

COVID-19 and economic preferences: evidence from a panel of cab drivers*

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Abstract

This paper studies the impact of the COVID-19 pandemic on risk and time preferences. Using a longitudinal dataset from a survey of cab drivers in Lima (Peru), we document a significant increase in risk tolerance and patience. The changes are heterogeneous and monotonic by age: older cohorts become more risk-taking while younger ones become more patient. Our findings suggest that the pandemic could have affected individuals' behavior and socioeconomic outcomes via another channel, namely, changes in economic preferences.

JEL classification: D01, D81, D91, I18

Keywords: risk preferences, time preferences, COVID-19

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1 Introduction

A substantial body of evidence finds that economic preferences are not stable but may be affected by shocks and life events such as illness, natural disasters, or civil war, among others.¹ Given the severe disruption caused by the COVID-19 pandemic, several studies have started to examine its impact on economic preferences. Answering this question is important to understand better the short and long-run socioeconomic impacts of the pandemic. The existing evidence is, however, inconclusive. Some studies report no effects, while others find significant changes but with mixed signs (some positive, others negative).²

This paper examines the impact of the COVID-19 pandemic on risk and time preferences. Our main contribution is to use a new longitudinal dataset of cab drivers in Lima (Peru). Our data has a wider age range than most current studies, which focus on young individuals, usually university students. This feature allows us to examine heterogeneous effects by age. This issue is relevant to assess, given that the pandemic could have affected younger and older individuals differently. For instance, the risk of severe illness and death was higher for older individuals, while younger cohorts may have been more affected by the disruption of social and economic activities.

Our dataset comprises individuals (mostly men) with ages ranging from 20 to 68 years old. We interview them in mid-2019 and in late 2020-early 2021, almost one year after the onset of the pandemic. We construct measures of risk and time preference using the same methodology as the Global Preference Survey, a widely-used dataset of economic preferences (Falk et al., 2018). The methodology is based on survey questions but has been validated

¹For a review of the literature on stability of preferences see Chuang and Schechter (2015), Schildberg-Hörisch (2018), Voors et al. (2012), Hanaoka et al. (2018), Brown et al. (2019), Jakiela and Ozier (2019), Malmendier and Nagel (2011), Carvalho et al. (2016), Akesaka (2019), Aragón et al. (2020), Kim and Lee (2014) and references therein.

²For a survey on the literature on the socioeconomic impact of the COVID-19 pandemic, see Brodeur et al. (2021). For studies on the impact of the pandemic on economic preferences, see Ikeda et al. (2020), Lohmann et al. (2020), Drichoutis and Nayga (2021), Shachat et al. (2021b), Harrison et al. (2022), Alsharawy et al. (2021) and references therein.

using incentivized experiments. Similar to recent studies on the impact of the pandemic on preferences, our identification strategy exploits time-variation and panel data to examine changes in measures of preferences for a given individual over time.

We find evidence of a significant increase in risk-taking and patience. The magnitude of the change is, on average, around 0.15-0.20 standard deviations. The effects are, however, heterogeneous and monotonic on age. In the case of risk-taking, the change among younger cohorts is negligible but increases with age and becomes quite sizeable among older cohorts (0.36 standard deviations). We observe the opposite pattern for patience: an increase among younger cohorts and no change for older individuals.

These heterogeneous results have not been documented before. They are, however, useful to better understand how the pandemic could have affected the preferences of a broad population. They might also explain the lack of significant effects on risk aversion reported in some studies that use samples of young individuals.

2 Methods

Data source We use panel data from a survey collected by the research team in Lima metropolitan area from a sample of cab drivers. The baseline survey was collected in May 2019 using in-person interviews. We conducted a follow-up phone survey from December 2020 to mid-February 2021.

The original panel dataset consists of 1,282 individuals. The survey, however, was collected as part of a randomized control trial on the effect of a saving product. To avoid confounding our results with this intervention, we focus on the randomly-selected control group.³ This group represents a third of the original sample (n=416).

³Our main results are, however, robust to including the two treatment arms and using the full sample.

Measuring economic preferences We construct survey-based measures of risk-taking and patience at the individual level. We follow the same methodology as the Global Preference Survey (GPS). This methodology is based on non-incentivized survey questions and has been validated using incentivized experiments (Falk et al., 2018).

We elicit an individual’s preferences by combining two sets of questions.⁴ First, we ask the respondent a sequence of five hypothetical choices between a lottery and varying sure payments (or between immediate and delayed financial rewards in the case of time preferences). The value of the sure (delayed) payments varies according to a ‘staircase’ procedure that increases or decreases the amount according to previous choices. This procedure allows us to zoom in on the respondents’ point of indifference. Second, we ask respondents to self-assess their willingness to take risks (or delay payment) using a 0-10 scale.

