INCENTIVIZING BANK LOANS FOR WOMEN-OWNED SMES: EVIDENCE FROM VIETNAM

David Raitzer, Asian Development Bank Markus Taussig, Rutgers Business School Russell Toth, University of Sydney

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OVERALL SUMMARY

- ➤ <u>Problem</u>: women-owned or -led SMEs (WSMEs) have lesser access to bank loans than their male-owned SME counterparts (perhaps especially in emerging economies).
- ➤ <u>Potential Bank-Side Solution</u>: Financial incentives for loan agents to pay greater attention to identifying and pursuing prospective new WSME borrowers.
- ➤ <u>Test</u>: RCT with private Vietnamese commercial bank:
 - ✓ Treatment 1: Contest / Tournament-based payments;
 - ✓ Treatment 2: Piece-Rate-based payments.
- Findings: Half way (6 months) through our year-long study:
 - ✓ Initial evidence that both treatments increase WSME loans (w/o reducing other loans);
 - ✓ Heightened level of WSME loans persists after treatment ends;
 - ✓ No variance in effects based on loan agent gender.

FINANCING GAP FOR SMEs IN DEVELOPING COUNTRIES, WORSE FOR WSMES

- ➤ Micro-, small-, and medium-sized enterprises (MSMEs) in emerging economies globally face estimated US\$5.2 trillion annual financing gap (Bruhn 2017).
- > WSMEs estimated to face greater obstacles, with gap of \$1.5 trillion (Bruhn 2017).
- ➤ WSME financing gap in Vietnam estimated at US1.19 billion (IFC 2017).
 - ✓ Only 37% of WSMEs had received bank loans in preceding two years, compared to 47% of male-owned SMEs.
 - ✓ Even when they qualified, WSMEs tended to receive less than what they asked for and in lower amounts than men.
 - ✓ Prevalence of false beliefs that women are less likely to repay than men (when evidence indicates the opposite to be true).

LITERATURE ON GENDER DIFFERENCES IN FINANCIAL ACCESS: A COMPLEX PICTURE

- ➤ Early strand of microfinance RCT literature focused on how female-owned or -operated enterprises might have lower returns to capital;
 - ✓ However, Bernhardt et al (2019) show female borrowers likely to pass through loan proceeds to other household members.
- ➤ Hebert (2020) shows that female-founded startups in France 18% less likely to receive external equity including venture capital;
 - ✓ However, this direction reverses in female-dominated sectors, suggesting sector-specific stereotypes.
- ➤ Brock and de Haas (2023) conduct lab-in-field experiment with Turkish loan officers with hypothetical loan applications, randomly varying client gender: Loan approval rates same for male and female applicants,
 - ✓ However, loan officers 30% more likely to approve conditional on guarantor for female applicants.
- Less evidence on the gender of the lending agent:
 - ✓ However, Drexler and Schoar (2014) and Fisman et al (2017) show that relationship-specific knowledge and cultural affiliation between lending agent and borrower can matter, largely in positive ways.

DESIGNING WORKERS' FINANCIAL INCENTIVES: TWO CONTRASTING APPROACHES

- ➤ Optimizing incentives important for performance and productivity at individual and organizational levels (e.g. Oyer 1998).
- ➤ Can enhance worker motivation and engagement (Fang & Gerhart 2012).

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	Contest	Piece-Rate	
Compete with co-workers:	Yes	No	
Key benefit:	High reward for top performers	All can benefit	
Best with tasks that are:	High-skill, complex, uncertain	Repetitive	
Examples:	Multi-level organizations (with promotions)	Assembly line workers	

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➤ Relatively few field experiments (e.g. Bandiera et al 2005, Breza et al 2018), many in educational settings (Decheneux et al 2015), rarely involving complex tasks.

OUR STUDY: TWO LOAN AGENT INCENTIVE INTERVENTIONS

- ➤ Target SME category: annual revenues < ~US\$2.5 million.
- ➤ Focal loan (and line of credit) categories:
 - ✓ Collateralized: US\$200,000 maximum (US\$80,000 average)
 - ✓ Uncollateralized: US\$65,000 maximum (12-20,000 average)
- ➤ Together with our commercial bank partner, we co-designed two distinct interventions (of equal estimated total cost, same communications, each awarded monthly):

Inclusive Contest

Piece-Rate

- 1) Top overall WSME lenders;
- 2) Top "rookie" lenders (<12 months);
- 3) Top "lagging" lenders (no WSME loans in previous 12 months).

