

# Workers' Preferences over Payment Schedules



**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 individual heterogeneity in this respect?

## Research questions

- ▶ How much do workers care about the **timing** of their payment?
- ▶ What explains individual heterogeneity in this respect?

## Research design

- ▶ Large-scale **survey experiment** with ridesharing drivers from a digital platform in Brazil.
- ▶ Outcome: choice between hypothetical contracts that **differ only in time to payment**.

## Research questions

- ▶ How much do workers care about the **timing** of their payment?
- ▶ What explains individual heterogeneity in this respect?

## Research design

- ▶ Large-scale **survey experiment** with ridesharing drivers from a digital platform in Brazil.
- ▶ Outcome: choice between hypothetical contracts that **differ only in time to payment**.

## Main results

- ▶ Median driver willing to **forego 1/3 of earnings** in exchange for same-day payment (vs. 30-days delay).
- ▶ Evidence that remuneration urgency is linked to a lack of alternative liquidity sources.

## **Background**

**A. Payment timing is an attribute of any paid activity.**

## **Background**

- A. Payment timing is an attribute of any paid activity.**
- B. Work mediated by digital platforms is increasingly popular.**

## **Background**

- A. Payment timing is an attribute of any paid activity.**
- B. Work mediated by digital platforms is increasingly popular.**

**Research hypothesis:** relatively fast payment in the digital economy may contribute to its appeal.

## Background

- A. Payment timing is an attribute of any paid activity.**
- B. Work mediated by digital platforms is increasingly popular.**

**Research hypothesis:** relatively fast payment in the digital economy may contribute to its appeal.

**Implication:** if true, workers in this sector would express a **high valuation** for this job feature.

## **Outcome measurement strategy**

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

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

## **Empirical challenge**

**Payment schedule is rarely subject to independent variation in real labour markets.**

- ▶ Remuneration rules are job-specific, tied to regulations and social norms.

## **Empirical challenge**

**Payment schedule is rarely subject to independent variation in real labour markets.**

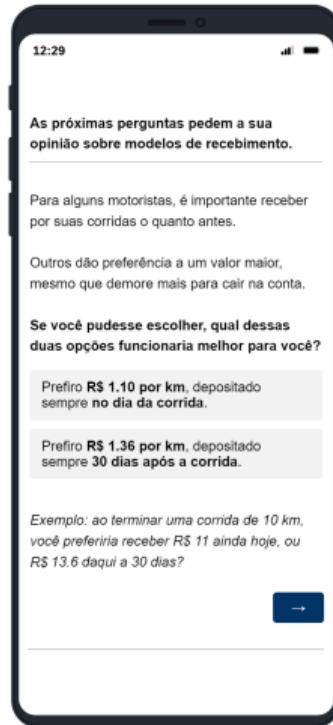
- ▶ Remuneration rules are job-specific, tied to regulations and social norms.

**Platform work offers an appropriate context for our research question.**

- ▶ Well-defined, homogeneous task;
- ▶ Salient link between work and earnings;
- ▶ Time to payment defined at the platform's discretion.

## Research implementation

- ▶ Partnership with a ridesharing platform active in all States of Brazil.
- ▶ Survey distributed to the drivers' mobile phones (Jan. 2023).
- ▶ **Sample size:** over 14 000 drivers. [sample description](#)