We combine the information from the two sets of questions into an index by taking a weighted average of the normalized values (z-scores).⁵ The z-scores are obtained using the mean and standard deviation in the baseline period.

Figure 1 displays the distributions of our two measures of economic preferences in the baseline (pre-pandemic) and follow-up (post-pandemic) surveys. In both cases, we observe a rightward shift of the distribution. This observation suggests an increase in risk-taking and patience.⁶

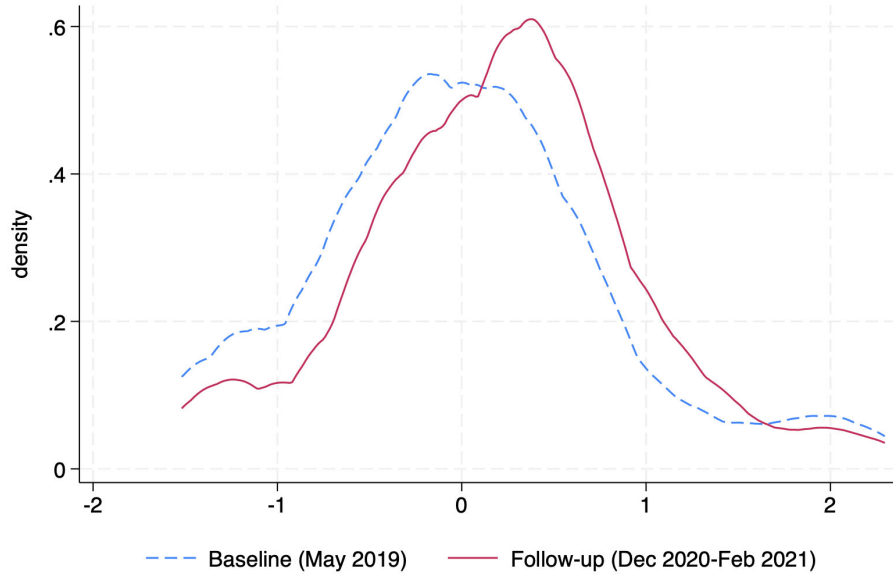
Life events and emotional states We collect information on life events and emotional states to use as control variables. Based on previous studies, we focus on events such as illness, accidents or death of a relative, loss of income or employment, and crime. For each life event, we ask respondents to self-report if they or a member of their households have

⁴See Appendix B for details on the survey questions. For additional information on the survey methodology and validity, see Falk et al. (2016) and Falk et al. (2018).

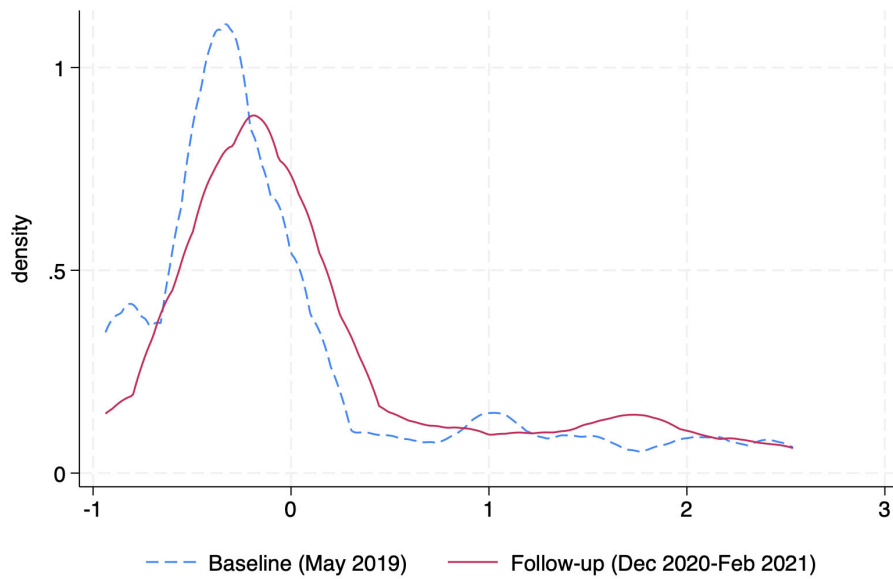
⁵We use the same weights as the GPS, i.e., 0.5270015 and 0.2884815 for the self-assessment questions on risks and patience, respectively.

⁶The Kolmogorov-Smirnov test for equality of distributions confirms this observation. The p-value in both cases is 0.000.

