

The Impacts of Microfinance: A Randomized Evaluation of Spandana's program in Hyderabad

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The Question

- The most visible anti-poverty innovation in past 20 years
- *“There is mounting evidence that the availability of financial services for poor households - microfinance - can help achieve the MDGs.”* – CGAP
- “Evidence for”
 - reduction in poverty & hunger
 - universal primary education
 - promotion of gender equality & empowerment of women
 - reduction of child mortality
 - improvement in maternal health
- “In twenty five years of academic and consulting work in local economic development, my experience has been that the microfinance programs often spell the death of the local economy.” Microfinance critic in FT

Why do we need an evaluation?

Microfinance supporters: people are borrowing and we are making money

Why do we need an evaluation?

No evaluation of apple-sellers. Why us?

Two answers:

1. Microfinance is often subsidized, example: India
2. Self-control problems: loans can be tempting → debt trap

Why do we need a randomized evaluation?

- Cannot compare recipients with non recipients
 - MFIs target the poor
 - More enterprising (or more short-sighted) might self-select
- Cannot compare recipients before and after
 - these are potentially enterprising people
- Cannot compare trends for microfinance recipients and non-recipients
 - Morduch does this and finds a *negative* impact of Grameen Bank

What do we already know?

- Much experimental work on how to make microfinance work better:
 - Group vs. individual liability (Giné and Karlan 2006)
 - Contract structure (Fischer 2008)
 - Repayment frequency (Field and Pande 2008)
- Non-experimental evidence on the intensive margin impact of microfinance (Kaboski and Townsend 2008)
- No randomized evaluations of the impact of microcredit
- This study: answer some of the basic questions
 - business creation
 - durable goods purchase
 - consumption smoothing
 - etc.

Outline

1. **Overview** of Spandana program and survey
2. What was the **take up** of microcredit?
3. What impacts of microcredit should we **expect**?
4. Impact **results**
 - Average impact of the program
 - Different impacts for different groups?
 - The impact of borrowing
5. **Conclusion**

1. OVERVIEW

- Traditional microcredit program
 - Group liability
 - Weekly or monthly repayment
 - Starting loan is Rs. 10,000 (~\$250)
 - Interest rate changed over the period but was around 12% per year (nondeclining balance; ~24% APR)
 - A few individual-liability loans were also given
- Spandana was already a large MFI in South India
- Not previously operating in Hyderabad.
- Agreed to randomly phase in operations in Hyderabad.



Data collection

- Baseline survey: 2005
 - 20 or 40 households per slum; 2,800 total
 - Intentionally did not do a panel (i.e. resurvey in the endline)
- Census: 2006-7: sample frame for endline
- Endline survey: 2007-8
 - 15-24 months after loan disbursement started in a slum
 - Spandana borrowers were oversampled; we adjust for this in all results

Endline sample

- 104 slums: 52 treatment, 52 control
- ~7,200 households total
- Households with the following characteristics were surveyed (more likely to become microfinance clients):
 - At least one woman aged 18-55
 - Household has lived in the slum at least 3 years
 - Not rated as someone Spandana wouldn't lend to
- Measures impact for households with these characteristics
 - results for other types of households could be different

Outcomes

- Baseline and endline surveys:
 - Household debt
 - Consumption
 - Durable purchases
 - businesses
 - household
 - Business activities and profits
 - Decision-making (“empowerment”)
 - Education, health, etc.

