

# Interfirm Relationships and Business Performance

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- Research questions:
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- We also expect policy lessons on business associations.

- Recent interest in role of firm networks:
  - Models predict that supply chains affect aggregate inefficiencies and can amplify shocks (Acemoglu et al 2012, Eaton et al 2013).
  - Observational data show that lower search costs improve networks and firm performance (Bernard, Moxnes and Saito 2015).
  - Experimental evidence shows that interactions create managerial connections that affect diffusion (Fafchamps and Quinn 2014).

# Contribution to the literature

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  - Observational data show that lower search costs improve networks and firm performance (Bernard, Moxnes and Saito 2015).
  - Experimental evidence shows that interactions create managerial connections that affect diffusion (Fafchamps and Quinn 2014).
- Goals of this project:
  - Exploit meetings explicitly designed to foster business interactions to measure effect of networks.
  - Use additional interventions to explore mechanisms:
    - Peer effects: variations in peers' performance and characteristics
    - Information sharing: diffusion of new financial products
    - Overcoming barriers of finding partners: variation in meeting frequency
  - Evaluate scalable policy intervention of business meetings.

# Outline from here

- ① Experimental design.
- ② Results.
- ③ Conclusion.

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- **Sample:** Young firms interested in business meetings.

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  - They were informed that there was no room in the meetings.
- Both treatment and control firms got a government certificate if they attended the meetings and completed our surveys.



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- Today: only use data from baseline and midline surveys.

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- ② Information transmission.
  - Distributed information to random managers about (i) a funding opportunity for the firm, (ii) a savings opportunity for the manager.
- ③ Role of repeated interactions.
  - We organized one-time cross-group meetings (10 managers each) for randomly selected managers in the treatment group.

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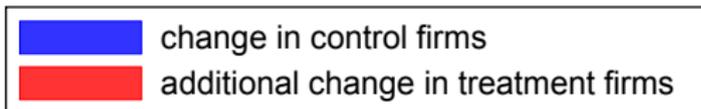
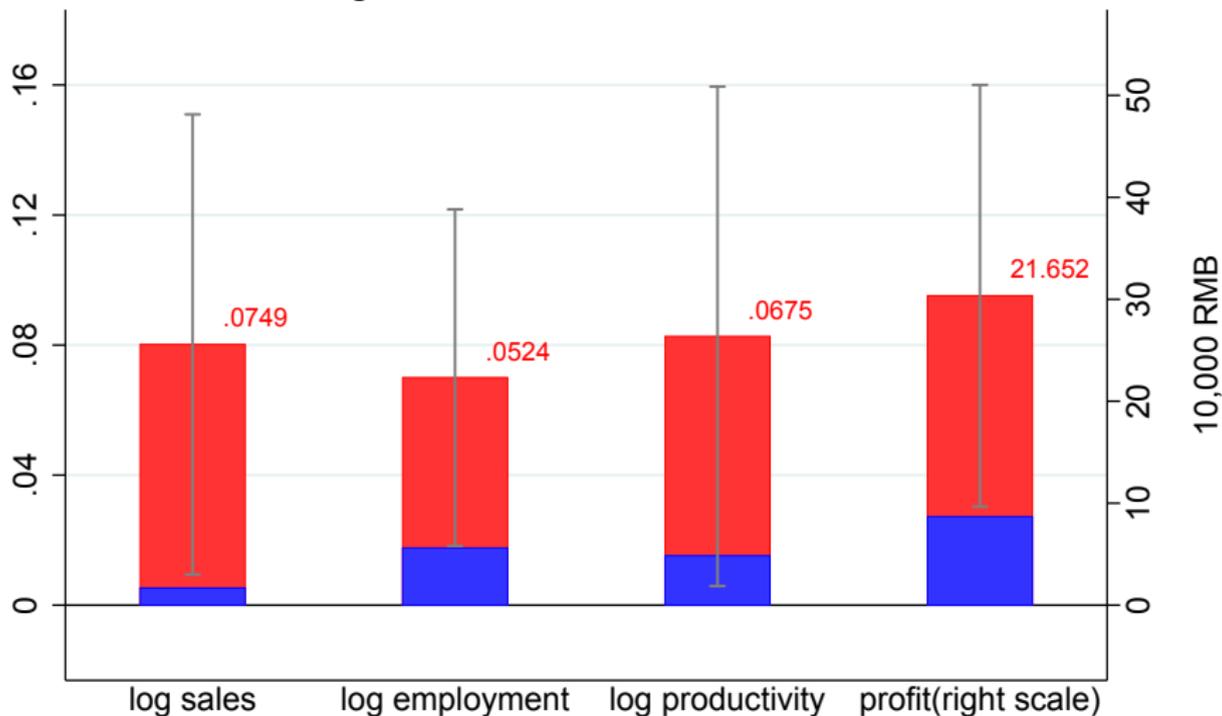
- ① Experimental design.
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# Summary statistics