Figure 1: Distribution of measures of economic preferences



(a) Risk-taking index



(b) Patience index

suffered in the last 12 months and used this information to construct a binary indicator. We collect two (self-reported) measures of an individual’s emotional state: happiness and anxiety.⁷ We construct indices normalizing these variables using the baseline mean and standard deviation.

Table 1 displays summary statistics for the whole sample and by age group.⁸ There are some relevant observations. First, the majority of our sample is composed of middle-aged men (age ranges from 20-68 years), of which less than half have tertiary education. Second, risk aversion seems to increase with age. Finally, the likelihood of life events and emotional states at the time of the survey seems to differ across age groups.

Identification strategy We estimate the impact of the COVID-19 pandemic by comparing the preferences of a given individual after the onset of the pandemic to her preferences in an earlier period. Formally, we estimate the following first-difference panel data model:

$$\Delta y_i = \alpha + \beta X_i + \gamma W_i + \epsilon_i, \tag{1}$$

where $\Delta y_i = y_{i,t} - y_{i,t-1}$ is the change in the measure of preference y (risk-taking or patience) of individual i , between the baseline ($t - 1$) and follow-up (t) periods. X_i are indicators of age group, and W_i are control variables such as indicators of having experienced a negative life event in the last 12 months, or the indexes of happiness and anxiety.

The parameters of interest in our baseline specification are α and β . The constant (α) captures the average change in preferences over time while β identifies heterogeneous impacts. Note that given that we only have two periods, our approach is equivalent to a panel data model with individual fixed effects: $y_{it} = \alpha P_t + \beta(X_i \times P_t) + \gamma(W_i \times P_t) + c + \eta_i + \epsilon_{it}$, where

⁷individuals are asked: "On a scale from 0-10, how happy (anxious) were you yesterday?". These measures were collected in the baseline and follow-up surveys.

⁸For simplicity of exposition, we classify age by decades. Our results are, however, qualitatively similar if we use an alternative classification approach, such as quartiles.

Table 1: Summary statistics

	All	Age group		
		20-29	30-49	50+
<i>A. Socio-demographic characteristics</i>				
Is female (%)	3.1	1.5	3.3	4.0
Age	39.8	27.0	38.1	57.2
Complete tertiary education (%)	47.1	36.9	47.1	56.0
Suffers chronic disease (%)	9.4	3.1	9.4	14.7
<i>B. Measures of economic preferences</i>				
Risk-taking index	0.0	0.099	0.026	-0.180
Patience index	0.0	-0.085	0.016	0.015
<i>C. Self-reported life events and emotional states</i>				
Suffered (mild) COVID-19	11.5	7.7	13.0	9.3
Serious illness, accident or relative's death	13.7	15.4	12.3	17.3
Negative income or labor shock	58.9	76.9	54.7	58.7
Victim of theft or burglary	6.5	4.6	6.9	6.7
No. obs.	416	65	276	75

Notes: Variables in Panel A and B are from the baseline survey. Variables in Panel C are from the follow-up survey. "Negative income or labor shock" is an indicator of having experienced any of the following events: losing a job, closure or bankruptcy of a family business, reduction in labor income or working hours, or reduction of income from other sources. "Suffers chronic disease" is an indicator of having a chronic condition such as asthma, high blood pressure, heart problems, HIV, cancer, depression, arthritis, stomach ulcer, or kidney disease.

c is a constant, $P_t = 1$ is an indicator of being in the follow-up period (after the pandemic onset), and η_i is an individual fixed effect.

Our identification strategy exploits time variation within individuals. This approach is similar to the strategy used in several studies on the impact of COVID-19 on preferences, such as Drichoutis and Nayga (2021), Angrisani et al. (2020), Bäckman et al. (2020) or Adema et al. (2022). Similar to our approach, these studies also compare measures of economic preferences for the same individual before and during the pandemic and do not exploit between-individuals differences in exposure to the shock. This panel data approach

complements strategies that rely on repeated cross-sections by reducing concerns of biases due to changes in sample composition or unobserved time-invariant characteristics.

The main limitation of our approach is that it bundles our measure of COVID-19 with all time-varying factors that could have influenced the measures of economic preferences. Thus it cannot disentangle the impact of different aspects of the pandemic, such as shifts in individuals' perceptions of health risks, increased economic adversity, and social distancing measures. At best, our estimates encompass the overall impact of the pandemic, including all the individual and aggregated changes triggered by it.

3 Results

Table 2 displays our main results. The main observation is that, on average, there was a significant increase in both risk-taking and patience between 2019 to 2021 (columns 1 and 4). The magnitude of this increment is sizeable: between 0.15 and 0.20 standard deviations.