**How much do drivers value a quick 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.

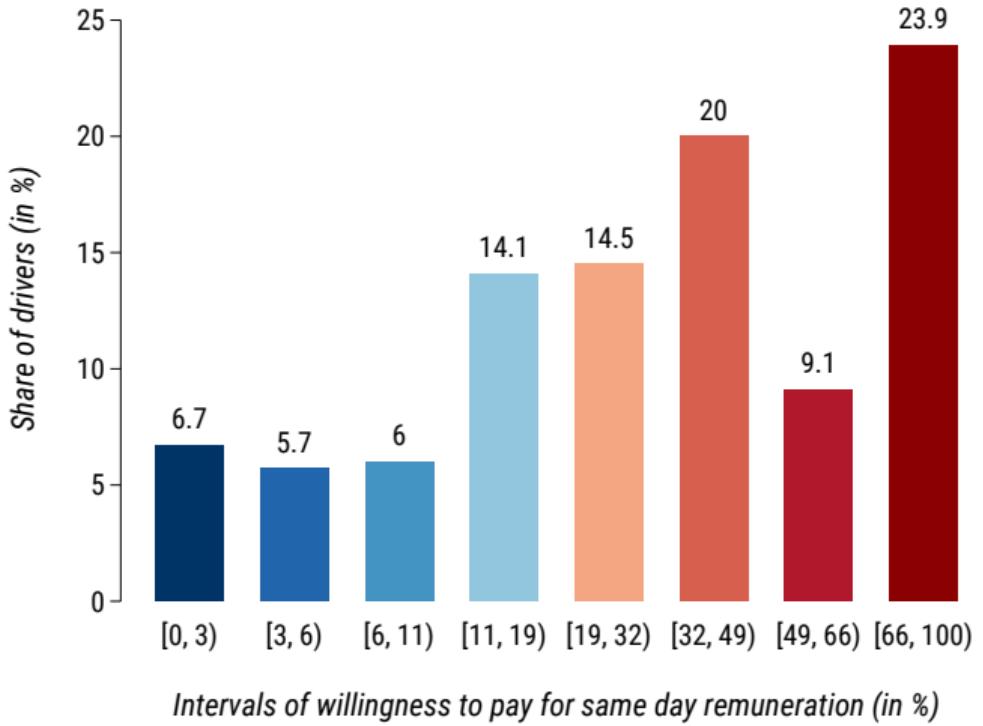
---

## Willingness to forgo income as a measure of remuneration urgency

If one takes the first option, they are willing to forgo (at least) 0.48 out of every 1.48 of potential earnings (1/3) in exchange for the benefit of being paid on the day they work.

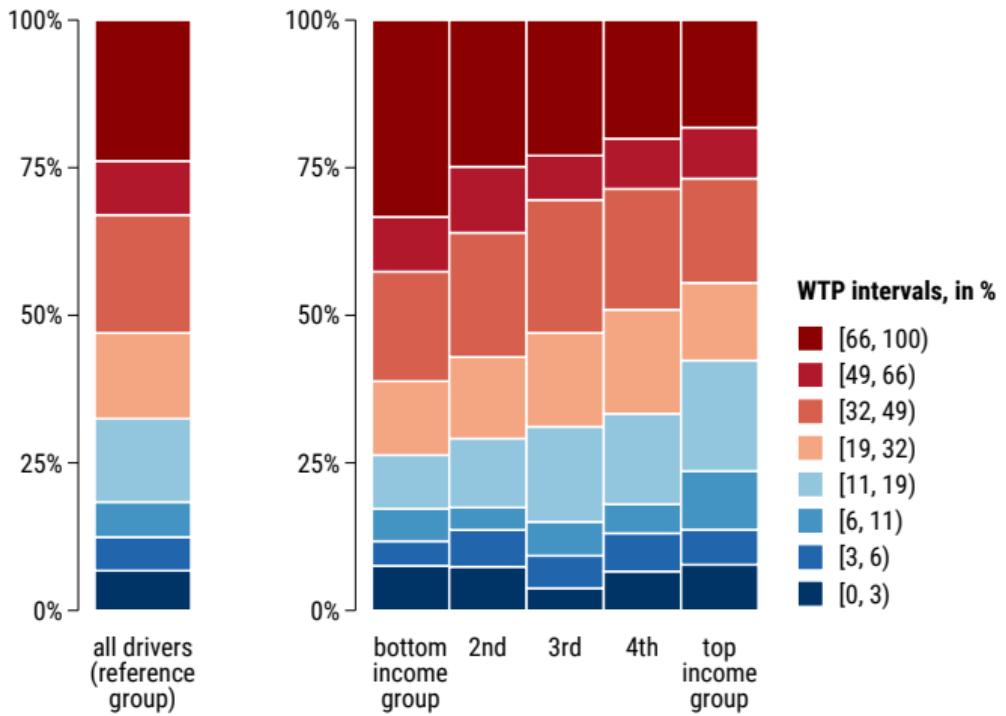
1st question	choice	2nd question	choice	3rd question	choice	willingness to pay
{ b × 1.24 } in 30 days or { b } the same day	same day	{ b × 1.96 } in 30 days or { b } the same day	same day	{ b × 2.92 } in 30 days or { b } the same day	same day	above 66%
			in 30 days		in 30 days	48% to 66%
in 30 days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

## Distribution of drivers over the indifference ranges



## Remuneration urgency by total income per capita

by demographics



**How is the preference for quick payment affected  
by how people think about their domestic budget?**

## **Remuneration urgency could be affected by**

- ▶ **Structural features:** pure time preferences, structural access to liquidity;
- ▶ **Contingent features:** current balance of needs and resources, immediate financial concerns.

