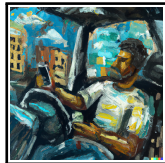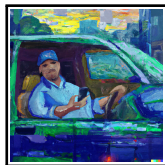# Workers' Preferences over Payment Schedules:
Evidence from Ridesharing Drivers

Thiago Scarelli
University of Oxford
thiago.scarelli@economics.ox.ac.uk

Research questions

- ► How much do workers care about the **timing of their payment**?
- ► What explains potential heterogeneity in this preference?

Research questions

- ► How much do workers care about the **timing of their payment**?
- ► What explains potential heterogeneity in this preference?

Research design

- ► Large-scale **survey experiment** with drivers from a leading digital platform in Brazil.
- ► Key outcome: choice between hypothetical **contracts that differ only in the delay to pay**.

Research questions

► How much do workers care about the **timing of their payment**?

► What explains potential heterogeneity in this preference?

Research design

► Large-scale **survey experiment** with drivers from a leading digital platform in Brazil.

► Key outcome: choice between hypothetical **contracts that differ only in the delay to pay**.

Main results

► Median driver would **forego 1/3 of earnings** in exchange for same-day remuneration.

► Experimental evidence that money right away is preferred as a **default choice**.

Motivation

A. Digital platform work is increasingly popular – what explains it?

Motivation

A. Digital platform work is increasingly popular — what explains it?

► Usual explanation: Workers value flexibility in hours.

► Is that enough to compensate for the low pay?

Motivation

A. Digital platform work is increasingly popular — what explains it?

► Usual explanation: Workers value flexibility in hours.

► Is that enough to compensate for the low pay?

B. The timing of payment is an attribute of any job — does it matter for workers?

Motivation

A. Digital platform work is increasingly popular — what explains it?

► Usual explanation: Workers value flexibility in hours.

► Is that enough to compensate for the low pay?

B. The timing of payment is an attribute of any job — does it matter for workers?

► Traditional office jobs have little variation in payment timing;

► Self-employment and jobs in the digital economy are much more diverse in this dimension.

Motivation

A. Digital platform work is increasingly popular — what explains it?

► Usual explanation: Workers value flexibility in hours.

► Is that enough to compensate for the low pay?

B. The timing of payment is an attribute of any job — does it matter for workers?

► Traditional office jobs have little variation in payment timing;

► Self-employment and jobs in the digital economy are much more diverse in this dimension.

Hypothesis: faster payment in the gig economy may contribute to its appeal.

Motivation

A. Digital platform work is increasingly popular – what explains it?

► Usual explanation: Workers value flexibility in hours.

► Is that enough to compensate for the low pay?

B. The timing of payment is an attribute of any job – does it matter for workers?

► Traditional office jobs have little variation in payment timing;

► Self-employment and jobs in the digital economy are much more diverse in this dimension.

Hypothesis: faster payment in the gig economy may contribute to its appeal.

Implication: If true, we should expect workers to value this feature of the job. Is that the case?
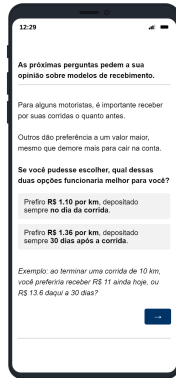
Context

- ► 1.3 million ridesharing drivers in Brazil (Callil and Picanço 2023)
- ► Homogeneous, well-defined task
- ► Salient time to remuneration
- ► Weak regulation
- ► Pay schedule defined by the platform (default: once a week)

Context

► 1.3 million ridesharing drivers in Brazil (Callil and Picanço 2023)

► Homogeneous, well-defined task

► Salient time to remuneration

► Weak regulation

► Pay schedule defined by the platform (default: once a week)

Research implementation

► Partnership with a ridesharing platform active in all States of Brazil.

► Survey distributed to the drivers' mobile phones (Jan. 2023).

► **Sample size:** 14,265 drivers. (Sample description)

12:29

As próximas perguntas pedem a sua opinião sobre modelos de recebimento.

Para alguns motoristas, é importante receber por suas corridas o quanto antes.

Outros dão preferência a um valor maior, mesmo que demore mais para cair na conta.