The changes are, however, heterogeneous by age (columns 2 and 4). In the case of risk-taking, there is a large increase in risk-taking of around 0.36 s.d. among individuals 50 years and older, but almost no change for 20-29 years old. In the case of patience, we observe an opposite pattern: a large increase for younger cohorts but no change for older ones.

To better illustrate these heterogeneous effects, we depict the estimates of columns 2 and 4 in Figure 2. We observe that the magnitude of the change in preferences is monotonic on age: increasing in the case of risk-taking but decreasing for patience.

These heterogeneous effects have not been documented before. They are, however, useful to better understand the impact of the pandemic on preferences. Moreover, they could explain the lack of significant effects on risk tolerance reported in studies using samples of young undergraduate students and professionals (Angrisani et al., 2020; Lohmann et al., 2020; Harrison et al., 2022; Drichoutis and Nayga, 2021). Interestingly, the changes are

observed almost a year after the onset of the pandemic. This finding suggests that the impact of the pandemic on preference was not entirely driven by the initial shock but might have persisted over time.

Alternative explanations We interpret the results as evidence that the COVID-10 pandemic increases risk-taking among older cohorts and patience among younger ones. Since our identification strategy exploits time variation, a relevant identification concern is that our results are spurious and reflect the effect of other time-varying unobserved variables, not the impact of the pandemic. We explore some of these alternative explanations below.

First, other life events like illness or income loss could potentially impact an individual's risk preferences. Similarly, variations in emotional states during the survey could come into play.⁹ If these events are correlated with age, they could explain the heterogeneous changes in preferences.

To partially mitigate these concerns, we introduce an extensive set of control variables (columns 3 and 6). incorporate indicators for recent life events, such as illness, bereavement, or income loss within the last year, along with measures of emotional well-being (happiness and anxiety) in the days preceding the follow-up survey.¹⁰ Importantly, the core results remain robust to these additional covariates.¹¹ Nonetheless, we acknowledge the potential influence of other unobserved life events or shifts in emotional states, which could contribute, at least partially, to our outcomes.

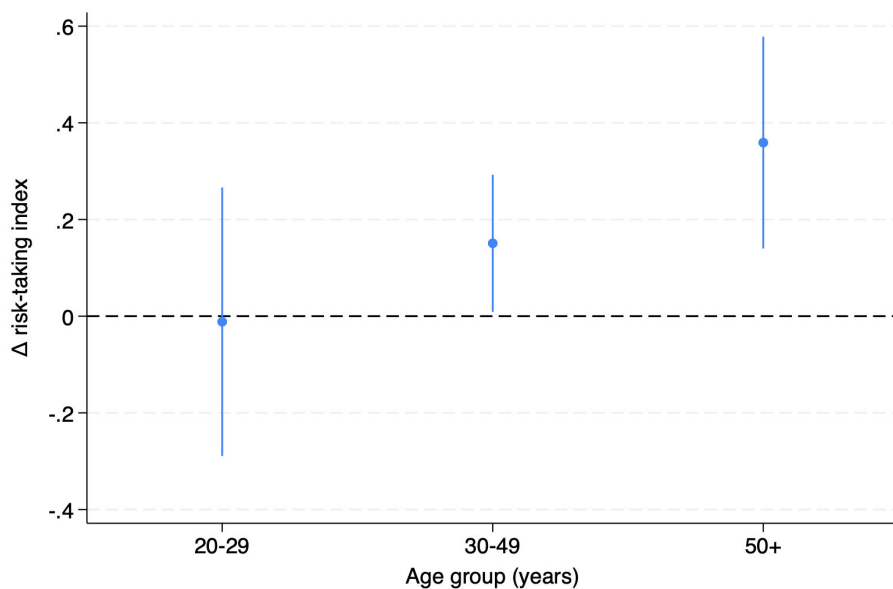
Second, our findings might be influenced by systematic measurement errors in our measure of economic preferences. For instance, Adema et al. (2022) find that the effect of

⁹We focus on life events and emotional states as the main omitted variables, given existing evidence linking them to risk aversion (Leith and Baumeister, 1996; Lerner and Keltner, 2001; Campos-Vazquez and Cuijly, 2014; Conte et al., 2018; Kettlewell, 2019).