Fixed-rate payment per new WSME loan (~US\$80/~20% of average expected monthly pay per loan).

DETAILS ON INCLUSIVE CONTEST TREATMENT AWARDS

> Cross branch competition within urban and provincial branch groupings.

Award Name	Criteria	Awards / Month	Total Awards	Top Prize	Bottom Prize		
Urban Branches (4)							
Top Performers	All loan agents	10	60	~US\$140	~US60		
Top Rookies	<1 yr exp	5	30	~US100	~US60		
Top Improvers	>1 yr no WSME	5	30	~US100	~US60		
Provincial Branches (12)							
Top Performers	All loan agents	5	30	~US\$140	~US60		
Top Rookies	<1 yr exp	3	18	~US100	~US60		
Top Improvers	>1 yr no WSME	3	18	~US100	~US60		

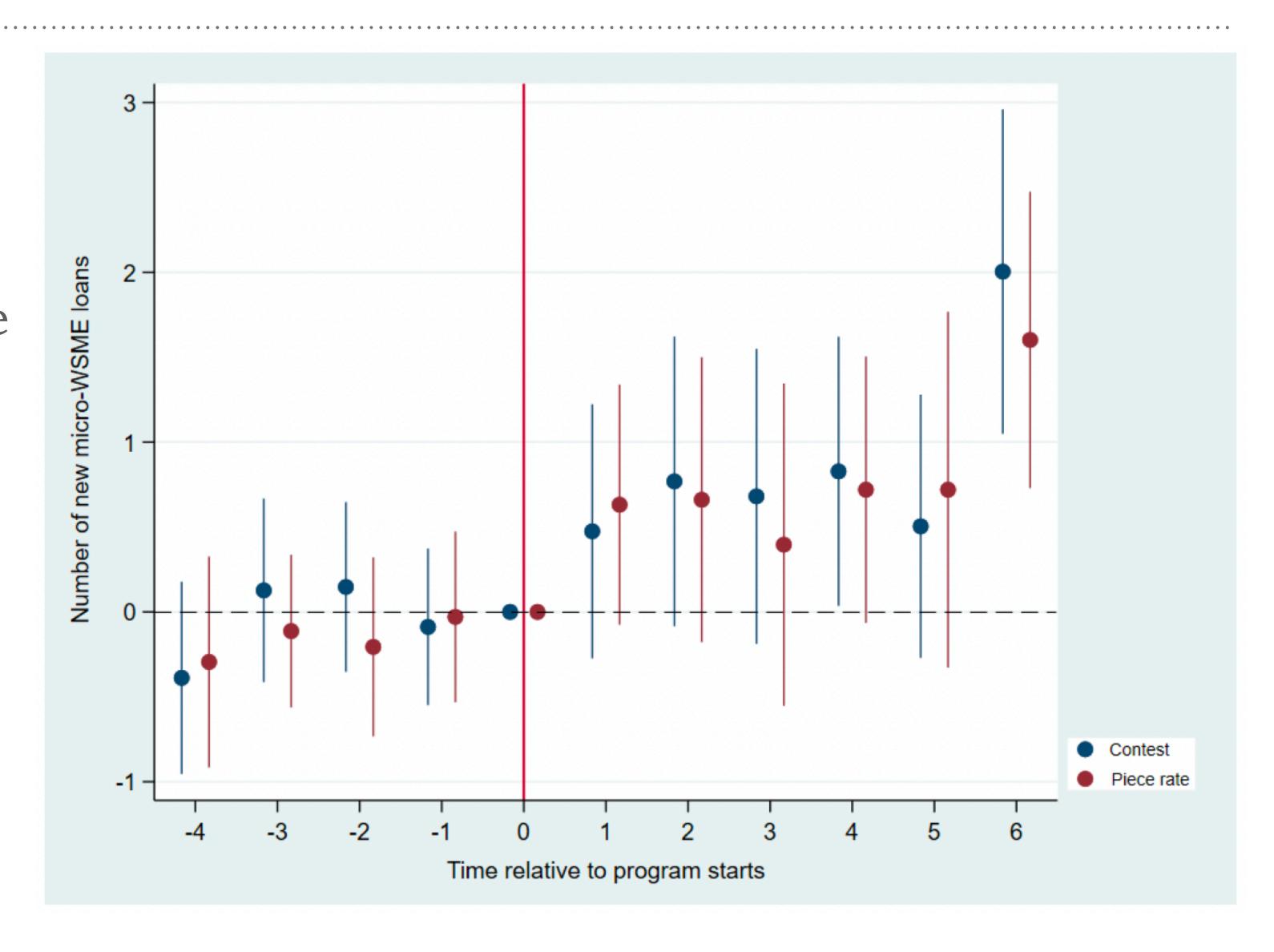
OUR RCT DESIGN

- > Study Period: July 2023 July 2024.
- ➤ Random assignment to Control or either of the two treatments at branch level for Phase 1 (Jul-Dec '23) and Phase 2 (Feb-Jul '24) [only Phase 1 results here]:
 - ✓ Across partner's network of 50 SME-lending branches;
 - ✓ Stratified by two main branch types:
 - · 13 urban branches (5 each in Hanoi & Ho Chi Minh City);
 - · 37 provincial branches.
- ➤ We cross randomize with another RCT running partially in parallel, creating a 3x3 treatment allocation.