Se você pudesse escolher, qual dessas duas opções funcionaria melhor para você?

Prefiro **R$ 1.10 por km**, depositado sempre **no dia da corrida**.

Prefiro **R$ 1.36 por km**, depositado sempre **30 dias após a corrida**.

Exemplo: ao terminar uma corrida de 10 km, você preferiria receber R$ 11 ainda hoje, ou R$ 13.6 daqui a 30 dias?

→

A. How much do drivers value a short time to payment?

Measurement strategy

Valuable features of a job can be measured in terms of forgone earnings.

- ► Fringe benefits (Eriksson and Kristensen 2014)
- ► Work flexibility (Mas and Pallais 2017; Chen et al. 2020)
- ► Stability (Wiswall and Zafar 2018)
- ► Less commute time (Le Barbanchon et al. 2021)
- ► Identity alignment (Oh 2023)
- ► Time to payment

Elicitation of preferences

If you could choose, which of these two options would work best for you?

I prefer **R$ 1.00 per km**, always deposited **on the day of the ride**.

I prefer **R$ 1.48 per km**, always deposited **30 days after the ride**.

Elicitation of preferences

If you could choose, which of these two options would work best for you?

I prefer **R$ 1.00 per km**, always deposited **on the day of the ride**.

I prefer **R$ 1.48 per km**, always deposited **30 days after the ride**.

Defining the (compensated) willingness to pay

If I select the first contract, I am willing to forgo at least 0.48 out of every 1.48 of my potential earnings (1/3) to have the benefit of being paid on the same day that I work.

1st question	choice	2nd question	choice	3rd question	choice	willingness to pay
{ b × 1.24 } in 30 days or { b } the same day	same day	{ b × 1.96 } in 30 days or { b } the same day	same day	{ b × 2.92 } in 30 days or { b } the same day	same day	above 66%
					in 30 days	48% to 66%
			in 30 days	{ b × 1.48 } in 30 days or { b } the same day	same day	32% to 48%
					in 30 days	19% to 32%
	in 30 days	{ b × 1.06 } in 30 days or { b } the same day	same day	{ b × 1.12 } in 30 days or { b } the same day	same day	11% to 19%
					in 30 days	6% to 11%
			in 30 days	{ b × 1.03 } in 30 days or { b } the same day	same day	3% to 6%
					in 30 days	under 3%

8

Distribution of drivers over the indifference ranges

Intervals of willingness to pay for same day remuneration (in %)

▶ Large dispersion of preferences.

▶ The **median driver** would forgo 1/3 of their earnings to be paid the same day.
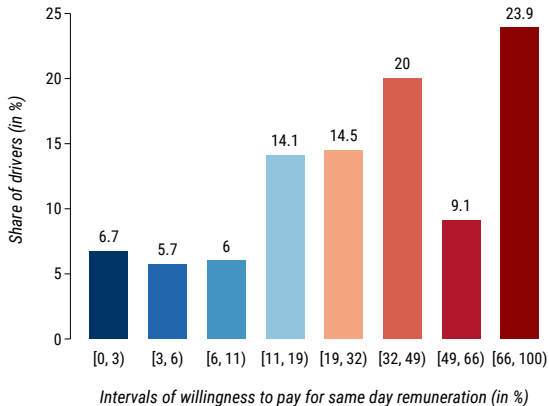
Payment preference
by total income per capita

Preferences by demographics

► **The poorest drivers are more likely to prioritize faster pay over larger pay**.

► The average preference for same-day payment decreases monotonically with household income per capita.

WTP intervals, in %
- [66, 100)
- [49, 66)
- [32, 49)
- [19, 32)
- [11, 19)
- [6, 11)
- [3, 6)
- [0, 3)
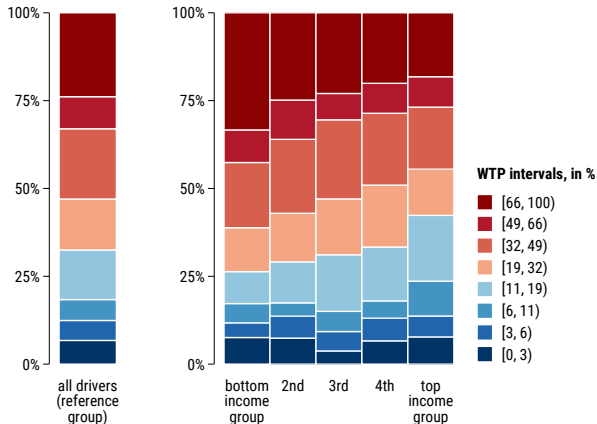
B. How is the preference for quick payment affected by how people think about their domestic budget?