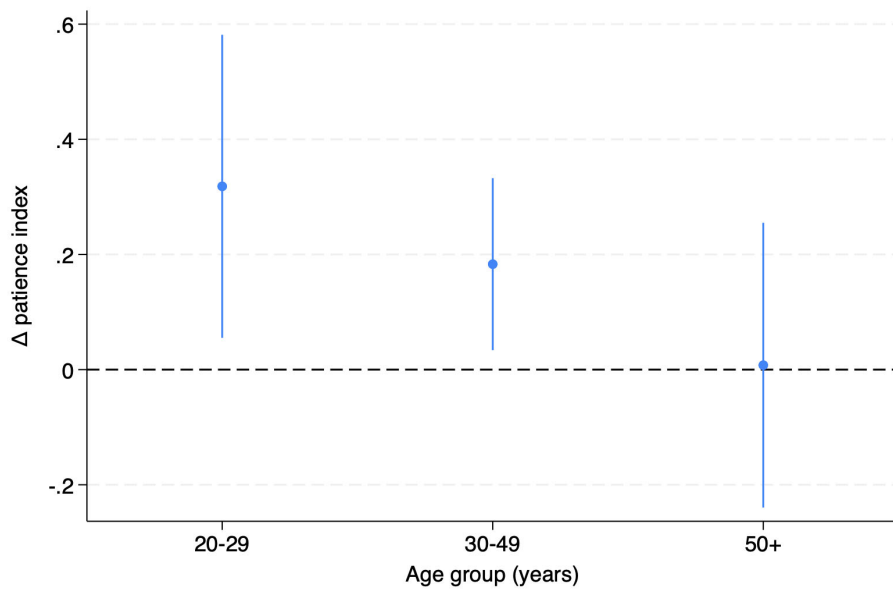
¹⁰Similar findings emerge when using changes in happiness and anxiety indices instead of levels (see Table A.2).

¹¹Interestingly, health and bereavement shocks appear to affect risk aversion, aligning with prior literature (Decker and Schmitz, 2016). However, no significant correlation emerges with other life events like negative income or labor shocks, or exposure to crime.

Figure 2: Change in measures of economic preferences, by age



(a) Change in risk-taking index



(b) Change in patience index

Notes: Figure displays estimates of the change on risk-taking (or patience) index by age group (β) from columns 2 and 4 in Table 2. The circle represents point estimates, while the vertical lines represent the 95% confidence interval.

Table 2: Effect on economic preferences

	Δ risk-taking index			Δ patience index		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.231*** (0.081)			0.156* (0.086)		
Age 20-29		0.060 (0.151)	-0.028 (0.164)		0.294** (0.137)	0.389** (0.157)
Age 30-49		0.213** (0.085)	0.148 (0.097)		0.167* (0.095)	0.226** (0.110)
Age 50+		0.448*** (0.118)	0.364*** (0.134)		-0.010 (0.130)	0.052 (0.142)
Suffered (mild) COVID-19			0.002 (0.148)			0.116 (0.163)
Illness, serious accident or relative's death			0.319* (0.166)			0.127 (0.156)
Negative income or labor shock			0.055 (0.108)			-0.153 (0.106)
Victim of theft or burglary			-0.038 (0.153)			-0.164 (0.189)
Happiness index (follow-up)	0.025 (0.047)	0.037 (0.047)	0.040 (0.046)	0.028 (0.048)	0.018 (0.048)	0.010 (0.048)
Anxiety index (follow-up)	-0.006 (0.046)	-0.008 (0.046)	-0.007 (0.046)	-0.008 (0.051)	-0.007 (0.051)	-0.006 (0.051)
Observations	416	416	416	410	410	410
R-squared	0.010	0.058	0.070	0.015	0.054	0.062

Notes: Robust standard errors in parentheses. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. Columns 1 and 4 include only a constant as a regressor. The rest include a full set of age group dummies but no constant. All regressions include as additional controls: measures of the happiness and anxiety indexes collected in the follow-up survey, and indicators of the month of the follow-up survey

COVID-19 varies depending on the preference measurement employed: higher risk-taking when utilizing incentivized measures but lower risk-taking with self-assessment. Likewise, Zhang and Palma (2022) demonstrate that, depending on the measure employed, the impact of COVID-19 on risk-taking can span from neutral to negative. Yet, these insights are unlikely to account for our outcomes since we identify an increase in risk-taking using non-incentivized measures.

Third, the varying changes across age groups might stem from heterogeneity in preference patterns over the life cycle. However, this factor is unlikely to elucidate our findings. Numerous studies establish that risk-taking diminishes with age (Pålsson, 1996; Dohmen et al., 2011; Albert and Duffy, 2012). We validate this inverse association between age and risk-taking through our baseline survey data (refer to Table A.1 in the appendix). Remarkably, we observe an augmented risk-taking tendency in older cohorts.

Lastly, potential changes in the political or economic landscape, unrelated to the COVID-19 pandemic, may have influenced economic preferences. If these shocks have a common impact across groups common across groups, they would not pose a challenge to our interpretation of findings, as they could not explain the heterogeneous impacts by age. However, if these shocks affected different age groups in varying ways, they could potentially explain the shifts in preferences and undermine our interpretation.

