

Does Poverty Lower Productivity?

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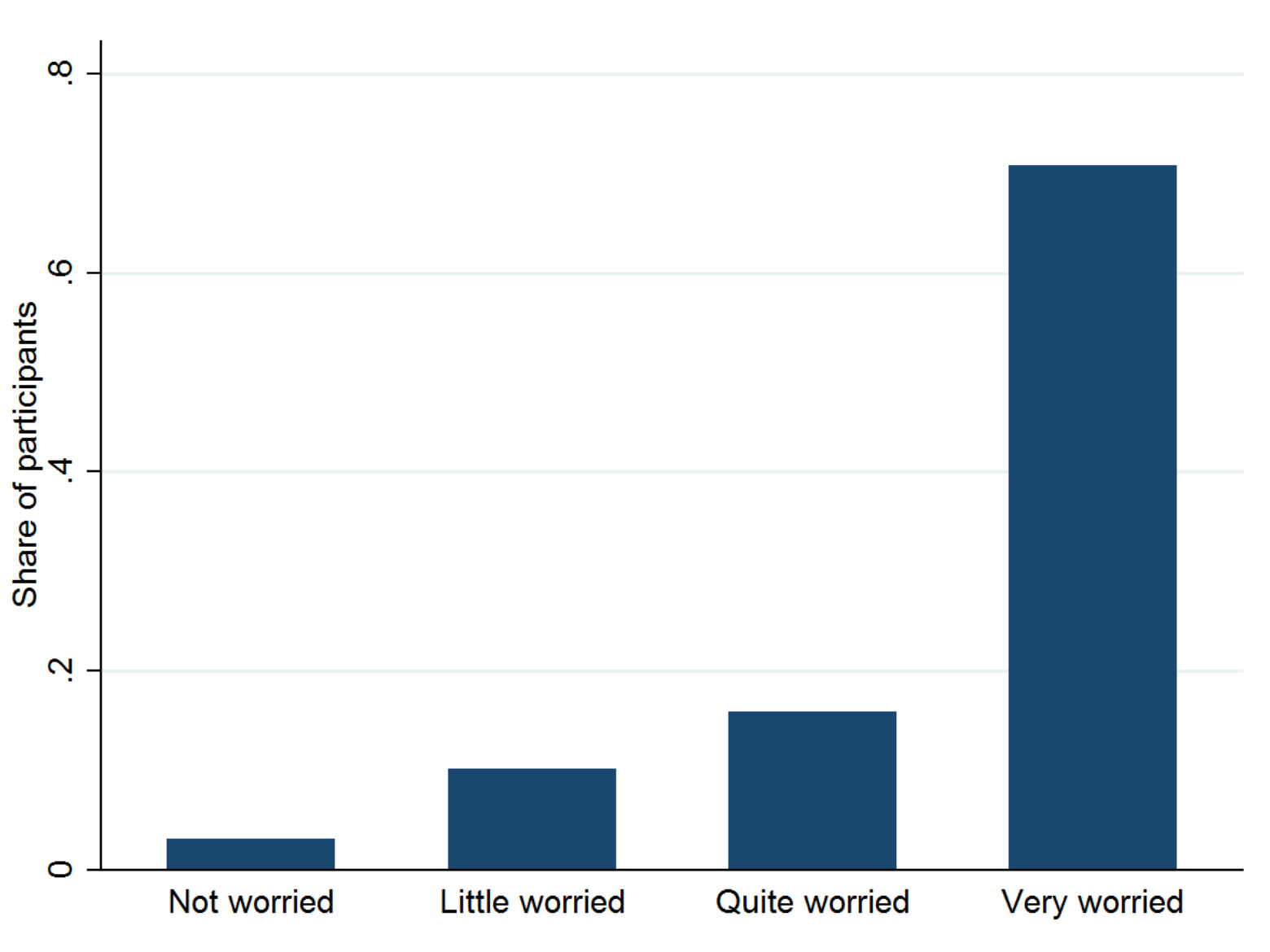
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Poverty and Attentional Load

- Idea: poverty has adverse psychological effects
 - Financial vulnerability imposes mental tax
- Links between poverty and cognition/decision-making
 - Mullainathan Shafir (2013); Haushofer Fehr (2014); Mani et al. (2013); Chemin et al. (2013); Carvalho et al. (2016)
 - Existing evidence: lab measures (e.g. Ravens)
- Test for effects on field behavior: productivity
 - If cognitive effects matter, may expect them to show up here

How worried are you about your finances?