|                               | All Sample           | Treatment           | Control              | Difference          |
|-------------------------------|----------------------|---------------------|----------------------|---------------------|
| <i>Number of Observations</i> | 2646                 | 1409                | 1237                 |                     |
| Firm Age                      | 2.34<br>(1.75)       | 2.39<br>(1.72)      | 2.29<br>(1.77)       | 0.1<br>(0.068)      |
| Ownership - Private non-SOE   | 0.98<br>(0.15)       | 0.98<br>(0.15)      | 0.98<br>(0.15)       | 0<br>(0.006)        |
| Industry - Manufacturing      | 0.5<br>(0.01)        | 0.51<br>(0.013)     | 0.48<br>(0.014)      | 0.03<br>(0.019)     |
| Number of Employees           | 36.19<br>(86.49)     | 36.33<br>(90.63)    | 36.01<br>(81.55)     | 0.32<br>(3.37)      |
| Number of Clients             | 45.89<br>(57.37)     | 45.58<br>(56.16)    | 46.23<br>(58.74)     | -0.65<br>(2.24)     |
| Number of Suppliers           | 16.38<br>(19.23)     | 16.7<br>(20.3)      | 16.02<br>(17.94)     | 0.68<br>(0.75)      |
| Bank Loan (1=Yes, 0=No)       | 0.25<br>(0.43)       | 0.25<br>(0.44)      | 0.25<br>(0.43)       | 0<br>(0.017)        |
| Sales (10,000 RMB)            | 1593.62<br>(6475.18) | 1510.7<br>(5291.86) | 1686.19<br>(7603.11) | -175.57<br>(252.32) |
| Net Profit (10,000 RMB)       | 79.23<br>(205.35)    | 77.26<br>(199.92)   | 81.52<br>(211.55)    | 4.25<br>(8.09)      |
| Percentage of Firms Shut Down | 4.12<br>(1.99)       | 3.76<br>(1.9)       | 4.53<br>(2.08)       | -0.77<br>(0.7)      |