4 Conclusion

This paper studies the impact of the COVID-19 pandemic on risk-taking and patience. Our empirical analysis uses panel data of cab drivers in Lima (Peru) and survey-based measures of economic preferences. We document a significant increase in risk-taking and patience. The magnitude of the effects is monotonic on age: younger cohorts became more patient, while older individuals became more risk-tolerant.

There are at least two unresolved issues that warrant further investigation. First, it is unclear what is causing the shift in preferences. Data limitations prevent us from doing a more in-depth study of the mechanisms at play. Second, we observe individuals almost one year after the pandemic's onset. This time span is longer than existing studies, which focus on the early weeks and months of the pandemic. However, there is not enough information yet to make an assessment of the long-term impacts on preferences.

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ONLINE APPENDIX

A Additional tables

Table A.1: Age and economic preferences

	Baseline values			
	Risk-taking index		Patience index	
	(1)	(2)	(3)	(4)
Normalized age	-0.114*** (0.041)	-0.096** (0.041)	-0.008 (0.041)	0.007 (0.042)
Happiness index		0.034 (0.041)		0.114** (0.047)
Anxiety index		0.094** (0.039)		0.002 (0.038)
Suffers chronic disease (baseline)		-0.126 (0.122)		0.007 (0.137)
Completed tertiary education		0.049 (0.078)		-0.010 (0.083)
Male		-0.205 (0.191)		0.084 (0.214)
Observations	416	416	416	416
R-squared	0.020	0.036	0.000	0.016

Notes: Robust standard errors in parentheses. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. Dependent variables were measured in the baseline survey.

Table A.2: Effect on economic preferences, alternative specification

	Δ risk-taking index			Δ patience index		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.161** (0.066)			0.174** (0.068)		
Age 20-29		-0.011 (0.141)	-0.099 (0.159)		0.318** (0.134)	0.409*** (0.155)
Age 30-49		0.151** (0.072)	0.084 (0.091)		0.183** (0.076)	0.239** (0.097)
Age 50+		0.359*** (0.111)	0.271** (0.132)		0.008 (0.126)	0.069 (0.138)
Suffered (mild) COVID-19			0.007 (0.148)			0.141 (0.160)
Illness, serious accident or relative's death			0.331** (0.166)			0.128 (0.155)
Negative income or labor shock			0.045 (0.107)			-0.148 (0.105)
Victim of theft or burglary			-0.021 (0.151)			-0.168 (0.190)
Δ Happiness index	-0.022 (0.049)	-0.023 (0.048)	-0.018 (0.048)	0.065 (0.047)	0.065 (0.046)	0.064 (0.047)
Δ Anxiety index	0.049 (0.030)	0.046 (0.030)	0.051* (0.030)	-0.020 (0.034)	-0.018 (0.034)	-0.019 (0.034)
Observations	416	416	416	410	410	410
R-squared	0.015	0.062	0.075	0.019	0.059	0.067

Notes: Robust standard errors in parentheses. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. Columns 1 and 4 include only a constant as a regressor. The rest include a full set of age group dummies but no constant. All regressions include as additional controls: changes in measures of the happiness and anxiety indexes and indicators of the month of the follow-up survey.

B Survey questions to elicit preferences

N	Question	Details	
Module I: Risk Aversion			
1	<p>Below, I will introduce you to five different situations. In each situation you will have to choose between two options: [1] receive a secure payment of a certain amount of money and [2] play a lottery (or raffle) in which you will have the same odds of getting S/ 300, and of getting nothing.</p> <p>I will introduce you to five different situations: (Unique answer for each sub-question)</p>		
1.1	What would you prefer, a lottery, with a 50% chance of receiving 300 Soles and a 50% chance of receiving nothing, or a secure payment of 160 Soles?	1	50% chance lottery (Go to question 1.17)
		2	Secure payment (Go to question 1.2)
1.2	Would you rather have a 50% chance of winning, or receive a secure payment of 80 Soles?	1	50% chance lottery (Go to question 1.10)
		2	Secure payment (Go to question 1.3)
1.3	Would you rather have a 50% chance of winning, or receive a secure payment of 40 Soles?	1	50% chance lottery (Go to question 1.4)
		2	Secure payment (Go to question 1.7)
1.4	Would you rather have a 50% chance of winning, or receive a secure payment of 60 Soles?	1	50% chance lottery (Go to question 1.5)
		2	Secure payment (Go to question 1.6)
1.5	Would you rather have a 50% chance of winning, or receive a secure payment of 70 Soles?	1	50% chance lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.6	Would you rather have a 50% chance of winning, or receive a secure payment of 50 Soles?	1	50% chance lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.7	Would you rather have a 50% chance of winning, or receive a secure payment of 20 Soles?	1	50% chance lottery (Go to question 1.8)
		2	Secure payment (Go to question 1.9)
1.8	Would you rather have a 50% chance of winning, or receive a secure payment of 30 Soles?	1	50% chance lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.9	Would you rather have a 50% chance of winning, or receive a secure payment of 10 Soles?	1	50% chance lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.10	Would you rather have a 50% chance of winning, or receive a secure payment of 120 Soles?	1	50% chance lottery (Go to question 1.14)

