and (8). Panels A and B respectively focuses on the six-month and 12-month response. ΔB and ΔC are respectively the changes in unsecured borrowing 12 months after the experiment and spending over the 12 months after the experiment. $\Delta Limit$ is the realized change in credit limit, $E[\Delta Y]$ is the changes income expectation in the next 12 months. $E[\Delta GDP]$ and $E[\Delta Unemp Rate]$ are respectively the expected growth rates of GDP and unemployment rate. $E[\Delta L] - 5Y$ is the expected 5-year growth rate of credit limit. All variabls are winsorized at 1% and 99% level. Standard errors clustered at city level are in parentheses. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

III. Survey

A. Pre-experiment Survey

Please read the following information carefully.

The use of credit cards is one important channel for residents to make daily consumption. To better understand the impact of credit cards on people's lives, we selected a certain number of active users to participate in a survey. The survey is expected to take between 5 to 10 minutes. If you choose to take the survey, you will be awarded 20 CNY.

This survey is in collaboration with third-party research scholars. The surveys will only be analyzed for scientific research purposes and will not be evaluated by this bank. We will not disclose participants' personal information in any respect. We will not, to any extent, change the types of financial products we provide, including credit scores, credit limits, deposit rates, etc., based on the participants' personal answers. Therefore, please answer based on your true thoughts.

- Yes
- No

1. How many banks do you usually use for transaction purposes?
 - a. 1
 - b. 2
 - c. 3 or more
2. Your total income over the past 12 months was
Note: income includes wages, salaries, bonuses, commission, etc., excluding capital gains and financial return from financial investments.
3. What was the total amount of your spending during the past 12 months (excluding investment and purchases of durable goods including housing, cars, etc.)?
4. What is the current value of your total wealth?
Note: total wealth is the value of all assets such as cash, savings, houses, stock market wealth, and all other liquid and fixed assets minus all debts you owe.
5. How many hours on average do you work every week over the past 12 months?
6. Over the next 12 months, conditional on not being unemployed, what's the level of total income you are most likely to get?
7. What's the most likely level of your total wealth in 12 months?
8. Over the next 12 months, how much would you most likely spend on average every month (excluding investment and purchases over durable goods including housing, cars, etc.)?
9. Compared to your current total credit limit across all financial institutions or platforms, how much would your total credit limit be (in percentage) in one year?
 - a. Decreases by more than 50%
 - b. Decreases by between 25% and 50%
 - c. Decreases by between 10% to 25%
 - d. Decreases by between 0% to 10%
 - e. Stays roughly the same.
 - f. Increases by between 0% to 10%
 - g. Increases by between 10% to 25%
 - h. Increases by between 25% and 50%
 - i. Increases by more than 50%
10. Compared to your current total credit limit across all financial institutions or platforms, how much would your total credit limit be (in percentage) in five years?
 - a. Decreases by more than 50%
 - b. Decreases by between 25% and 50%

- c. Decreases by between 10% to 25%
 - d. Decreases by between 0% to 10%
 - e. Stays roughly the same.
 - f. Increases by between 0% to 10%
 - g. Increases by between 10% to 25%
 - h. Increases by between 25% and 50%
 - i. Increases by between 50% and 100%
 - j. Increases by between 100% and 200%
 - k. Increases by more than 200%
11. How much will the overall Chinese economy change (in percentage relative to the current level) over the next year?
- a. Decreases by more than 20%
 - b. Decreases by between 15% and 20%
 - c. Decreases by between 10% to 15%
 - d. Decreases by between 5% to 10%
 - e. Decreases by between 2.5% to 5%
 - f. Decreases by between 0% to 2.5%
 - g. Stays roughly the same.
 - h. Increases by between 0% to 2.5%
 - i. Increases by between 2.5% to 5%
 - j. Increases by between 5% to 10%
 - k. Increases by between 10% to 25%
 - l. Increases by between 25% and 30%
 - m. Increases by more than 20%
12. How much will the unemployment (in percentage relative to the current level) over the next year?
- a. Decreases by more than 20%
 - b. Decreases by between 15% and 20%
 - c. Decreases by between 10% to 15%
 - d. Decreases by between 5% to 10%
 - e. Decreases by between 2.5% to 5%
 - f. Decreases by between 0% to 2.5%
 - g. Stays roughly the same.
 - h. Increases by between 0% to 2.5%
 - i. Increases by between 2.5% to 5%
 - j. Increases by between 5% to 10%
 - k. Increases by between 10% to 25%
 - l. Increases by between 25% and 30%
 - m. Increases by more than 20%