Treatment assignment
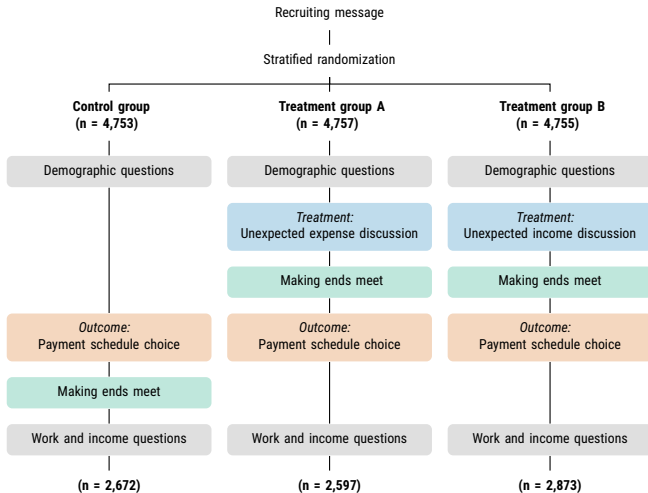
Recruiting message

Stratified randomization

Control group (n = 4,753)	**Treatment group A** (n = 4,757)	**Treatment group B** (n = 4,755)
Demographic questions	Demographic questions	Demographic questions
	Treatment: Unexpected expense discussion	*Treatment:* Unexpected income discussion
	Making ends meet	Making ends meet
Outcome: Payment schedule choice	*Outcome:* Payment schedule choice	*Outcome:* Payment schedule choice
Making ends meet		
Work and income questions	Work and income questions	Work and income questions
(n = 2,672)	**(n = 2,597)**	**(n = 2,873)**

Treatment A:
Discuss potential liquidity sources

Imagine you received news of a **domestic emergency** (an urgent home repair, or a health treatment that cannot wait).

Because of this **you will have to disburse** R$ 1 400 more than expected this week.

What is the first word that comes to your mind?

_____

In practice, how would you cover this unexpected expense of R$ 1 400 right now?

_____

Treatment A:
Discuss potential liquidity sources

Imagine you received news of a **domestic emergency** (an urgent home repair, or a health treatment that cannot wait).

Because of this **you will have to disburse** R$ 1 400 more than expected this week.

What is the first word that comes to your mind?

_____

In practice, how would you cover this unexpected expense of R$ 1 400 right now?

_____

Treatment B:
Discuss the use of extra income

Imagine you received news of a **surprise payment** (the result of a lottery or an unexpected refund, for example).

Because of this **you will receive an extra deposit** of R$ 1 400 this week.

What is the first word that comes to your mind?

_____

In practice, what would you do with this unexpected income of R$ 1 400 right now?

_____

Top 200 terms from drivers' answers to:

how would you cover this unexpected expense?

Original terms in Portuguese

Top 200 terms from drivers' answers to:

what would you do with this unexpected income?

Original terms in Portuguese

Keywords associated with a strong preference for quick pay

how would you cover this unexpected expense?