N=352 rural workers, Odisha, India. Data collected by authors.

This Paper

- Field experiment with low income manufacturing workers
- Test for direct relationship between financial constraints and productivity
- Mechanism? Test for attentional (cognitive) constraints as contributing mechanism

Design: Key Ingredients

- Setting: Cognitive load has potential to affect productivity and earnings
- Core test: Do financial constraints affect productivity?
- Mechanism: Role of changes in cognition?

Setting

- Low-skill manufacturing
 - Infrastructure from Breza, Kaur, Shamdasani (2018)
 - Disposable plates: constructed by stitching together sal leaves
 - Partner with local contractors (set training and quality standards), output sold in local wholesale market
- Workers employed full-time over 2 weeks
 - Seasonal contract jobs (common during agricultural lean seasons)
 - Primary source of earnings
- Piece rates for production
 - Flat base wage for attendance + piece rate

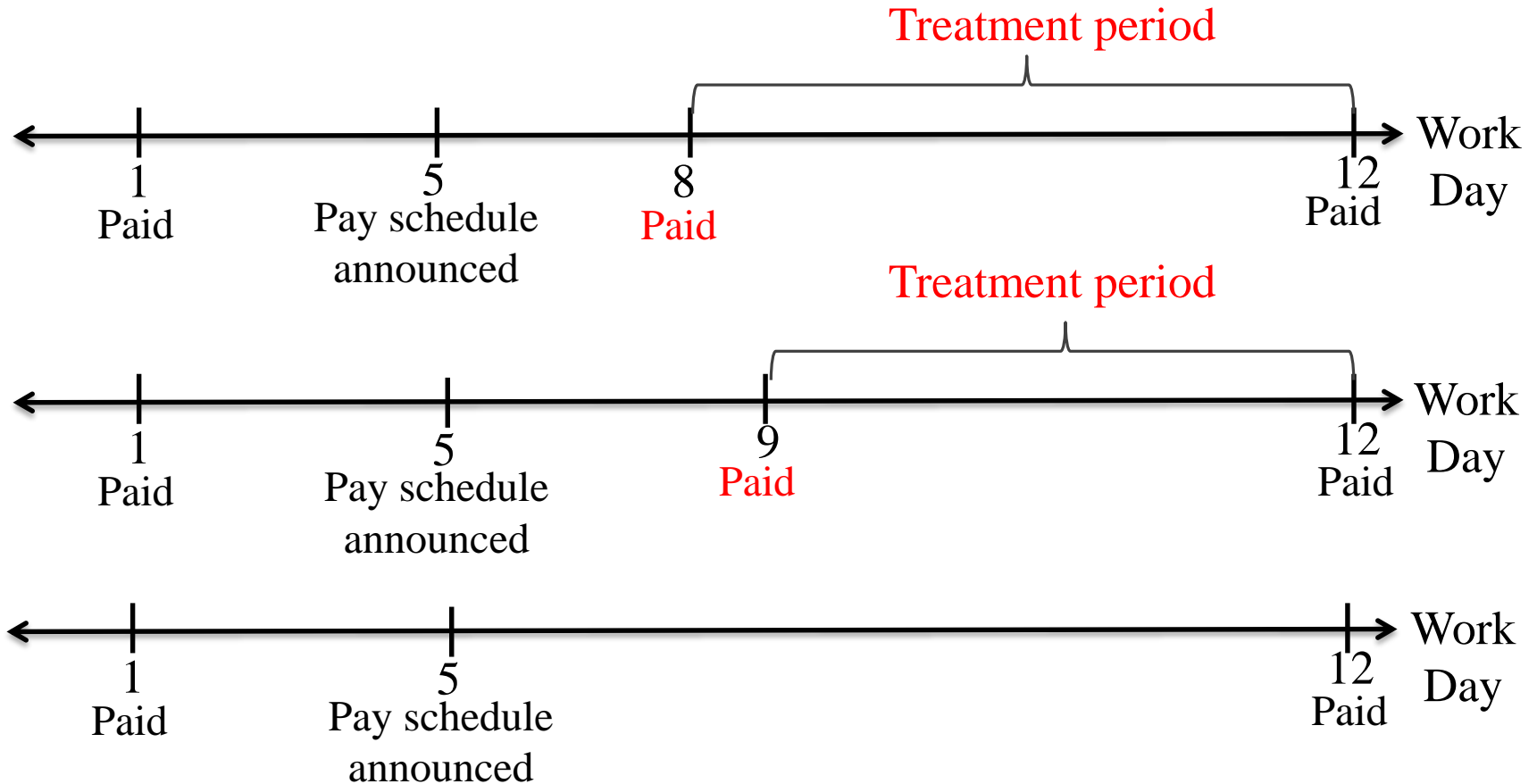
Making Disposable Plates



Design: Key Ingredients

- Setting: Cognitive load has potential to affect productivity and earnings
- Core test: Do financial constraints affect productivity?
 - Exogenously induced reduction in financial constraints (via timing of earnings payout)
 - Varies constraints, holding fixed other components of wealth
- Mechanism: Role of changes in cognition?