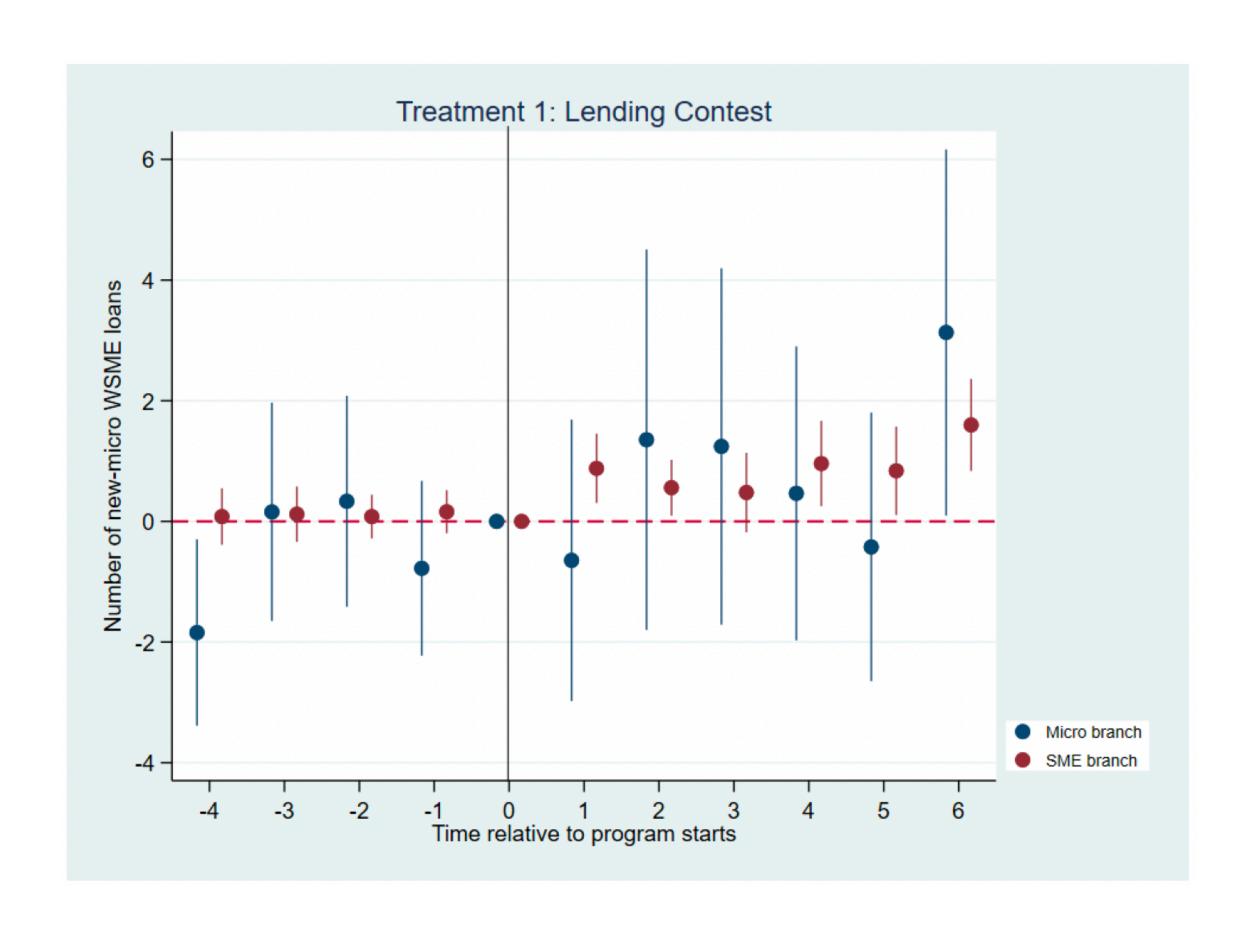
TREATMENT EFFECTS ON NUMBER OF NEW WSME LOANS

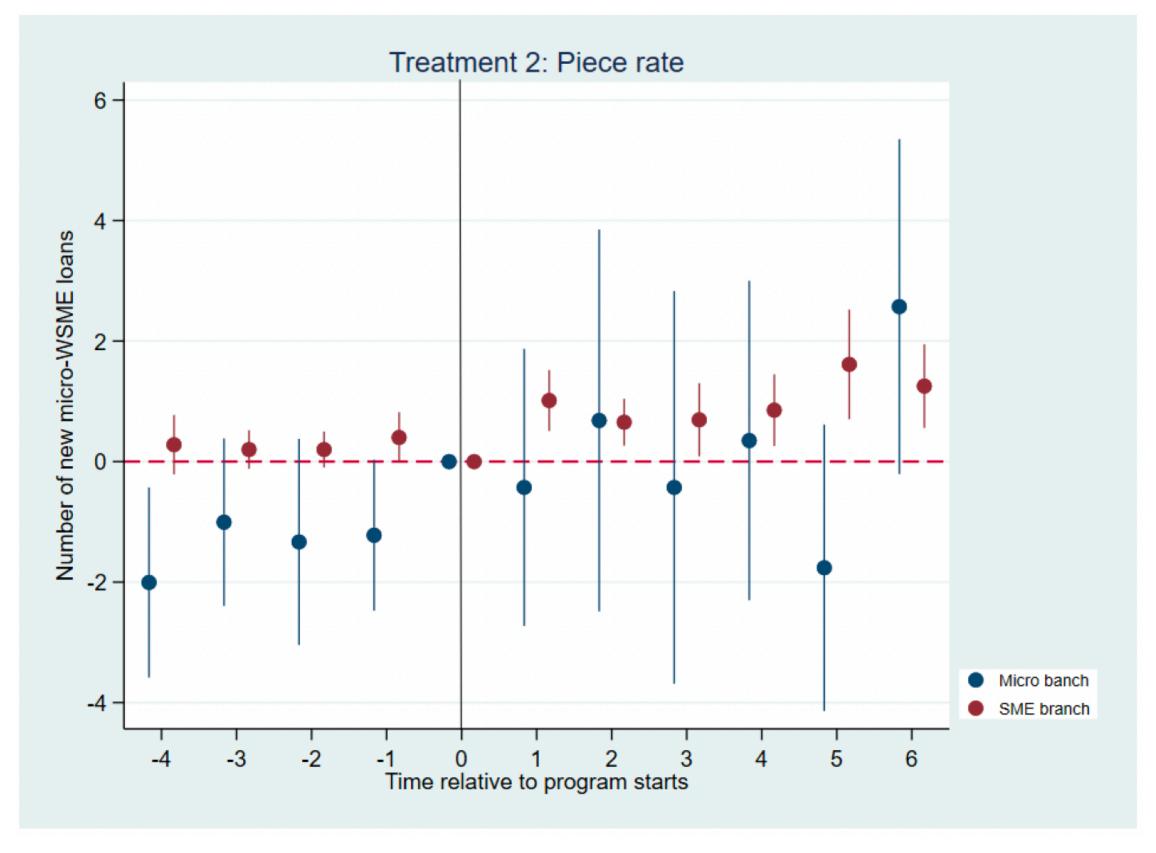
- ➤ Positive effect of ~0.6-0.7 new WSME loans per branch.
- ➤ Relative to previous average of 4 new WSME loans/month in urban branches and 0.6 new WSME loans/month in rural branches.
- ➤ Possible end-of-program effect with near tripling of effect in month 6.



EFFECTS ON NUMBER OF NEW WSME LOANS, BY TREATMENT & BRANCH TYPE

For both treatments, effects more significant in provincial than urban branches.