## **Remuneration urgency could be affected by**

- ▶ **Structural features:** pure time preferences, structural access to liquidity;
- ▶ **Contingent features:** current balance of needs and resources, immediate financial concerns.

## **If my current household budget gets more salient...**

- ▶ ... does it change my remuneration urgency?

treatment tree

## **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 \$ 560 more than expected this week.**

What is the first word that comes to mind?

---

**In practice, how would you cover this unexpected expense of \$ 560 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 \$ 560 more than expected this week.**

What is the first word that comes to mind?

---

**In practice, how would you cover this unexpected expense of \$ 560 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 \$ 560 this week.**

What is the first word that comes to mind?

---

**In practice, what would you do with this unexpected income of \$ 560 right now?**

---

## Top 200 terms

## **How would you cover this unexpected expense?**

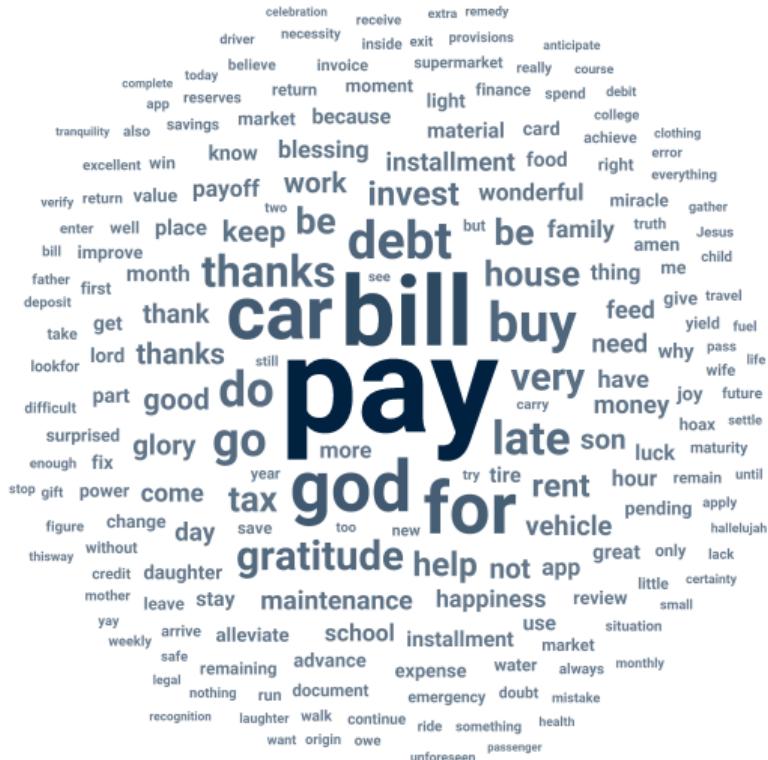
probably month urgency impossible final check  
depend provide expense relative something  
priority plan lookfor situation condition  
afternoon less problem someone spend until  
utilize father possible car because goal street  
unique give installment ride turn despair  
special calm help double credit value resolve fund want  
place limit load family hour not money need service  
right first only be lift remove bank enough  
faith see be way  
fast worry help  
idea yield leave catch  
bad win fuck  
damn complicated use  
wheel pass  
unforeseen now  
form late app  
next debt little  
option savings  
maximum increase  
beyond search driver  
tranquility everything  
unfortunately finance health difficult box loanshark normal interest  
deadline time  
improve place drive necessity think during  
quantity travel disburse lack

house take  
well nothing good  
friend night laughter personal  
double credit value resolve fund want  
hour not money need service  
remove bank enough  
for know resort thisway  
transport time cash  
me request sell still  
why run BRL keep job  
pay without daily  
get stay geez  
case gather part  
weekly thing okay  
gig savings solution  
owe day crap  
take Jesus maintain  
none extra moment loss  
screamed bitch replace  
messup yes mercy divide count  
always happen

word resource  
achieve bill  
go achieve more app  
try god reserves take Jesus maintain  
increase cover none extra moment loss  
search driver emergency screwed bitch replace  
everything power messup yes mercy divide count  
unfortunately finance health difficult box loanshark normal interest  
deadline time  
improve place drive necessity think during  
quantity travel disburse lack