N	Question	Details	
		2	Secure payment (Go to question 1.11)
1.11	Would you rather have a 50% chance of winning, or receive a secure payment of 100 Soles?	1	50% chance lottery (Go to question 1.13)
		2	Secure payment (Go to question 1.12)
1.12	Would you rather have a 50% chance of winning, or receive a secure payment of 90 Soles?	1	50% chance lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.13	Would you rather have a 50% chance of winning, or receive a secure payment of 110 Soles?	1	50% chance lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.14	Would you rather have a 50% chance of winning, or receive a secure payment of 140 Soles?	1	50% chance lottery (Go to question 1.15)
		2	Secure payment (Go to question 1.16)
1.15	Would you rather have a 50% chance of winning, or receive a secure payment of 150 Soles?	1	50% chance lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.16	Would you rather have a 50% chance of winning, or receive a secure payment of 130 Soles?	1	50% chance lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.17	Would you rather have a 50% chance of winning, or receive a secure payment of 240 Soles?	1	50% chance lottery (Go to question 1.25)
		2	Secure payment (Go to question 1.18)
1.18	Would you rather have a 50% chance of winning, or receive a secure payment of 200 Soles?	1	50% chance lottery (Go to question 1.22)
		2	Secure payment (Go to question 1.19)
1.19	Would you rather have a 50% chance of winning, or receive a secure payment of 180 Soles?	1	50% chance lottery (Go to question 1.20)
		2	Secure payment (Go to question 1.21)
1.20	Would you rather have a 50% chance of winning, or receive a secure payment of 190 Soles?	1	50% probability lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.21	Would you rather have a 50% chance of winning, or receive a secure payment of 170 Soles?	1	50% probability lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.22	Would you rather have a 50% chance of winning, or receive a secure payment of 220 Soles?	1	50% probability lottery (Go to question 1.23)
		2	Secure payment (Go to question 1.24)
1.23	Would you rather have a 50% chance of winning, or receive a secure payment of 230 Soles?	1	50% probability lottery (Go to question 2)

N	Question	Details	
		2	Secure payment (Go to question 2)
1.24	Would you rather have a 50% chance of winning, or receive a secure payment of 210 Soles?	1	50% probability lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.25	Would you rather have a 50% chance of winning, or receive a secure payment of 280 Soles?	1	50% probability lottery (Go to question 1.29)
		2	Secure payment (Go to question 1.26)
1.26	Would you rather have a 50% chance of winning, or receive a secure payment of 260 Soles?	1	50% probability lottery (Go to question 1.27)
		2	Secure payment (Go to question 1.28)
1.27	Would you rather have a 50% chance of winning, or receive a secure payment of 270 Soles?	1	50% probability lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.28	Would you rather have a 50% chance of winning, or receive a secure payment of 250 Soles?	1	50% probability lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.29	Would you rather have a 50% chance of winning, or receive a secure payment of 300 Soles?	1	50% probability lottery (Go to question 1.31)
		2	Secure payment (Go to question 1.30)
1.30	Would you rather have a 50% chance of winning, or receive a secure payment of 290 Soles?	1	50% probability lottery (Go to question 2)
		2	Secure payment (Go to question 2)
1.31	Would you rather have a 50% chance of winning, or receive a secure payment of 310 Soles?	1	50% probability lottery (Go to question 2)
		2	Secure payment (Go to question 2)
2	<p>On a scale of 0 to 10, where 0 means "not willing to take risks at all" and 10 means "very willing to take risks", please tell me, in general? how willing or unwilling are you to take risks? You can use any number between 0 and 10 to indicate where you are on the scale, using 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10.</p> <p>[Note: If the driver indicates Don't Know or No Answer, enter "-9999".]</p>	0	Not willing to take risks at all
		1	
		2	
		3	
		4	
		5	Is indifferent
		6	
		7	
		8	
		9	
		10	Willing to take risks
Module II: Time Preferences			
3	<p>Suppose you are given the choice between receiving a payment today or a payment in 12 months. I am now going to present you with five situations. Payment today is the same for all situations. Payment within 12 months is different for each case. For each of these situations we would like to know which one you prefer.</p> <p>Please assume that there is no inflation, that is, future prices will be the same as current prices.</p> <p>(Single answer for each sub-question)</p>		