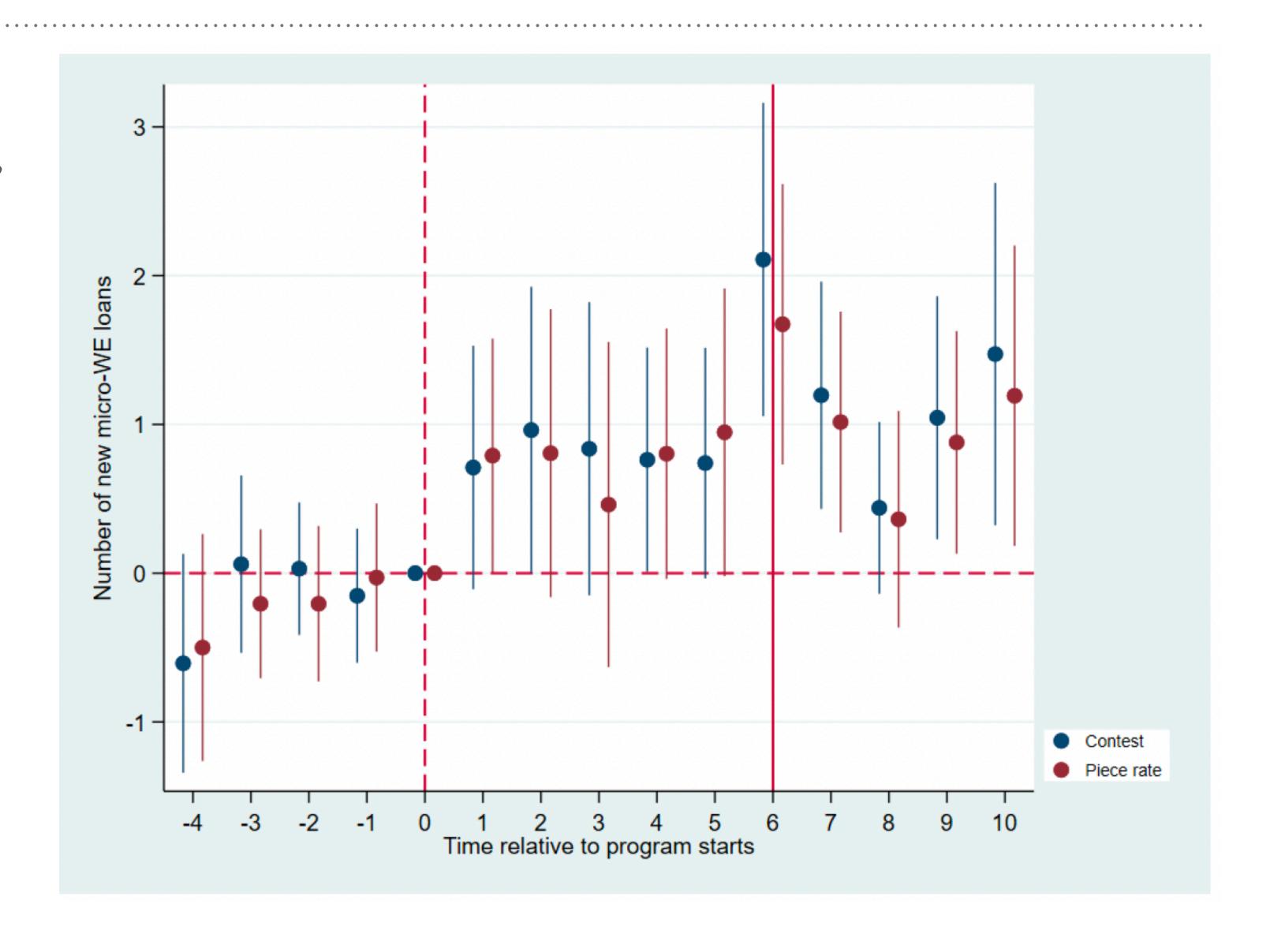


SHOULD WE EXPECT EFFECTS TO PERSIST?

- ➤ If a market failure suppressing lending (prior to intervention), our intervention could provide nudge, temporarily reducing costs of focusing on WSME lending and driving attention to neglected market segment.
 - ✓ For ex., heightened attention to WSME lending might lead to learning (e.g., about WSME lending market), human capital accumulation (e.g., skills for marketing loans to WSMEs), and/or reduction in discrimination.
- ➤ Alternatively, it could be loan agents are just very responsive to short-run incentives and quickly return to "normal" behavior after program ends.