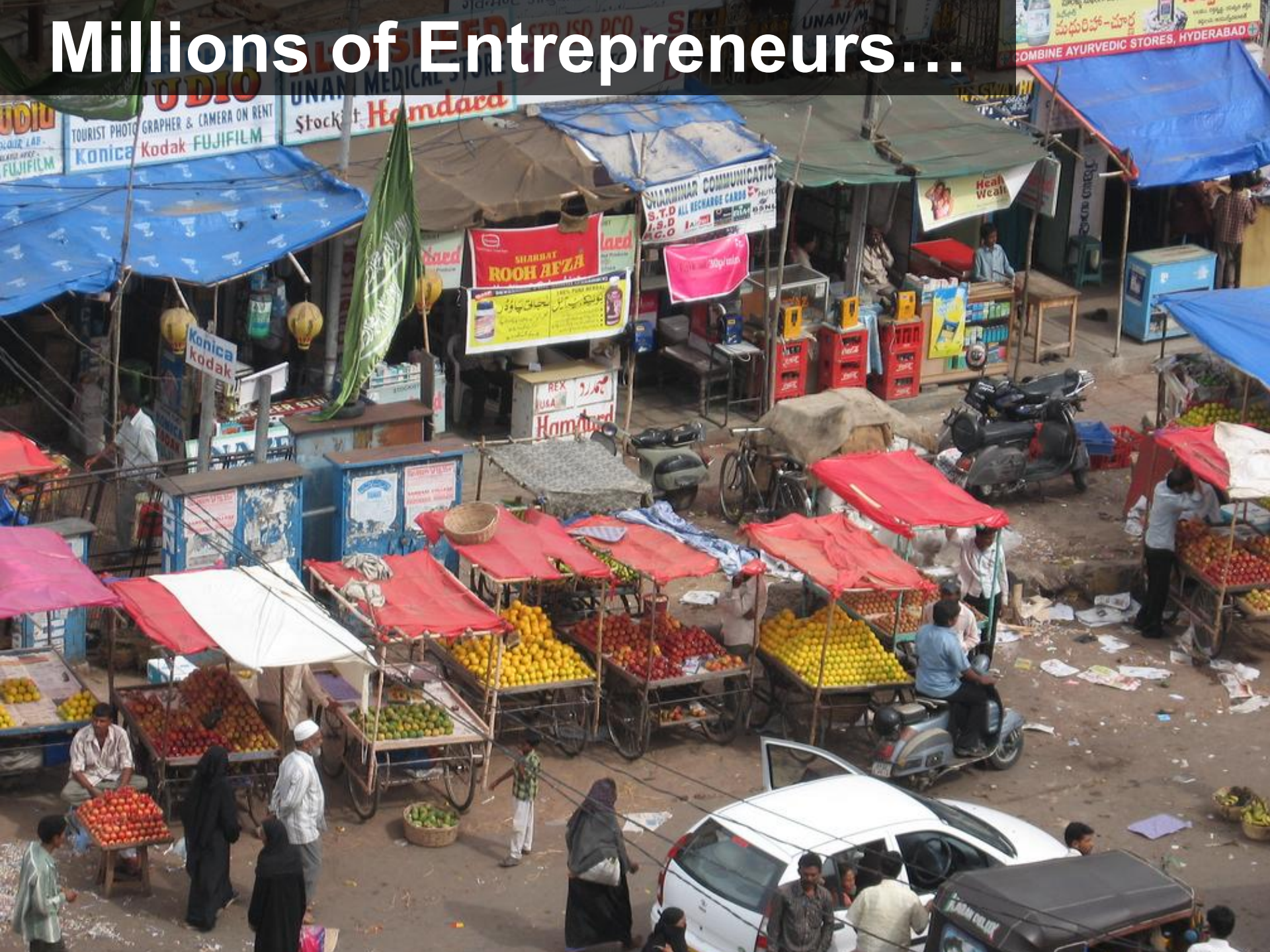
Households at baseline

- Family of 5
- Monthly expenditure of ~Rs 5,000 (~\$125)
- 98% of 7-11 year olds, 84% of 12-15 year olds in school
- Borrowing (from friends, moneylenders, etc.) is common (69% of households); average interest rate 3.85% per month
- Almost no MFI borrowing.

Entrepreneurship at baseline

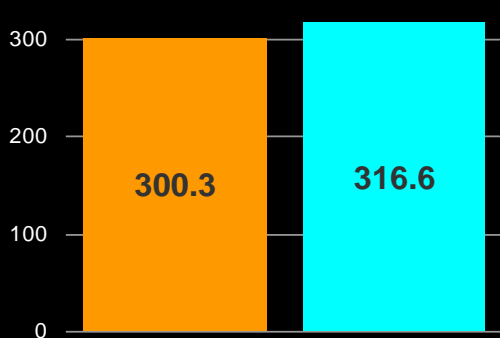
- 31% of the households run at least one small business (vs. OECD average of 12%)
 - Of these, 9% of households run more than one business
- But these businesses had few...
 - Specialized skills (mostly general stores, tailors, fruit/vegetable vendors)
 - Employees:
 - Only 10% have any employees; none has more than 3
 - Assets
 - 20% use no productive assets whatsoever.
- Scale of businesses:
 - Sales: Rs 13,000 (~\$325) per month
 - Profits: Rs 3,040 (~\$75) per month

Millions of Entrepreneurs...