Original terms in Portuguese

signed chi-squared
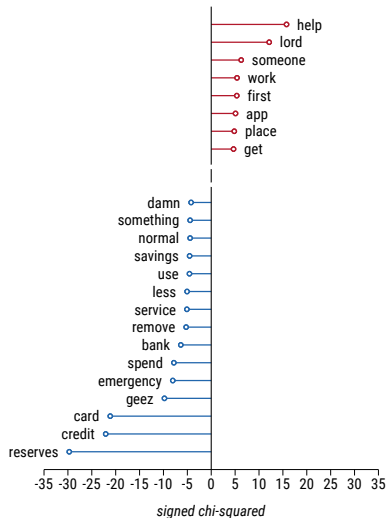
Keywords associated with a strong preference for quick pay

what would you do with this unexpected income?
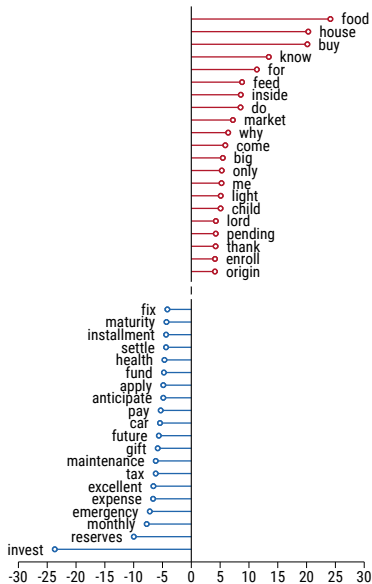
(Original terms in Portuguese)

Average treatment effects on the preference for same-day remuneration

Doubly robust methods

Effects by reference level

▶ Drivers exposed to any treatment had a **marginally lower** willingness to pay for same-day remuneration.

▶ Pushing people to think about their budget **increases the value they assign to being paid more over being paid fast**.

	outcome: WTP midpoint		*outcome: WTP interval*
	Difference in Means	**OLS**	**Interval Regression**
	(1)	(2)	(3)
Treatment A:			
Unexpected expense discussion	-1.3	-1.7	-1.6
	(0.7)	(0.7)	(0.7)
Treatment B:			
Unexpected income discussion	-0.7	-1.6	-1.5
	(0.8)	(0.7)	(0.6)
Reference level:			
Control group mean	39.9	39.9	37.4
	(0.7)	(0.7)	(0.6)
Number of observations	8,142	8,142	8,142

Notes: The standard errors (reported in parenthesis under the point estimate) are clustered at the regional level. For the interval regression, the estimation results are bootstrapped over 500 replications. The controls in (2) and (3) include geographical area, gender, race, age, education, household composition, work experience, previous labor market status, number of apps, vehicle ownership, work days per week, work hours per day, extra jobs, looking for another job, work income from driving, total household income, savings, and pension contribution.

Average treatment effects on the time spent on contract choice

	outcome: Seconds on Q1	outcome: Seconds on Q2	outcome: Seconds on Q3	outcome: Total seconds
	OLS	OLS	OLS	OLS
	(1)	(2)	(3)	(4)
Treatment A:				
Unexpected expense discussion	2.5	1.1	1.1	5.0
	(0.9)	(0.4)	(0.3)	(1.5)
Treatment B:				
Unexpected income discussion	0.9	0.8	1.3	3.0
	(1.1)	(0.5)	(0.3)	(1.8)
Reference level:				
Control group mean	49.9	22.5	15.8	90.1
	(1.0)	(0.4)	(0.2)	(1.5)
Number of observations	8,142	8,142	8,142	8,142

▶ Treated drivers spent a **few more seconds** choosing their contract.

Notes: Response times are winsorized at 1 percent. The standard errors (reported in parenthesis under the point estimate) are clustered at the regional level. Controls include geographical area, gender, race, age, education, household composition, work experience, previous labor market status, number of apps, vehicle ownership, work days per week, work hours per day, extra jobs, looking for another job, work income from driving, total household income, savings, and pension contribution.

Results and implications

1. Fast payment can be an attractive feature of a job

► Everything else constant, people prefer jobs that pay right away.

► Digital companies are best positioned to exploit this margin.

Results and implications

1. Fast payment can be an attractive feature of a job

► Everything else constant, people prefer jobs that pay right away.

► Digital companies are best positioned to exploit this margin.

2. Benefits are larger for workers under stronger financial constraints

► Time component: revenue from work pays for present consumption (and work expenses).

► Insurance mechanism: option to offset future shocks quickly by working more hours.

Results and implications

1. Fast payment can be an attractive feature of a job

► Everything else constant, people prefer jobs that pay right away.