Cash Treatment

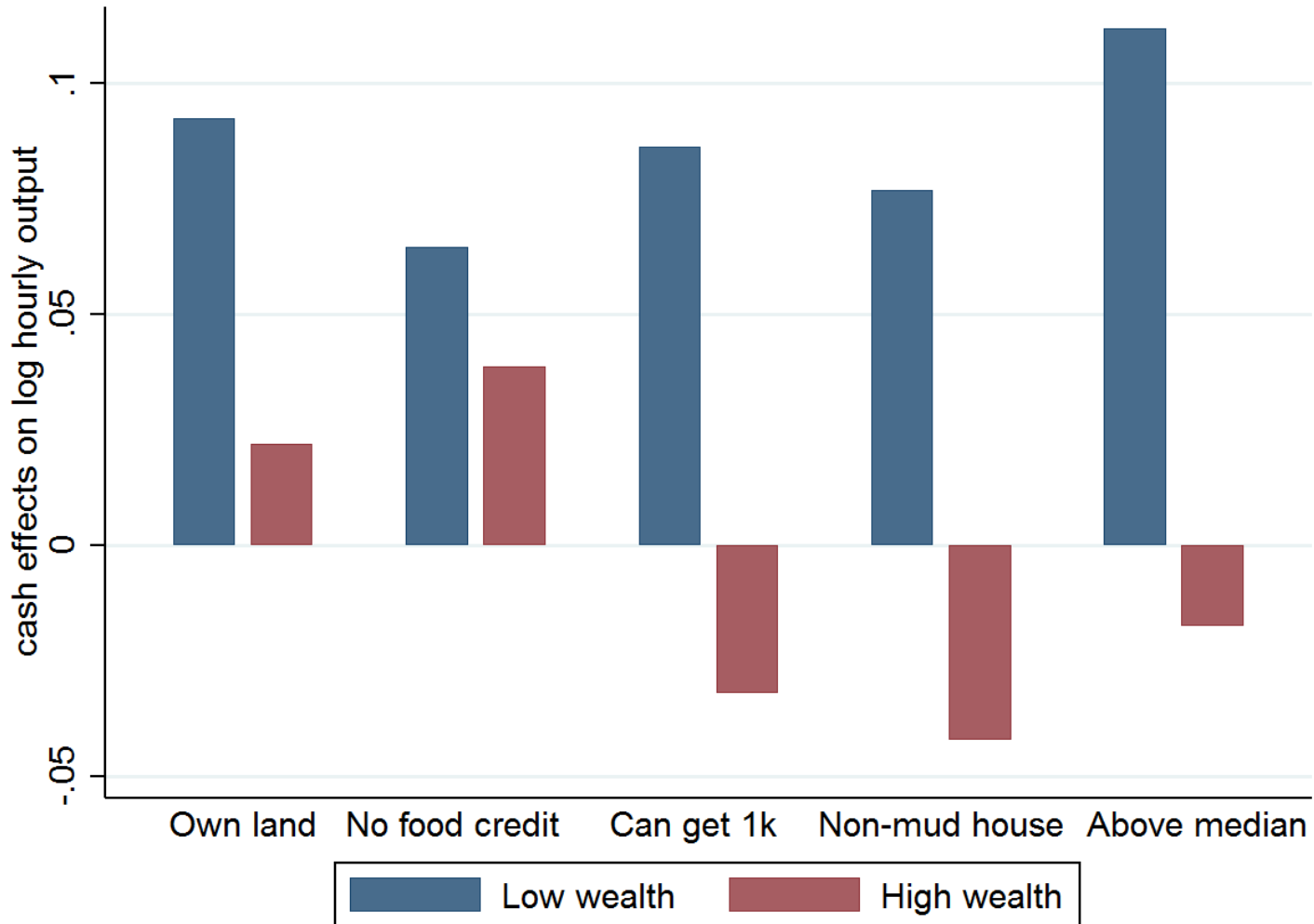


- Payments in evenings (only for amount earned till date)
- Build trust with day 1 payment
- Residual earnings paid on final day

Cash Effects on Productivity

- Cash payment should relieve financial stress
 - Amounts to almost a month's worth of wage earnings
 - Within two days after pay, 58% of the early cash group pays off loans (18% for the late cash group)
- The hourly output of the early cash group increases by 5% more after pay, compared to the late pay group ($p < 0.05$)
- In particular, the positive effect of cash is concentrated in those participants with lower wealth measures

Cash Effects by Wealth



Notes: N=22,470 worker-hours. Round*workhour, calendar hour, and experience day fixed effects. Standard errors clustered by worker.