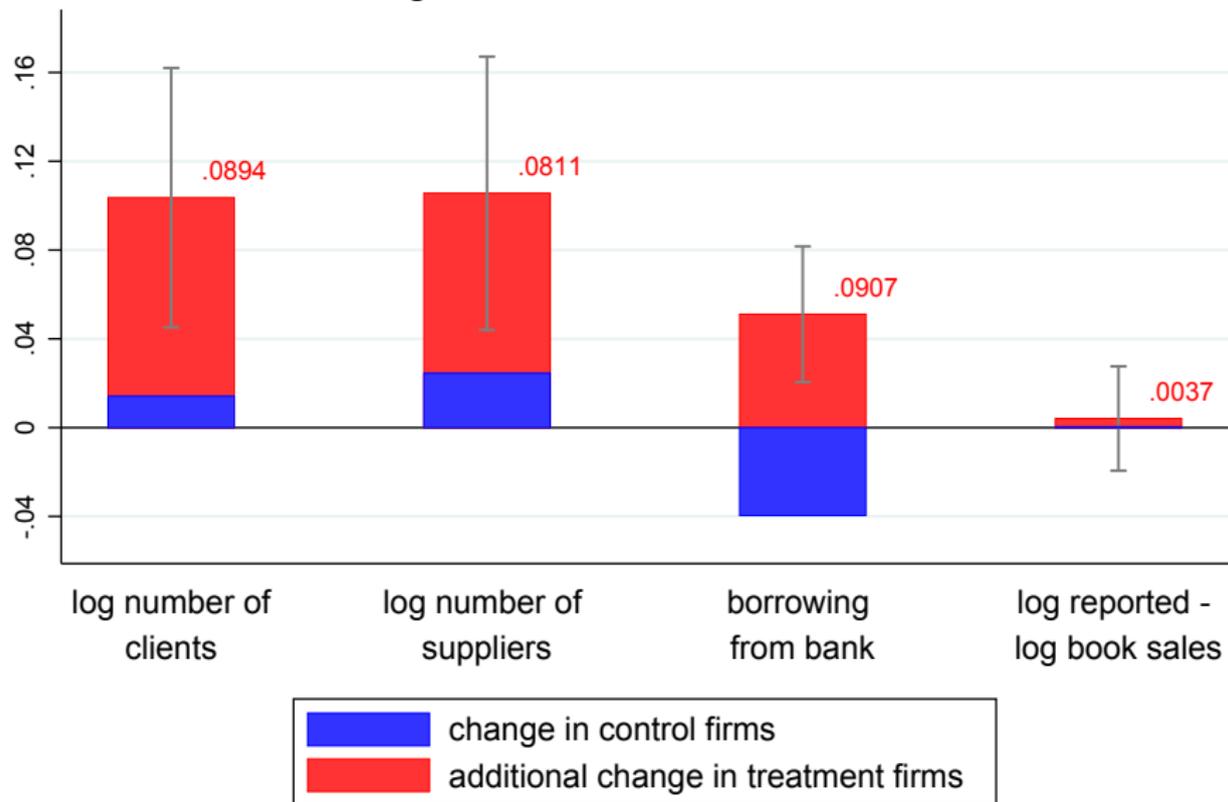
# Effect of meetings: Firm performance

Change between baseline and midline



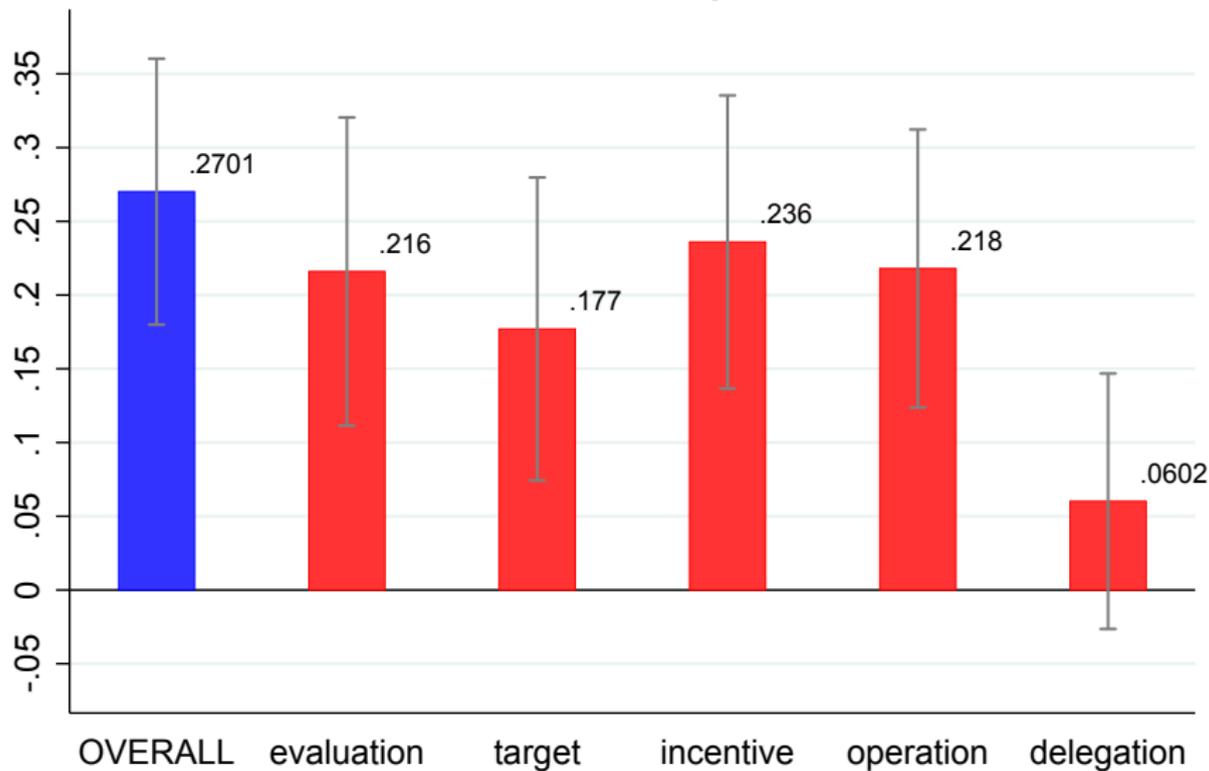
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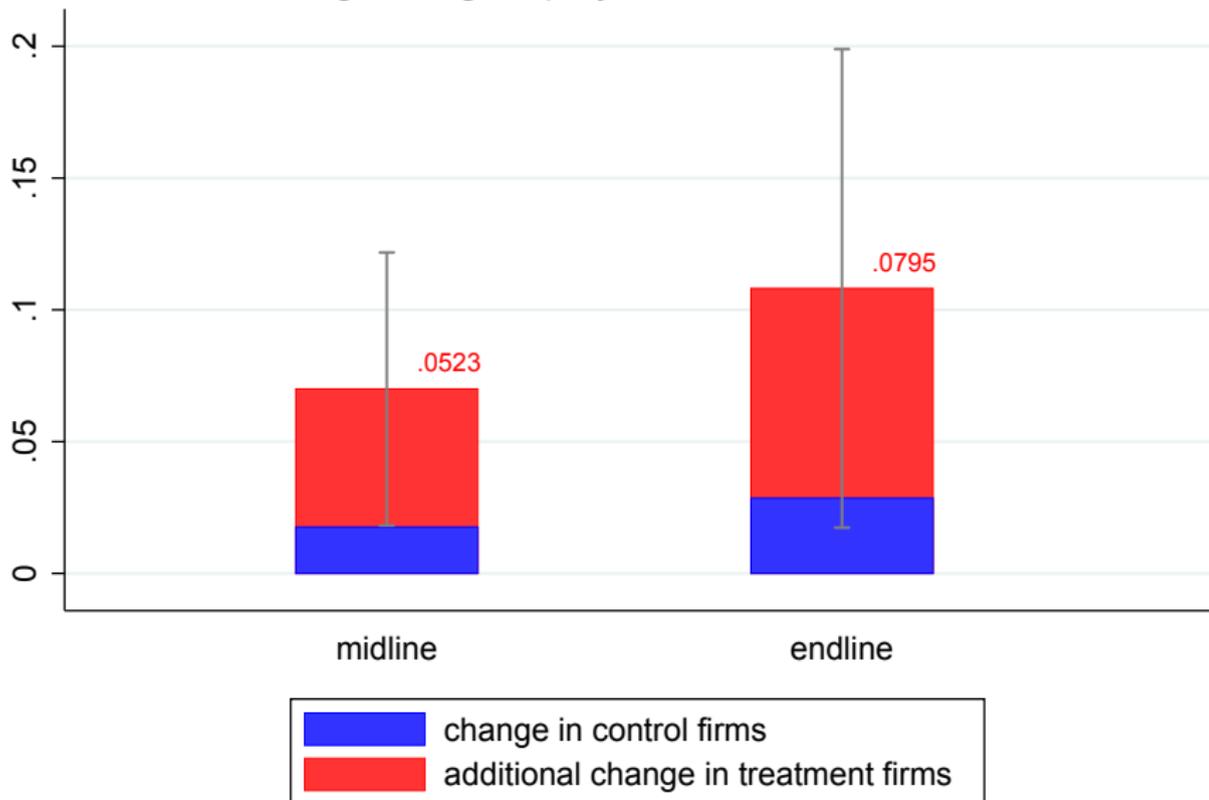
# Effect of meetings: Management

Treatment effect on management at midline



# Effect of meetings: long-term effects on employment

Change in log employment relative to baseline



- ① Peer effects.
- ② Information transmission.
- ③ Repeated interaction.