N	Question	Details	
3.1	Please consider the following: Would you prefer to receive 100 soles today or 154 soles in 12 months?	1	Today (Go to question 3.17)
		2	Within 12 months (Go to question 3.2)
3.2	Would you prefer to receive 100 soles today or 125 soles in 12 months?	1	Today (Go to question 3.10)
		2	Within 12 months (Go to question 3.3)
3.3	Would you prefer to receive 100 soles today or 112 soles in 12 months?	1	Today (Go to question 3.7)
		2	Within 12 months (Go to question 3.4)
3.4	Would you prefer to receive 100 soles today or 106 soles in 12 months?	1	Today (Go to question 3.6)
		2	Within 12 months (Go to question 3.5)
3.5	Would you prefer to receive 100 soles today or 103 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.6	Would you prefer to receive 100 soles today or 109 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.7	Would you prefer to receive 100 soles today or 119 soles in 12 months?	1	Today (Go to question 3.8)
		2	Within 12 months (Go to question 3.9)
3.8	Would you prefer to receive 100 soles today or 122 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.9	Would you prefer to receive 100 soles today or 116 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.10	Would you prefer to receive 100 soles today or 139 soles in 12 months?	1	Today (Go to question 3.14)
		2	Within 12 months (Go to question 3.11)
3.11	Would you prefer to receive 100 soles today or 132 soles in 12 months?	1	Today (Go to question 3.13)
		2	Within 12 months (Go to question 3.12)
3.12	Would you prefer to receive 100 soles today or 129 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.13	Would you prefer to receive 100 soles today or 136 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)

N	Question	Details	
3.14	Would you prefer to receive 100 soles today or 146 soles in 12 months?	1	Today (Go to question 3.16)
		2	Within 12 months (Go to question 3.15)
3.15	Would you prefer to receive 100 soles today or 143 soles in 12 months?	1	Today (Go to question 3)
		2	Within 12 months (Go to question 4)
3.16	Would you prefer to receive 100 soles today or 150 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.17	Would you prefer to receive 100 soles today or 185 soles in 12 months?	1	Today (Go to question 3.18)
		2	Within 12 months (Go to question 3.25)
3.18	Would you prefer to receive 100 soles today or 202 soles in 12 months?	1	Today (Go to question 3.22)
		2	Within 12 months (Go to question 3.19)
3.19	Would you prefer to receive 100 soles today or 193 soles in 12 months?	1	Today (Go to question 3.20)
		2	Within 12 months (Go to question 3.21)
3.20	Would you prefer to receive 100 soles today or 197 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.21	Would you prefer to receive 100 soles today or 189 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.22	Would you prefer to receive 100 soles today or 210 soles in 12 months?	1	Today (Go to question 3.23)
		2	Within 12 months (Go to question 3.24)
3.23	Would you prefer to receive 100 soles today or 215 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.24	Would you prefer to receive 100 soles today or 206 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.25	Would you prefer to receive 100 soles today or 169 soles in 12 months?	1	Today (Go to question 3.29)
		2	Within 12 months (Go to question 3.26)
3.26	Would you prefer to receive 100 soles today or 161 soles in 12 months?	1	Today (Go to question 3.28)
		2	Within 12 months (Go to question 3.27)

N	Question	Details	
3.27	Would you prefer to receive 100 soles today or 158 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.28	Would you prefer to receive 100 soles today or 165 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.29	Would you prefer to receive 100 soles today or 177 soles in 12 months?	1	Today (Go to question 3.31)
		2	Within 12 months (Go to question 3.30)
3.30	Would you prefer to receive 100 soles today or 173 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
3.31	Would you prefer to receive 100 soles today or 181 soles in 12 months?	1	Today (Go to question 4)
		2	Within 12 months (Go to question 4)
4	Consider a scale from 0 to 10, where 0 means "not willing to wait for higher benefits" and 10 means "very willing to wait for higher benefits." Now, tell me in general, how willing would you be to give up something that is beneficial to you today, so that you benefit more from it in the future? You can use any number between 0 and 10 to indicate how willing you would be. Use the values of 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10. [Note: If the driver indicates Don't Know or Doesn't Respond, enter "-9999".]	0	Not willing to wait at all
		1	
		2	
		3	
		4	
		5	Is indifferent
		6	
		7	
		8	
		9	
10	Willing to wait		