13. How confident are you in evaluating whether the overall economy is functioning effectively at the moment?³
- not very confident
 - somewhat confident
 - very confident
14. Suppose the overall economy in China grows by 5% relative to the current level over the next year, how would this affect your total income over the same period?
- Decreases by more than 20%
 - Decreases by between 15% and 20%
 - Decreases by between 10% to 15%
 - Decreases by between 5% to 10%
 - Decreases by between 2.5% to 5%
 - Decreases by between 0% to 2.5%
 - Stays roughly the same.
 - Increases by between 0% to 2.5%
 - Increases by between 2.5% to 5%
 - Increases by between 5% to 10%
 - Increases by between 10% to 25%
 - Increases by between 25% and 30%
 - Increases by more than 20%
15. Suppose the unemployment rate in China decreases by 10% relative to the current level over the next year, how would this affect your total income over the same period?
- Decreases by more than 20%
 - Decreases by between 15% and 20%
 - Decreases by between 10% to 15%
 - Decreases by between 5% to 10%
 - Decreases by between 2.5% to 5%
 - Decreases by between 0% to 2.5%
 - Stays roughly the same.
 - Increases by between 0% to 2.5%
 - Increases by between 2.5% to 5%
 - Increases by between 5% to 10%
 - Increases by between 10% to 25%
 - Increases by between 25% and 30%
 - Increases by more than 20%
16. (Random 30%) Suppose banks increase your credit card limit by 5000 CNY this month. This would mean that the banks expect your total income to be changed by in the next 12 months.

³ Questions 13 to 18 are sent to the same set of individuals.

Note: use a negative number for decreases.

17. (Random 30%) Suppose banks increase your credit card limit by 10000 CNY this month. This would mean that the banks expect your total income to be changed by in the next 12 months.

Note: use a negative number for decreases.

18. (Random 30%) Rather than receiving 100 Yuan today, which options would you choose? (select all that apply)

- a. 100 Yuan in 6 months.
- b. 102.5 Yuan in 6 months.
- c. 105 Yuan in 6 months.
- d. 107.5 Yuan in 6 months.
- e. 110 Yuan in 6 months.
- f. 112.5 Yuan in 6 months.
- g. 115 Yuan and more in 6 months.

B. Post-experiment Survey

Please read the following information carefully.

About three weeks ago, you completed a survey we sent. This is a follow-up survey that we would like to ask some more information. The survey is expected to take between 5 to 10 minutes. If you choose to take the survey, you will be awarded 20 CNY.

This survey is in collaboration with third-party research scholars. The surveys will only be analyzed for scientific research purposes and will not be evaluated by this bank. We will not disclose participants' personal information in any respect. We will not, to any extent, change the types of financial products we provide, including credit scores, credit limits, deposit rates, etc., based on the participants' personal answers. Therefore, please answer based on your true thoughts.

- Yes
- No

1. Please assign probability to the percentage change of the total income you are most likely to get over the next 12 months, conditional on not being unemployed.

Note: Note: income includes wages, salaries, bonuses, commission, etc., excluding capital gains and financial return from financial investments. The sum has to sum to 100%

Decreases by more than 50%	___%
Decreases by between 20% and 50%	___%
Decreases by between 10% and 20%	___%
Decreases by between 5% to 10%	___%
Decreases by between 0% to 5%	___%
Stays roughly the same	___%
Increases by between 0% to 5%	___%
Increases by between 5% to 10%	___%
Increases by between 10% and 20%	___%
Increases by between 20% and 50%	___%
Increases by more than 50%	___%

2. Please assign probability to the percentage change of the total wealth in 12 months.

Note: the sum has to sum to 100%

Decreases by more than 50%	___%
Decreases by between 20% and 50%	___%
Decreases by between 10% and 20%	___%
Decreases by between 5% to 10%	___%
Decreases by between 0% to 5%	___%
Stays roughly the same	___%
Increases by between 0% to 5%	___%
Increases by between 5% to 10%	___%
Increases by between 10% and 20%	___%
Increases by between 20% and 50%	___%
Increases by more than 50%	___%

3. Please assign probability to the percentage change of your total spending over the next 12 months (excluding investment and purchases over durable goods including housing, cars, etc.).