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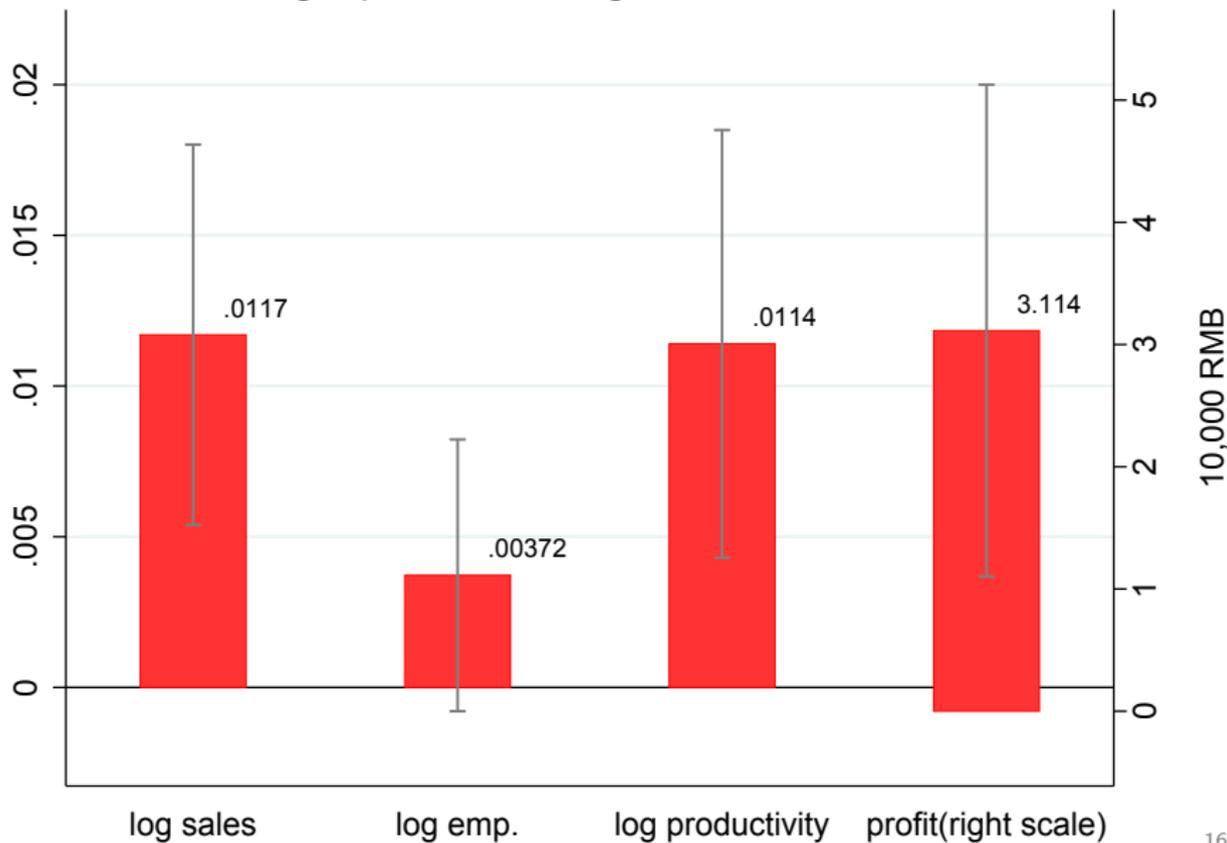
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  - Through peer training, imitation, or access to better resources.
- We randomized firms into groups based on firm size and sector at the region level.
  - In each region, we split firms by median employment into “small” and “large”.
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- We measure peer effects with impact of peer firms' average number of employees.