► Digital companies are best positioned to exploit this margin.

2. Benefits are larger for workers under stronger financial constraints

► Time component: revenue from work pays for present consumption (and work expenses).

► Insurance mechanism: option to offset future shocks quickly by working more hours.

3. Complex welfare implications for workers in the long run

► Benefit of addressing immediate needs vs. risk of persistent poverty.

Appendix

Limitations to the interpretation of the results

Hypothetical choices.

► Reported choices are meaningful, but contract choices were not binding.

Results are not representative of the whole working population.

► Drivers probably have higher payment urgency.

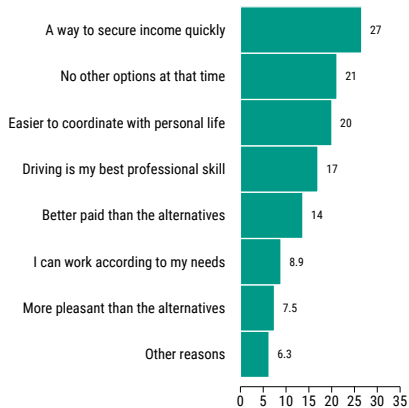**Ridesharing drivers reflect the diversity of the Brazilian workforce…**

► **Mixed-race or black** (62.8% among drivers *vs.* 54.4% among the adult urban workforce)
► **18 to 37 years old** (52.4% *vs.* 49.7%)
► **High school or less** (63.1% *vs.* 66.2%)
► **Adults in the houshold** (2.4 *vs.* 2.5)
► **Kids in the houshold** (1.0 *vs.* 0.8)

… except that drivers are predominantly male.

► **Men** (93.2% *vs.* 54.8%)

Main reasons for working with ridesharing

(a) Main job drivers

Reason	Value
A way to secure income quickly	27
No other options at that time	21
Easier to coordinate with personal life	20
Driving is my best professional skill	17
Better paid than the alternatives	14
I can work according to my needs	8.9
More pleasant than the alternatives	7.5
Other reasons	6.3

(b) Secondary job drivers

| Reason	Value
A way to secure income quickly	33
I can work according to my needs	20
Easier to coordinate with personal life	18
No other options at that time	11
Driving is my best professional skill	10
Other reasons	9.6
Better paid than the alternatives	5.2
More pleasant than the alternatives	3.9

24

Monthly income from ridesharing

Net monthly earnings: US$ 900 PPP

If main job: US$ 1,000 (for 240 h/month)

If secondary job: US$ 640 (for 132 h/month)

Note: US$ 1.00 = R$ 2.50 adjusting for PPP.

*Monthly income from ridesharing (in US$ PPP)*
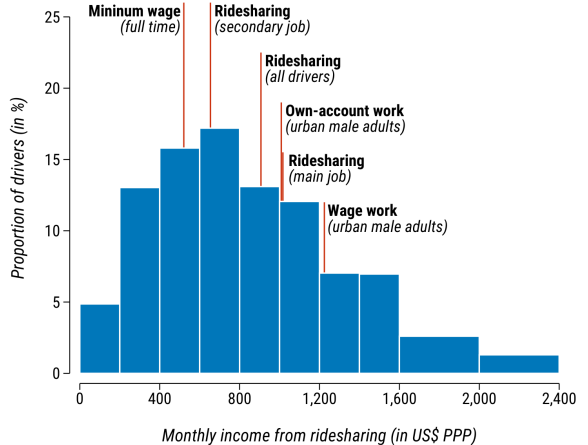
Attrition by treatment group

Treatment assignment

People are **more likely** to drop out after question on unexp. expenses, but this arm remains balanced on observables.

People are **less likely** to drop out after question on unexp. income; this arm is unbalanced on income (lower), other jobs (excess of only drivers), previous status (excess previously unemployed).

