

Financial Technologies, Labor Markets, and Wage Inequality: Evidence from Instant Payment Systems

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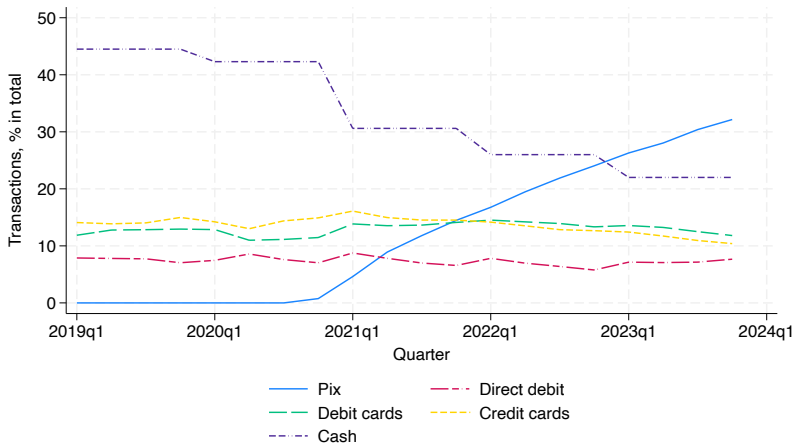
What is this paper about?

- **Question:** How do instant payment systems affect labor markets?
- Data from Pix in Brazil
- Compare small and large merchants to gauge effects on wage inequality
- **Answer:** Pix reduces wage inequality

Mechanism

- Identification from 3G internet coverage and merchants' cash intensity
- Small merchants depend on cash $\Rightarrow$ frictions
- Pix reduces or removes the frictions $\Rightarrow$ small merchants can hire
- Hiring $\Rightarrow$ rise in wages + the financially constrained end up hired $\Rightarrow$ lower inequality

Pix scale



Source: Sarkisyan (2024)

Overall assessment

- Broadly consistent with Pix increasing competition – important to study
- Careful analysis, both theoretical and empirical
- Comments:
 1. Alternative explanation related to stimulus
 2. Non-cash-intensive sectors
 3. Identification

Comment 1: Alternative explanation

- Authors (it seems from the results) use annual labor data
- Many Brazilian municipalities relaxed COVID restrictions by September 2020 and paid stimuli
- Two facts together can lower wage inequality on its own
- Relaxing restrictions is strongly correlated with Pix take-up
- This story is not picked up by any fixed effects

Suggestions

- First best: try to get access to monthly labor data
- If not feasible, try to refute the COVID explanation
 - Placebo tests with post-COVID times and pre-Pix times
 - Explore heterogeneity in Pix and find a good instrument
 - Liang et al (2025): use MEI concentration and Pix Saque to instrument for Pix

Comment 2: non-cash-intensive sectors

- Null results for non-cash-intensive sectors
- Brazilian merchants pay 2.2% interchange fee
- Pix helps with that friction + merchants offer discounts

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- Null results for non-cash-intensive sectors
- Brazilian merchants pay 2.2% interchange fee
- Pix helps with that friction + merchants offer discounts
- Pix does not replace credit cards but competes well with their payment function
- Araujo et al (2025): increases in wages for firms with credit cards

Suggestions

- Central bank has data on credit card fees – try to request it
- Analyze fees from public sources
- Relate to Araujo et al
- At the very least, provide a compelling explanation for the null results

Comment 3: identification

- Authors use Pix time dummy even though they have muni-level data
 - Explore heterogeneity
- Results are not robust if small is defined as <50 employees
 - Related to comment 2, needs explanation
- 3G internet is an equilibrium outcome
 - Either use something else (better) or instrument with lightning strikes
 - I would generally recommend instrumenting instead of interacting

Minor comments

- Pretrends are somewhat shaky – do Rambachan and Roth (2023) and Altonji et al (2005)
- Include control variables in the robustness tests
- Discuss how the results depend on the way Pix was enforced
- Move the model to the end or Appendix
 - if kept, endogenize cash vs non cash and justify the monopsony

Conclusion

- A promising paper exploring Pix and labor markets
- More work can help refute alternative hypotheses

Good luck!