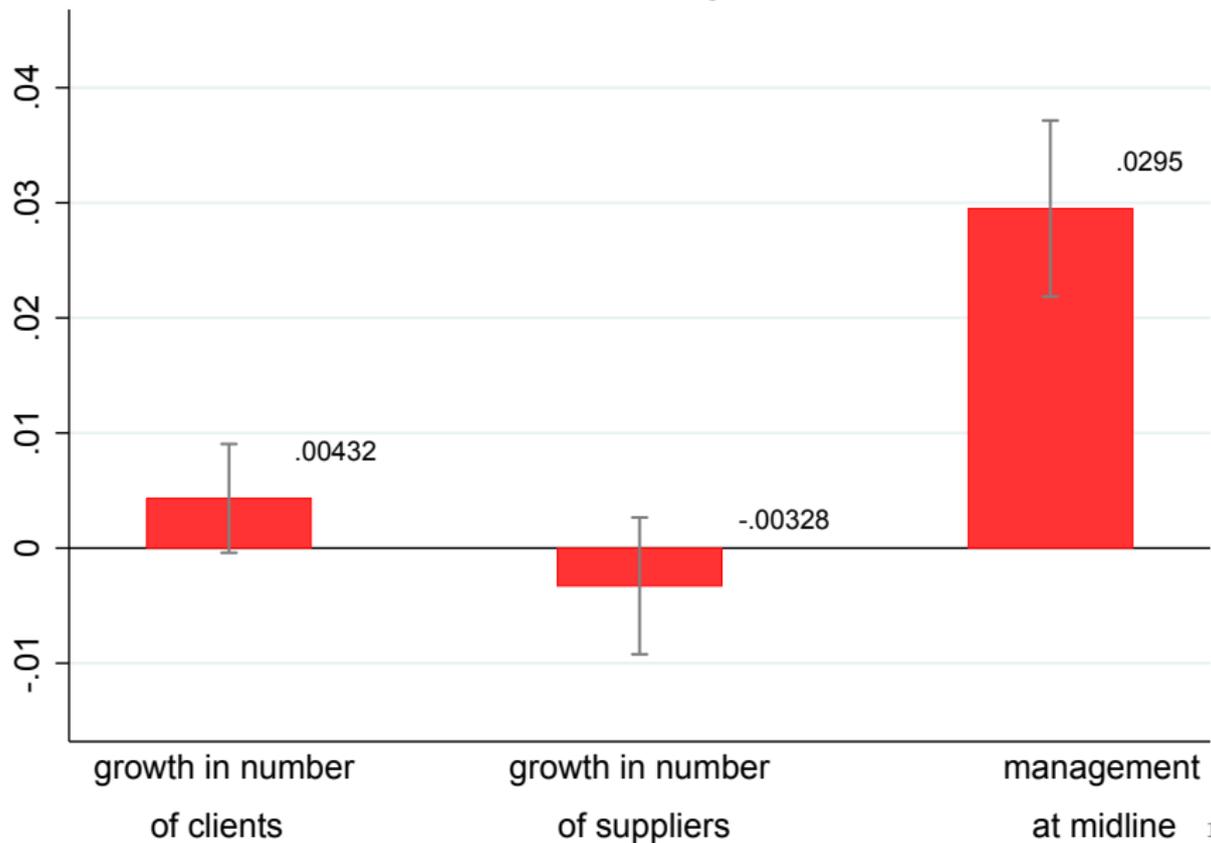
# Peer effects: Results

Effect of 10% larger peers on change between baseline and midline



# Peer effects: Intermediate outcomes

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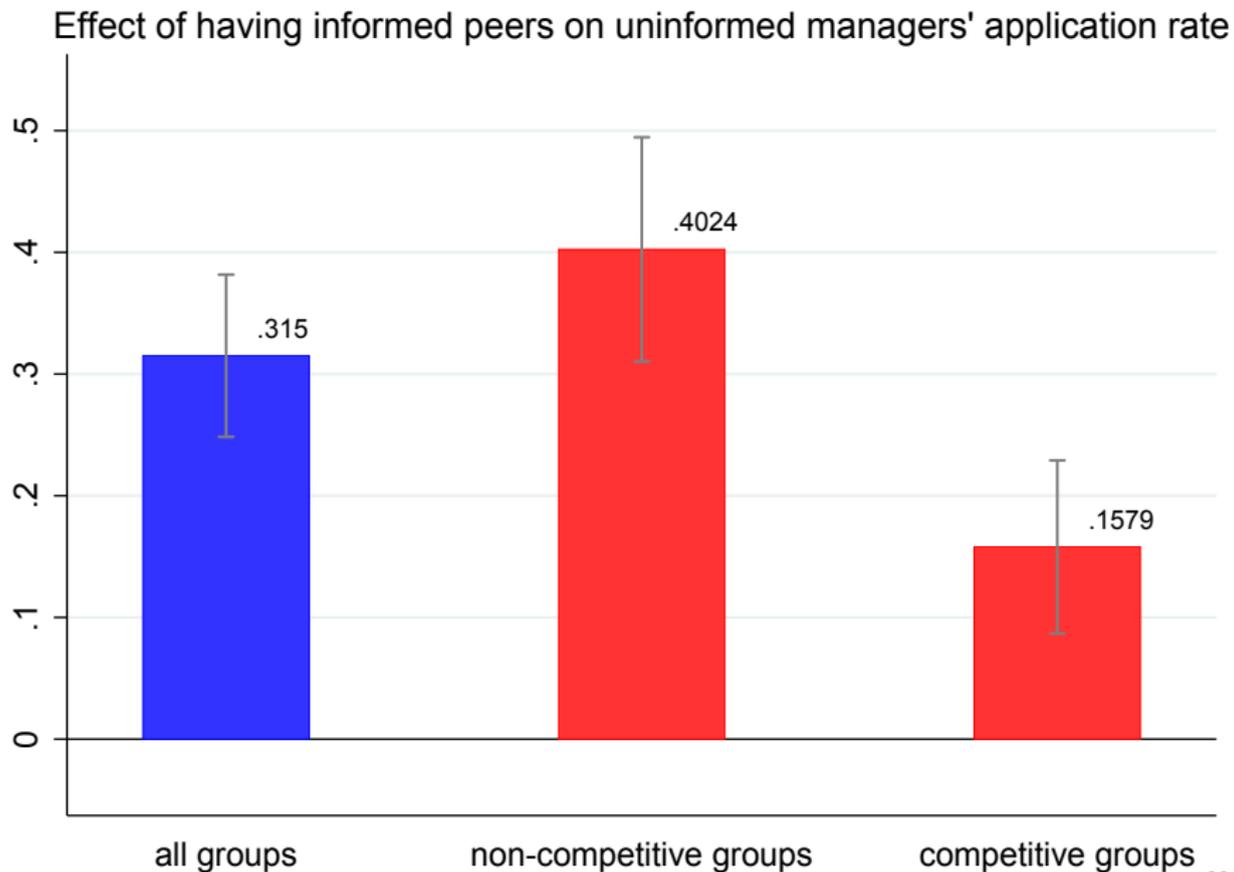
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  - Treatment: distributed information to 0%, 50%, or 80% managers within a business group.
  - Control: distributed information to 40% managers.