Note: the sum has to sum to 100%

Decreases by more than 50%	___%
Decreases by between 20% and 50%	___%
Decreases by between 10% and 20%	___%
Decreases by between 5% to 10%	___%
Decreases by between 0% to 5%	___%
Stays roughly the same	___%
Increases by between 0% to 5%	___%

- Increases by between 5% to 10% _____%
- Increases by between 10% and 20% _____%
- Increases by between 20% and 50% _____%
- Increases by more than 50% _____%

4. How many hours on average will you work every week over the next 12 months?
5. What's the probability that you will lose your job over the next 12 months?
6. What's the probability that you will not be able to make a payment to your borrowing over the next 12 months?

Note: Please answer zero if you do not plan to borrow over the next 12 months.

7. Compared to your current total credit limit across all financial institutions or platforms, please assign probability to the percentage change of total credit limit in one years?

Note: the sum has to sum to 100%

- Decreases by more than 50% _____%
- Decreases by between 20% and 50% _____%
- Decreases by between 10% and 20% _____%
- Decreases by between 5% to 10% _____%
- Decreases by between 0% to 5% _____%
- Stays roughly the same _____%
- Increases by between 0% to 5% _____%
- Increases by between 5% to 10% _____%
- Increases by between 10% and 20% _____%
- Increases by between 20% and 50% _____%
- Increases by more than 50% _____%

8. Compared to your current total credit limit across all financial institutions or platforms, please assign probability to the percentage change of total credit limit in five years?

Note: the sum has to sum to 100%

- Decreases by more than 50% _____%
- Decreases by between 20% and 50% _____%
- Decreases by between 10% and 20% _____%
- Decreases by between 5% to 10% _____%
- Decreases by between 0% to 5% _____%
- Stays roughly the same _____%
- Increases by between 0% to 5% _____%
- Increases by between 5% to 10% _____%
- Increases by between 10% and 20% _____%

Increases by between 20% and 50% _____%

Increases by more than 50% _____%

9. Please assign probability to the percentage change of the overall Chinese economy over the next year.

Note: the sum has to sum to 100%

Decreases by more than 50% _____%

Decreases by between 20% and 50% _____%

Decreases by between 10% and 20% _____%

Decreases by between 5% to 10% _____%

Decreases by between 0% to 5% _____%

Stays roughly the same _____%

Increases by between 0% to 5% _____%

Increases by between 5% to 10% _____%

Increases by between 10% and 20% _____%

Increases by between 20% and 50% _____%

Increases by more than 50% _____%

10. Please assign probability to the percentage change of the unemployment (in percentage relative to the current level) over the next year.

Note: the sum has to sum to 100%

Decreases by more than 50% _____%

Decreases by between 20% and 50% _____%

Decreases by between 10% and 20% _____%

Decreases by between 5% to 10% _____%

Decreases by between 0% to 5% _____%

Stays roughly the same _____%

Increases by between 0% to 5% _____%

Increases by between 5% to 10% _____%

Increases by between 10% and 20% _____%

Increases by between 20% and 50% _____%

Increases by more than 50% _____%

IV. US Survey

1. How many credit cards do you use for daily spending?
 - a. 0
 - b. 1
 - c. 2
 - d. 3
 - e. 4 or more

2. What's the total level of your credit limit over all financial institutions?
 - a. less than 2000
 - b. 2000 – 5000
 - c. 5000 – 10000
 - d. 10000 – 20000
 - e. 20000 – 40000
 - f. 40000 – 70000
 - g. 70000 – 100000
 - h. more than 10000

The following messages are each sent to a random 10% of the participants

(10%) For the following questions, we would like you to consider the scenario that your bank has decided to increase your credit card limit by 10%.

(10%) For the following questions, we would like you to consider the scenario that your bank has decided to increase your credit card limit by 15%.