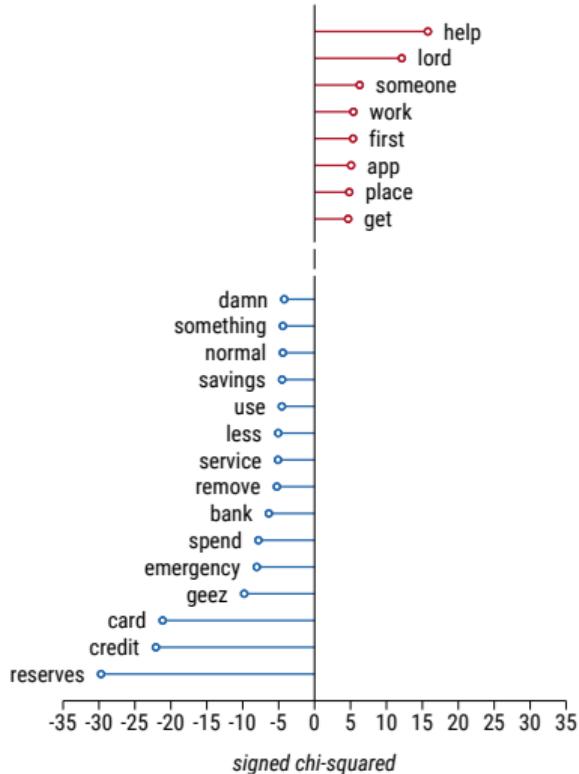
## Top 200 terms

## **What would you do with this unexpected income?**



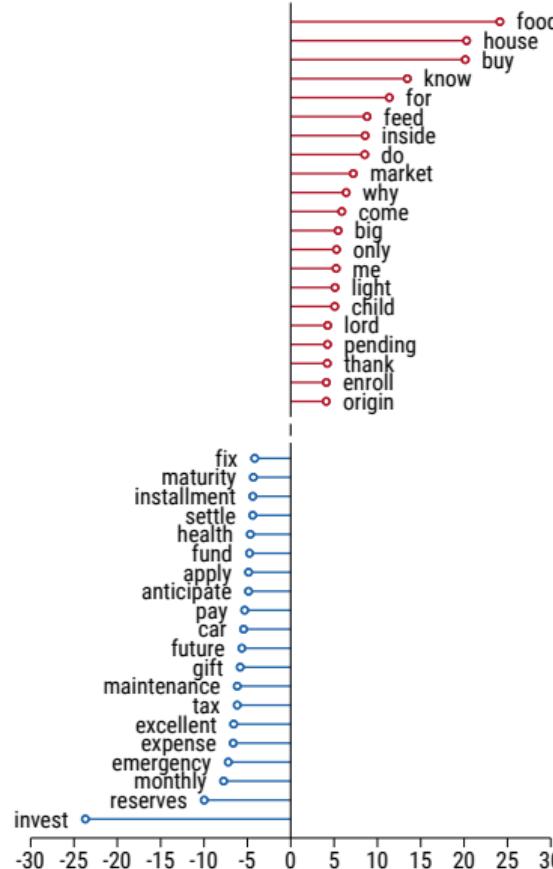
## Keywords associated with remuneration urgency

*How would you cover this unexpected expense?*



## Keywords associated with remuneration urgency

***What would you do with this unexpected income?***



## Effects of discussing domestic finances on remuneration urgency

- ▶ Drivers randomly invited to discuss their finances exhibited only a slightly lower remuneration urgency.
- ▶ Similar effect in both treatments.
- ▶ **Contingent salience is not the main reason for the strong urgency we document in this population.**

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

Notes: The standard errors (reported in parentheses 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.

## Treatment effects on decision time

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

*Notes:* Response times are winsorized at a one percent level. The standard errors (reported in parentheses 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.

## **Limitations intrinsic to the research design**

### **1. Hypothetical choices.**

## **Limitations intrinsic to the research design**

- 1. Hypothetical choices.**
- 2. Magnitude is probably specific to the study population.**

## Discussion

**Assuming complete markets, there would be no scope for intertemporal arbitrage in the labour market.**

- ▶ By contradiction, we find that work arrangements can have attributes of financial instruments.
- ▶ In other words, workers are willing to pay for **liquid jobs**.