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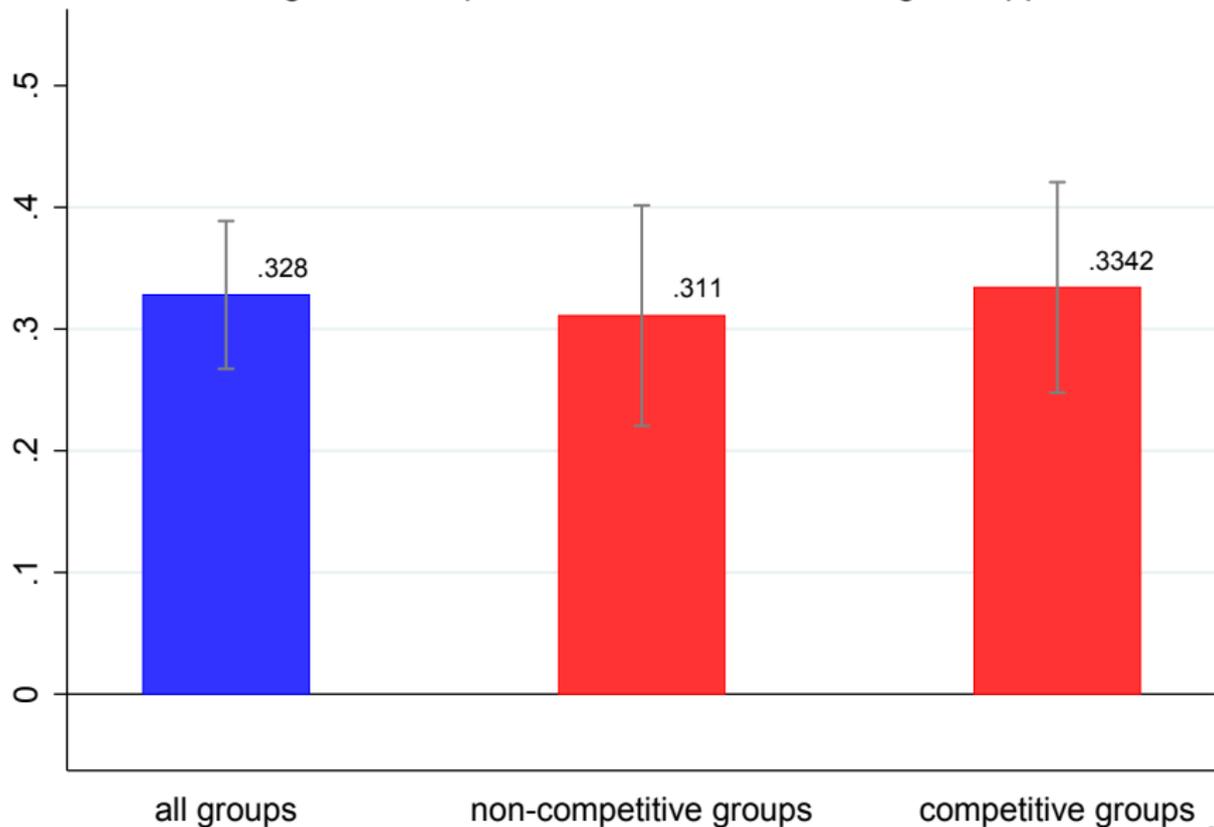
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  - Treatment: distributed information to 0%, 50%, or 80% managers within a business group.
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- We asked managers who are their competitors in the group.
  - Created an indicator for groups being “competitive” by the median of the group-level average number of competitors.

# Information transmission: Funding for firm



# Information transmission: Savings for manager

Effect of having informed peers on uninformed managers' application rate



- ① Peer effects.
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- This intervention helps distinguish between two barriers for finding business partners:
  - Lack of information.
  - Lack of trust.
- If lack of information is the main barrier, we expect the same share of new partners in both in-group and cross-group meetings.

# Repeated interactions: Results

| <i>Panel A</i>     | Number of Referrers |                | Difference |
|--------------------|---------------------|----------------|------------|
|                    | In Regular Group    | In Cross Group |            |
| Mean               | 2.18                | 0.06           | 2.13***    |
| Standard Deviation | (0.083)             | (0.62)         | (0.079)    |

| <i>Panel B</i>     | Number of Direct Partners |                | Difference |
|--------------------|---------------------------|----------------|------------|
|                    | In Regular Group          | In Cross Group |            |
| Mean               | 1.44                      | 0.29           | 1.15***    |
| Standard Deviation | (1.49)                    | (1.52)         | (0.07)     |

| <i>Panel C</i>     | Choice in Trust game |                | Dif     |
|--------------------|----------------------|----------------|---------|
|                    | In Regular Group     | In Cross Group |         |
| Mean               | 3.52                 | 0.94           | 2.58*** |
| Standard Deviation | (0.13)               | (0.12)         | (0.12)  |

- More connections and higher trust within a group.
- Consistent with repeated interactions and social capital being key for creating beneficial business relationships.
- Results show that regular meetings reduced the cost of new partnerships.

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- External validity and policy implications:
  - Result on meeting frequency suggests that intensity is important and helps overcome trust barriers.
  - Results on diffusion and peer effects suggest that managers viewed their peers as trusted experts and followed their advice.
  - Meetings may help when trust and information frictions are big
  - Business associations may be an effective tool for young firms in poor countries which are interested in investing in improvements.

- We used a field experiment to show that expanding managers' networks significantly improves firm performance.
- We found evidence on three mechanisms:
  - ① Firms with larger peers perform better.
  - ② Group members share information with each other.
    - Especially if they are not competitors.
  - ③ Repeated interactions build relationships and improve trust.
- Many next steps:
  - Long-term impacts.
  - Other outcomes: hours worked, wage, innovation, worker satisfaction.
  - Heterogeneous effects: identify which firms benefit from the meetings.
  - Aggregate impacts: combine estimates with a structural model.