PERSISTENCE OF TREATMENT EFFECTS

- ➤ We study persistence for 4 months past end of Phase 1, controlling for Phase 2 interventions.
- ➤ Both treatments' effects appear to persist (or even grow!).
 - ✓ <u>Note</u>: month 8 included two-week Lunar New Year (Tet) holiday.

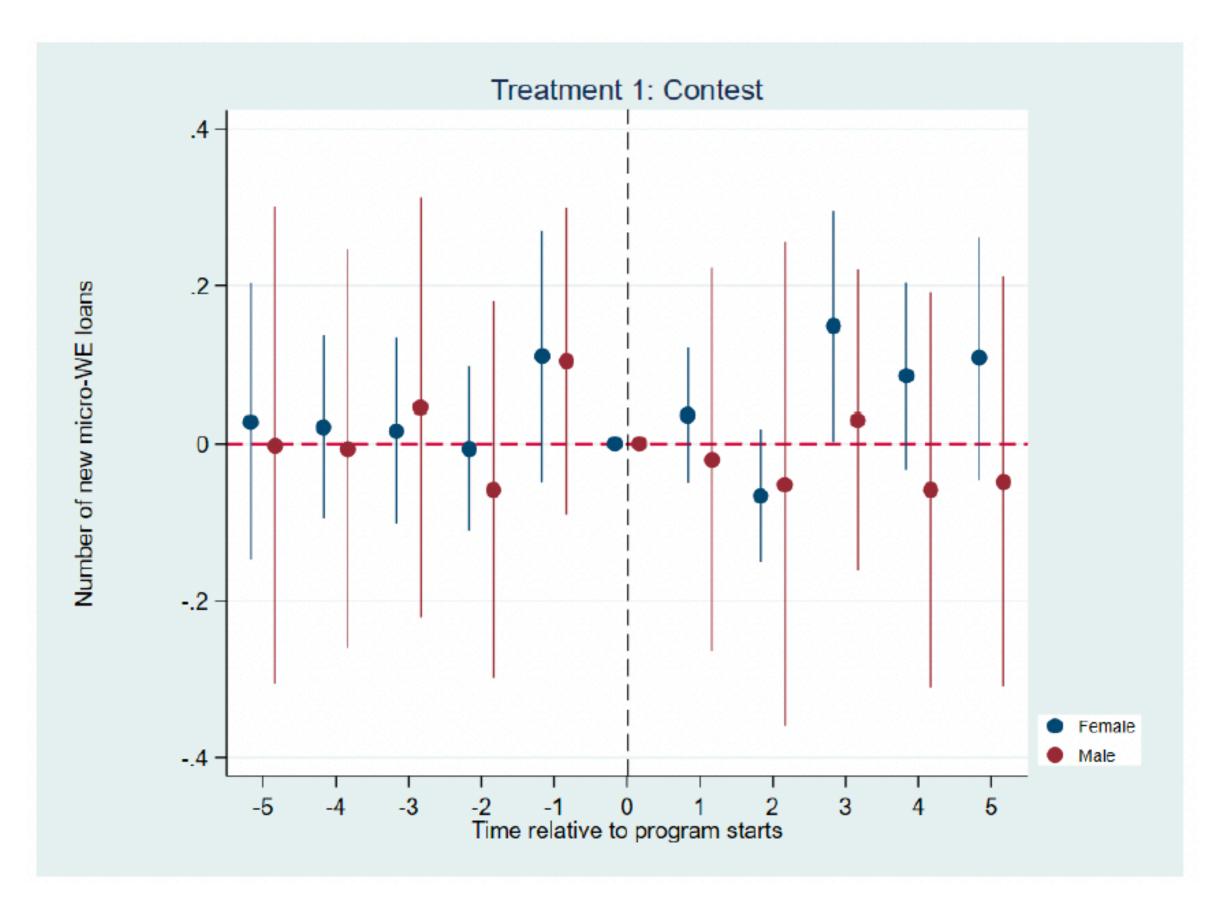


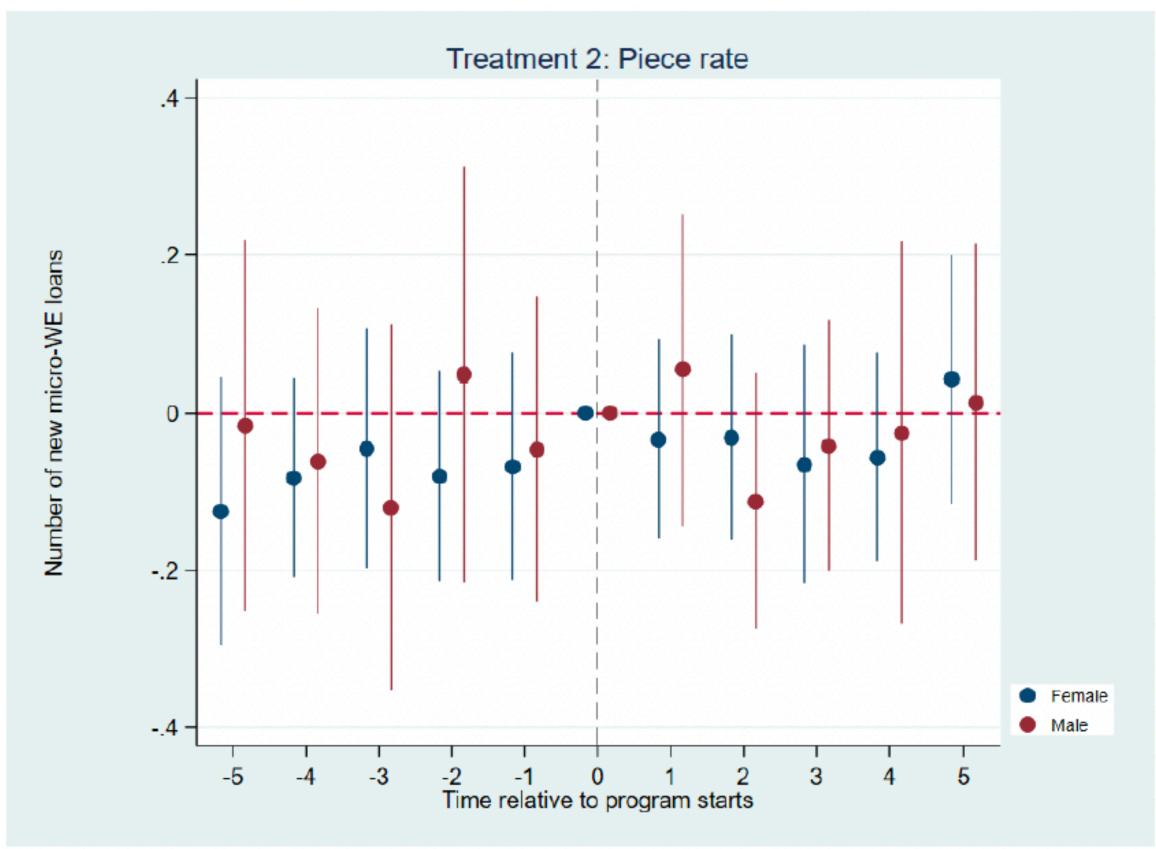
POTENTIAL HETEROGENEOUS EFFECTS OF LOAN AGENT GENDER

- ➤ Prior work suggests women are more likely than men to avoid competition, and may perform relatively worse than men in competitive settings (Niederle and Verterlund, 2011). Based on this prior evidence, if anything, we might expect relatively better performance of female loan agents under the piece rate than the tournament.
- ➤ On the other hand, we are dealing with a selected sample of women, who have selected into joining the bank as loan agents, and have persisted as loan agents.

EFFECTS ON NUMBER OF NEW WSME LOANS, BY TREATMENT & AGENT GENDER

➤ No evidence that contest treatment is less effective on female loan agents (if anything, the opposite...)





(TOO) EARLY CONCLUSIONS

- ➤ Overall, both treatments perform positively in lifting the number and volume of new WSME lending, especially in latter months of treatment period.
- ➤ Effects of treatment arms similar so far, providing no clear answers on which incentive scheme is better—Maybe it is as much about attention and recognition as the fine details of incentive design.
- ➤ No evidence that contest is less effective for female loan agents.
- ➤ Much more data still to be exploited:
 - ✓ Phase 2 (Feb-Jul '24) data;
 - ✓ Additional administrative data on loan size, other types of loans, borrower information, loan agent information;
 - ✓ Loan agent and branch manager surveys (baseline, midline, endline).

THANKS!





The research team in the field