## Discussion

**Assuming complete markets, there would be no scope for intertemporal arbitrage in the labour market.**

- ▶ By contradiction, we find that work arrangements can have attributes of financial instruments.
- ▶ In other words, workers are willing to pay for **liquid jobs**.

**Potential poverty trap mechanism.**

- ▶ The poorest workers are the most likely to pay for a liquidity premium.

## Discussion

**Assuming complete markets, there would be no scope for intertemporal arbitrage in the labour market.**

- ▶ By contradiction, we find that work arrangements can have attributes of financial instruments.
- ▶ In other words, workers are willing to pay for **liquid jobs**.

**Potential poverty trap mechanism.**

- ▶ The poorest workers are the most likely to pay for a liquidity premium.

**Not an exotic case study in a weird sector in a distant country.**

- ▶ Demand for liquid jobs is a symptom of financial vulnerability, market failures – scope for policy?
- ▶ Financial technology targeting this margin is quickly expanding in the US...

## Lyft

### Access your earnings instantly

- ✓ Enjoy instant payouts to your Lyft Direct business debit card after every ride. No waiting, no payout fees.

## Uber

### When and how you get paid

Get your money fast

Your earnings are deposited into your account every week. And with Flex Pay, you can cash out your earnings once a day.

## One@Work (Walmart et al.)



### Get paid early

Get your money when you need it with Instapay.\*

## Payactiv (Pizza Hut, Subway et al.)

### Own your day

Get what you've already earned<sup>1</sup>, right now, to pay bills or buy what you need. It's just your money, in your hands.

## DailyPay (Lidl, Hilton et al.)

### Access your pay any day

Life happens between paychecks. Get your money whenever you want\* and manage spending with the **DailyPay Visa® Prepaid Card** or transfer your earnings to any bank account or card.

## Wendy's

### We're Hiring!



Get paid after every shift with Instant Pay!

# **Appendix**

## Ridesharing drivers reflect the diversity of the Brazilian workforce...

- ▶ **Mixed-race or black** (63% *among drivers* vs. 54% *among the adult urban workforce*)
- ▶ **18 to 37 years old** (52% vs. 50%)
- ▶ **High school or less** (63% vs. 66%)
- ▶ **Adults in the household** (2.4 vs. 2.5)
- ▶ **Kids in the household** (1.0 vs. 0.8)

... except that drivers are predominantly male.

- ▶ **Men** (93% vs. 55%)

[back to research implementation](#)