Sequence of questions
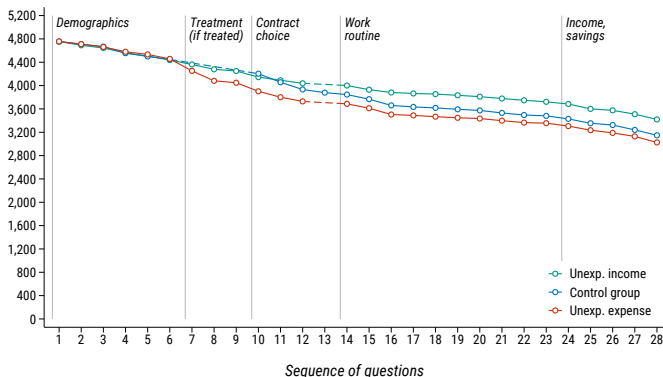
Payment preferences by demographics

Preferences by income
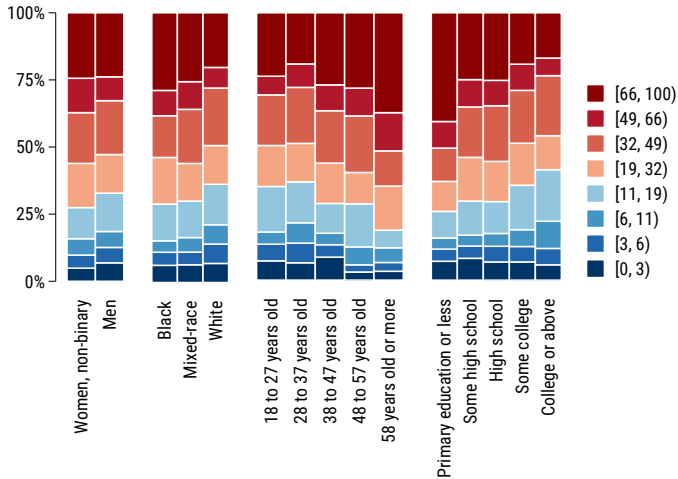
Top 200 terms from drivers' answers to:

how would you cover this unexpected expense?

Terms in English

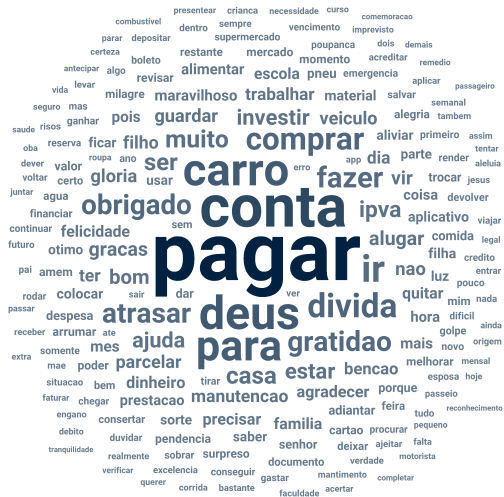**Top 200 terms from drivers' answers to:**
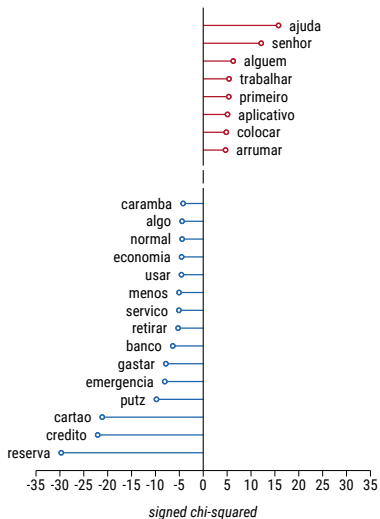
what would you do with this unexpected income?

(Terms in English)

Keywords associated with a strong preference for quick pay

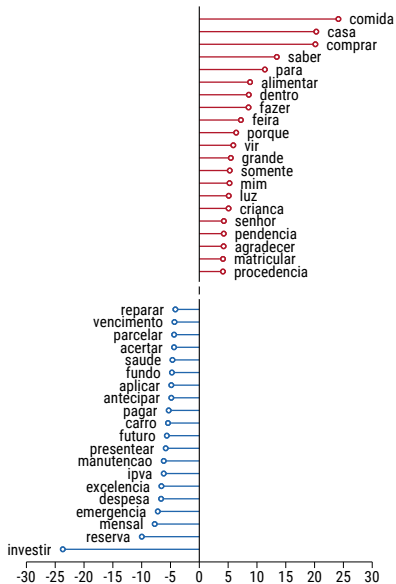*how would you cover this unexpected expense?*

Terms in English

signed chi-squared

Keywords associated with a strong preference for quick pay

what would you do with this unexpected income?