(10%) For the following questions, we would like you to consider the scenario that your bank has decided to increase your credit card limit by 20%.

(10%) For the following questions, we would like you to consider the scenario that your bank has decided to increase your credit card limit by 25%.

(10%) For the following questions, we would like you to consider the scenario that your bank has decided to increase your credit card limit by 30%.

(10%) For the following questions, please imagine a scenario where your bank has chosen you at random to raise your credit card limit by 10%. This decision by the bank is entirely random and not influenced by any assessment of pertinent factors.

(10%) For the following questions, please imagine a scenario where your bank has chosen you at random to raise your credit card limit by 15%. This decision by the bank is entirely random and not influenced by any assessment of pertinent factors.

(10%) For the following questions, please imagine a scenario where your bank has chosen you at random to raise your credit card limit by 20%. This decision by the bank is entirely random and not influenced by any assessment of pertinent factors.

(10%) For the following questions, please imagine a scenario where your bank has chosen you at random to raise your credit card limit by 25%. This decision by the bank is entirely random and not influenced by any assessment of pertinent factors.

(10%) For the following questions, please imagine a scenario where your bank has chosen you at random to raise your credit card limit by 30%. This decision by the bank is entirely random and not influenced by any assessment of pertinent factors.

3. How much do you think your spending would change over the next year?

- a. decreases by more than 20%
- b. decreases by 15% to 20%
- c. decreases by 10% to 15%
- d. decreases by 5% to 10%
- e. decreases by 0% to 5%
- f. stays the same
- g. increases by 0% to 5%
- h. increases by 5% to 10%
- i. increases by 10% to 15%
- j. increases by 15% to 20%
- k. increases by more than 20%

4. How much do you think your income would change over the next year?

- a. decreases by more than 20%
- b. decreases by 15% to 20%
- c. decreases by 10% to 15%
- d. decreases by 5% to 10%
- e. decreases by 0% to 5%
- f. stays the same
- g. increases by 0% to 5%
- h. increases by 5% to 10%
- i. increases by 10% to 15%
- j. increases by 15% to 20%
- k. increases by more than 20%

5. How much do you think your savings would change over the next year?

- a. decreases by more than 20%
- b. decreases by 15% to 20%
- c. decreases by 10% to 15%
- d. decreases by 5% to 10%

- e. decreases by 0% to 5%
 - f. stays the same
 - g. increases by 0% to 5%
 - h. increases by 5% to 10%
 - i. increases by 10% to 15%
 - j. increases by 15% to 20%
 - k. increases by more than 20%
6. What's the probability that you would default on your debt over the next year?
7. How many hours would you work on average every week over the next year?
8. How much do you think your credit limit over all financial institutions would change over the next year?
- a. decreases by more than 20%
 - b. decreases by 15% to 20%
 - c. decreases by 10% to 15%
 - d. decreases by 5% to 10%
 - e. decreases by 0% to 5%
 - f. stays the same
 - g. increases by 0% to 5%
 - h. increases by 5% to 10%
 - i. increases by 10% to 15%
 - j. increases by 15% to 20%
 - k. increases by more than 20%

Table A.6. US Survey Results

	E[Δlog C]	E[Δlog Y]	E[Δlog W]	E[p(d)]	E[Hrs]	E[Δlog L]
Panel A: No Information						
Δlog Limit	0.190** (0.088)	0.234*** (0.078)	0.068 (0.079)	0.101 (0.095)	-0.035 (0.374)	0.163* (0.081)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	344	344	344	344	344	344
Panel B: Random Extensions						
Δlog Limit	0.021 (0.075)	0.074 (0.063)	-0.016 (0.065)	0.065 (0.062)	0.002 (0.329)	0.153* (0.082)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	348	348	348	348	348	348

Note: This table presents results about hypothetical limit extensions on expectation. E[Δlog C], E[Δlog Y], E[Δlog W], E[Δlog L] are respectively the expected next-year growth of total consumption, income, wealth, and credit limits. E[p(d)] and E[Hrs] are respectively the expected default probability and hours planned to work over the next year. Data is based on part-time and full-time employees with credit cards from SurveyMonkey. Results are winsorized at 1% - 99% level.