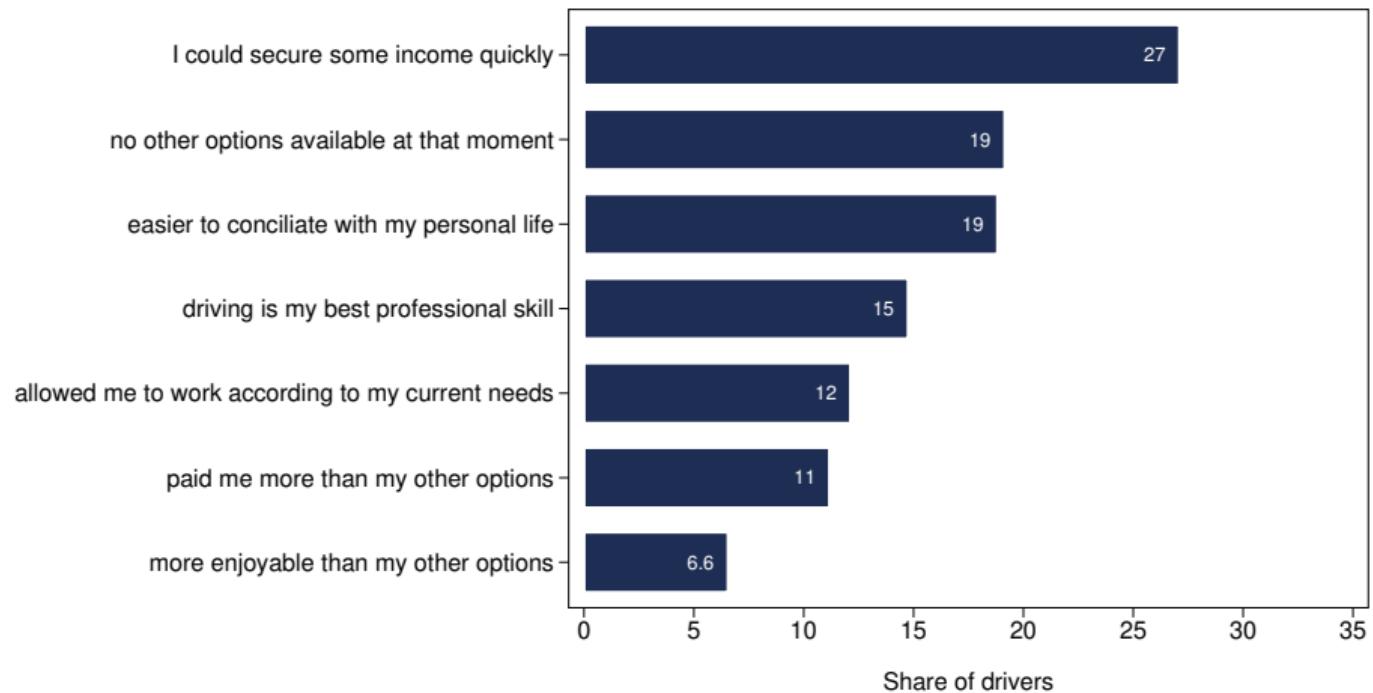
## Earnings

- ▶ About 3/4 of drivers report that the app is their primary source of work earnings;
- ▶ For reference, the national minimum wage was 560 USD per month (1 USD ≈ 2.5 BRL adj. for PPP).

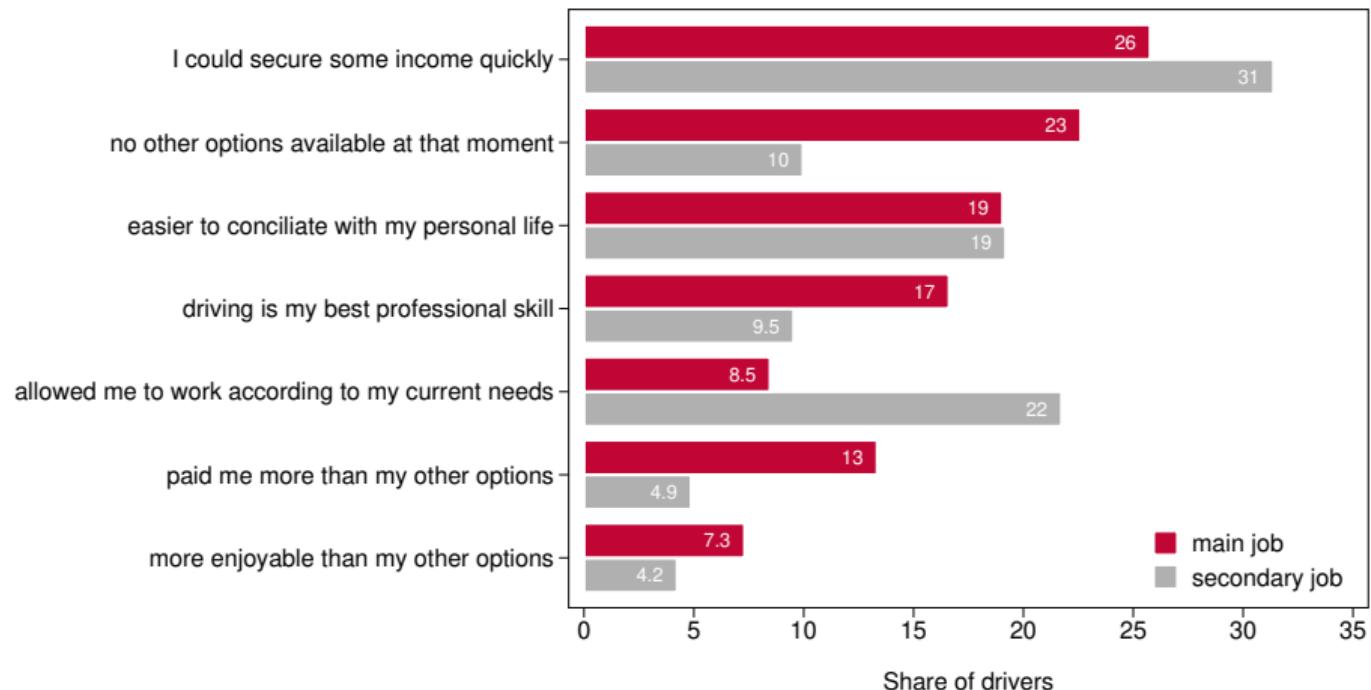
	driver as primary job	driver as secondary job	own-account workers (adult, urban)	wage employees (adult, urban)
Work earnings (USD/month)	1 000	640	920	1 100
Working hours (week)	60	33	38	40
Household income p.c. (USD/month)	530	600	790	860
Enrolled in a pension plan	31%	76%	33%	80%