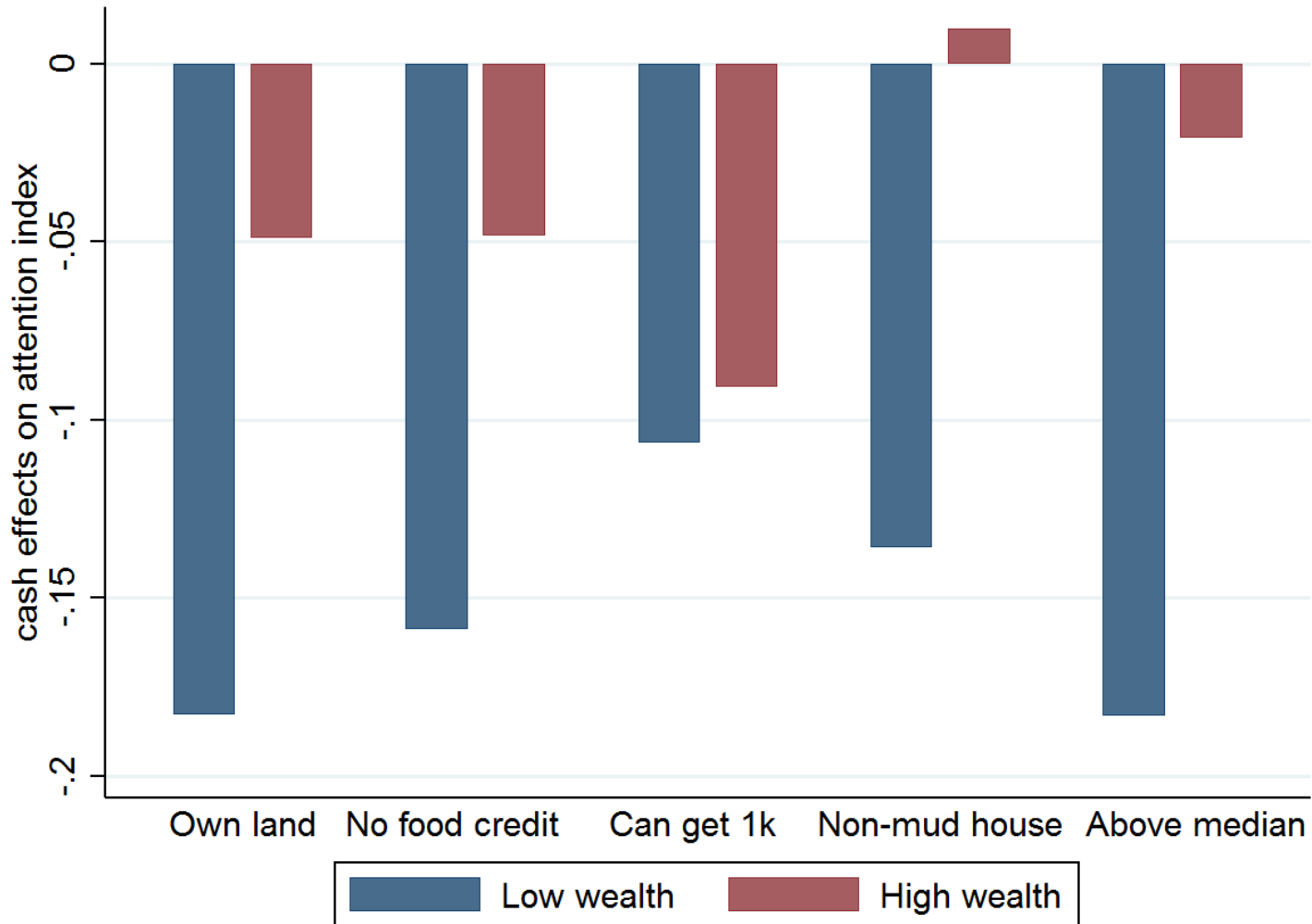
Design: Key Ingredients

- Setting: Cognitive load has potential to affect productivity and earnings
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 - Measure attentional mistakes in production
 - Induce focus on finances through salience exercise

Attentional Mistakes

- Cognitively demanding production task
- Measure 3 markers of attentional errors
 1. Number of “double holes” (re-doing work due to an error)
 2. Number of leaves (doing more work than you need to)
 3. Number of stitches (doing more work than you need to)
- Findings
 - Early cash group makes fewer mistakes during the treatment period (0.1 std. dev. effect, $p < 0.05$)
 - These effects also driven by those with lower wealth

Cash Effects on Attention



Notes: N=15,227 worker-hours. Round*workhour, calendar hour, and experience day fixed effects. Standard errors clustered by worker.

Design: Key Ingredients

- Setting: Cognitive load has potential to affect productivity and earnings
- Core test: Do financial constraints affect productivity?
- Mechanism: Role of changes in cognition?
 - Measure attentional mistakes in production
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Financial Salience

- Make worker finances salient: vignette and loan discussions
- Conceptually, 2 competing effects
 - Positive motivational effect: perceived return to effort higher (e.g. Karlan et al. 2016) → increase output
 - Negative cognition effect: increased focus on financial worries → decrease output
- Challenges
 - Could be potentially non-monotonic
 - What specifically is being “primed”: loans?
 - Fickleness of instrument (e.g. Kahneman 2012)

Financial Salience

- Design
 - Use variation in cash drops: salience before or after cash drop
 - Prediction: negative cognition effects larger before cash drop
- Implementation
 - At conclusion of salience discussions, worker is asked:
“Suppose you needed to come up with a large amount for an emergency. How would you obtain the funds?”
- Findings
 - Overall positive effect on output with increases in mistakes
 - Motivational effect appears to dominate
 - Productivity increases concentrated fully in post-cash period
 - Attentional outcomes noisy and only suggestive

Conclusion

- Direct relationship between the experience of financial constraints and productivity
- Suggests that poverty itself may be detrimental for earnings
- Evidence for cognition as one mediating mechanism
 - Increases in productivity spurred through reductions in attentional errors
 - Supportive but only suggestive evidence from salience