Terms in English

Doubly robust estimation of the average treatment effects on the preference for same-day remuneration

Baseline results

▶ Doubly robust strategies combine an estimation for the outcome (*y*) with the propensity to be in a given treatment group (*p*).

▶ Results close to baseline.

	outcome: WTP midpoint		*outcome: WTP interval*
	Difference in Means	**Doubly Robust: Covariate Adj. via Regression and IPW**	**Doubly Robust: Covariate Adj. via Interval Reg. and IPW**
	(1)	(2)	(3)
Treatment A:			
Unexpected expense discussion	-1.3	-1.5	-1.5
	(0.7)	(0.7)	(0.7)
Treatment B:			
Unexpected income discussion	-0.7	-1.5	-1.4
	(0.7)	(0.7)	(0.6)
Reference level:			
Control group mean	39.9	40.2	38.9
	(0.7)	(0.6)	(0.6)
Number of observations	8,142	8,142	8,142

Notes: The standard errors (in parenthesis) are clustered at the regional level. In (2) and (3), the standard errors also account for the estimation of the inverse probability weights (IPWs): in (2), the errors are calculated analytically; in (3), the two steps are bootstrapped over 500 replications. The covariates used in (2) and (3), both in the regression and the propensity estimation, are the same controls adopted at the baseline.

Treatment effects over different levels of preferences

	Linear Probability Model						
	Outcome: WTP > 3%	Outcome: WTP > 6%	Outcome: WTP > 11%	Outcome: WTP > 19%	Outcome: WTP > 32%	Outcome: WTP > 49%	Outcome: WTP > 66%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treatment A:							
Unexpected expense discussion	-1.9	-1.4	-0.8	-0.8	-2.2	-2.8	-2.5
	(0.7)	(0.8)	(1.0)	(1.6)	(1.3)	(1.0)	(0.9)
Treatment B:							
Unexpected income discussion	0.4	0.3	-0.1	-1.5	-2.6	-3.0	-2.2
	(0.6)	(0.9)	(1.2)	(1.4)	(1.4)	(1.0)	(1.0)
Reference level:							
Control group mean	93.3	87.6	81.6	67.5	53.0	33.0	23.9
	(0.5)	(0.7)	(0.9)	(1.1)	(1.1)	(1.0)	(1.0)

Notes: The standard errors (reported in parenthesis under the point estimate) are clustered at the regional level. The controls include geographical area, gender, race, age, education, household composition, work experience, previous labor market status, number of apps, vehicle ownership, work days per week, work hours per day, extra jobs, looking for another job, work income from driving, total household income, savings, and pension contribution.

Doubly robust estimation of the average treatment effects on the time spent on contract choice

(Baseline results)

	outcome: *Seconds on Q1*	outcome: *Seconds on Q2*	outcome: *Seconds on Q3*	outcome: *Total seconds*
	Covariate Adj. via Regression and IPW	**Covariate Adj. via Regression and IPW**	**Covariate Adj. via Regression and IPW**	**Covariate Adj. via Regression and IPW**
	(1)	(2)	(3)	(4)
Treatment A:				
Unexpected expense discussion	2.3	1.1	1.2	4.8
	(0.8)	(0.4)	(0.3)	(1.5)
Treatment B:				
Unexpected income discussion	0.9	0.8	1.3	3.0
	(1.0)	(0.5)	(0.3)	(1.8)
Reference level:				
Control group mean	50.1	22.5	15.9	90.5
	(1.0)	(0.4)	(0.2)	(1.4)
Number of observations	8,142	8,142	8,142	8,142

Notes: Response times are winsorized at 1 percent. The standard errors (in parenthesis) are clustered at the regional level and account for the joint estimation of the inverse probability weights (IPWs). The additional controls in the regression and the propensity estimation are the same covariates adopted in the baseline estimation.