[back to research implementation](#)

## Taking into account the other activities I could do, I decided to be a driver because...

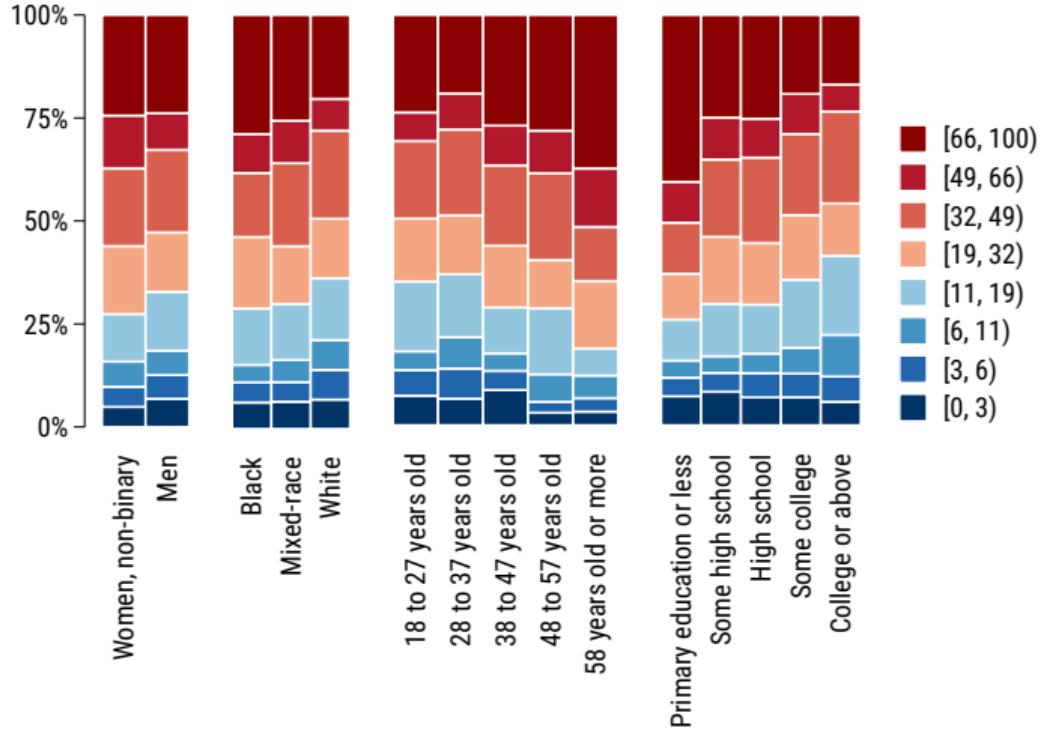


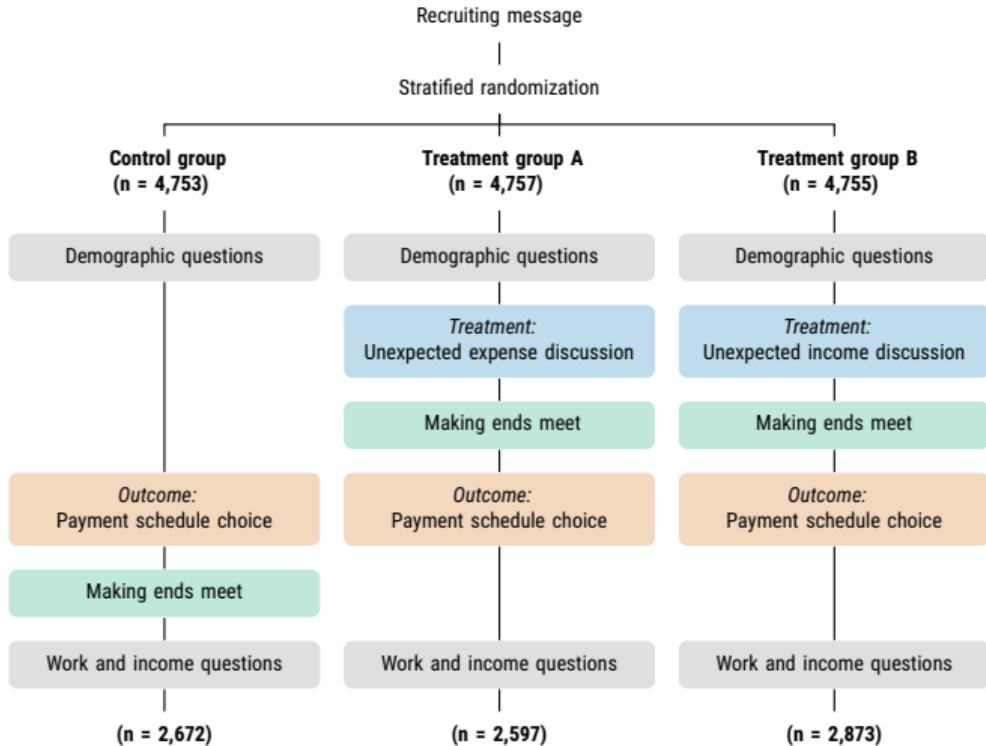
## Taking into account the other activities I could do, I decided to be a driver because...



## Remuneration urgency by demographics

by income



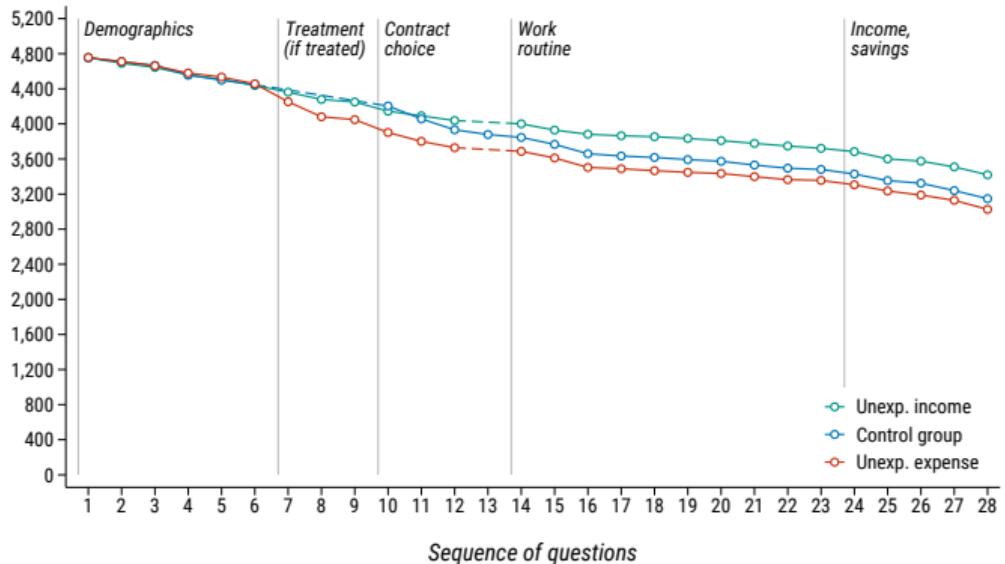


## **Robustness analysis for selective attrition**

## Differential attrition by treatment group

Participants were **more likely** to drop out after a question on **unexpected expenses**; yet, this arm remains balanced on observables.

Participants were **less likely** to drop out after a question on **unexpected income**, especially those at lower income levels.



## Doubly robust estimation of treatment effects on remuneration urgency

- ▶ Doubly robust methods use an outcome model ( $y$ ) with a treatment propensity ( $p$ ).
- ▶ Results close to baseline.

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

*Notes:* The standard errors (in parentheses) are clustered at the regional level. In (2) and (3), the standard errors also account for the estimation of inverse probability weights (IPW): in (2), the errors are calculated analytically and 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.