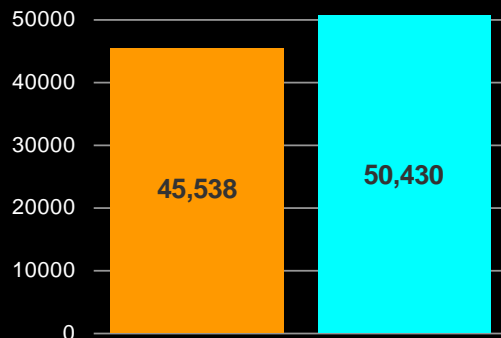


Treatment-Control Balance: Slum Level

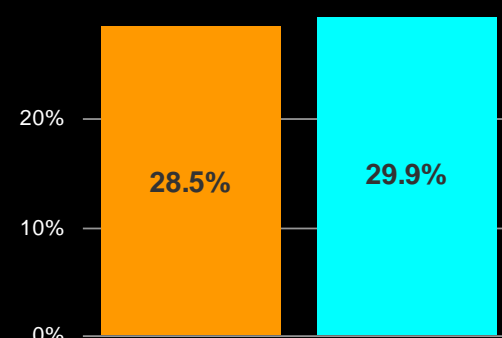
Population



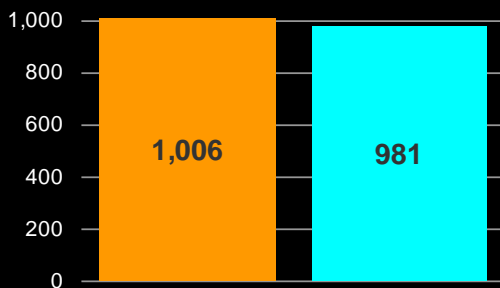
Debt (Rs.)



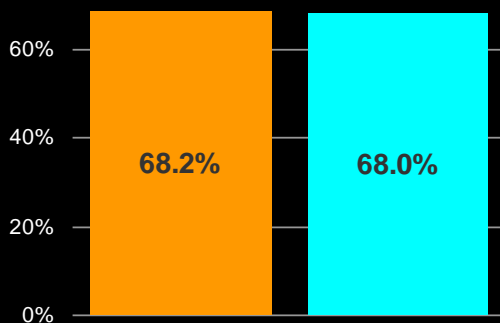
Business per capita



Expenditure per capita (Rs. / month)



Literacy

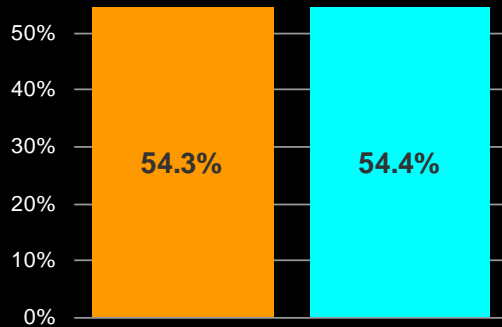


treatment
control

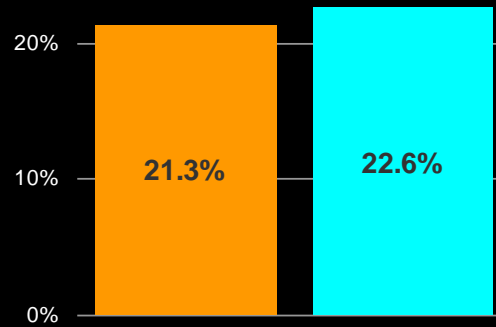
No differences are statistically significantly different

Treatment-Control Balance: Households

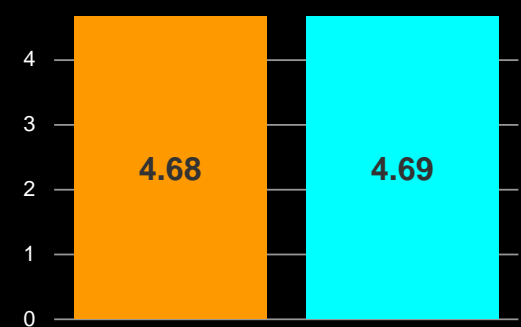
Spouse literate



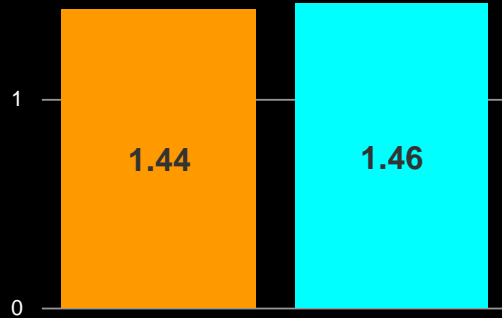
Spouse wage



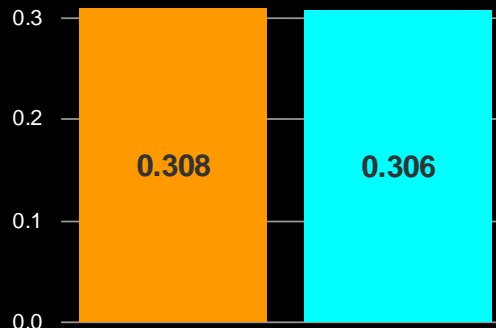
Adults



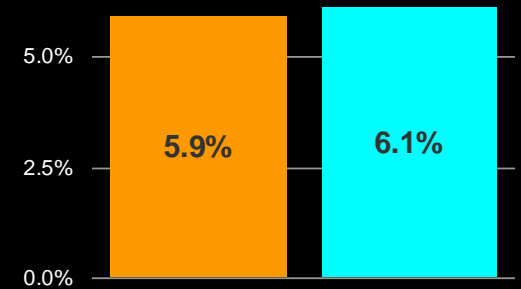
Prime age women



Business starts



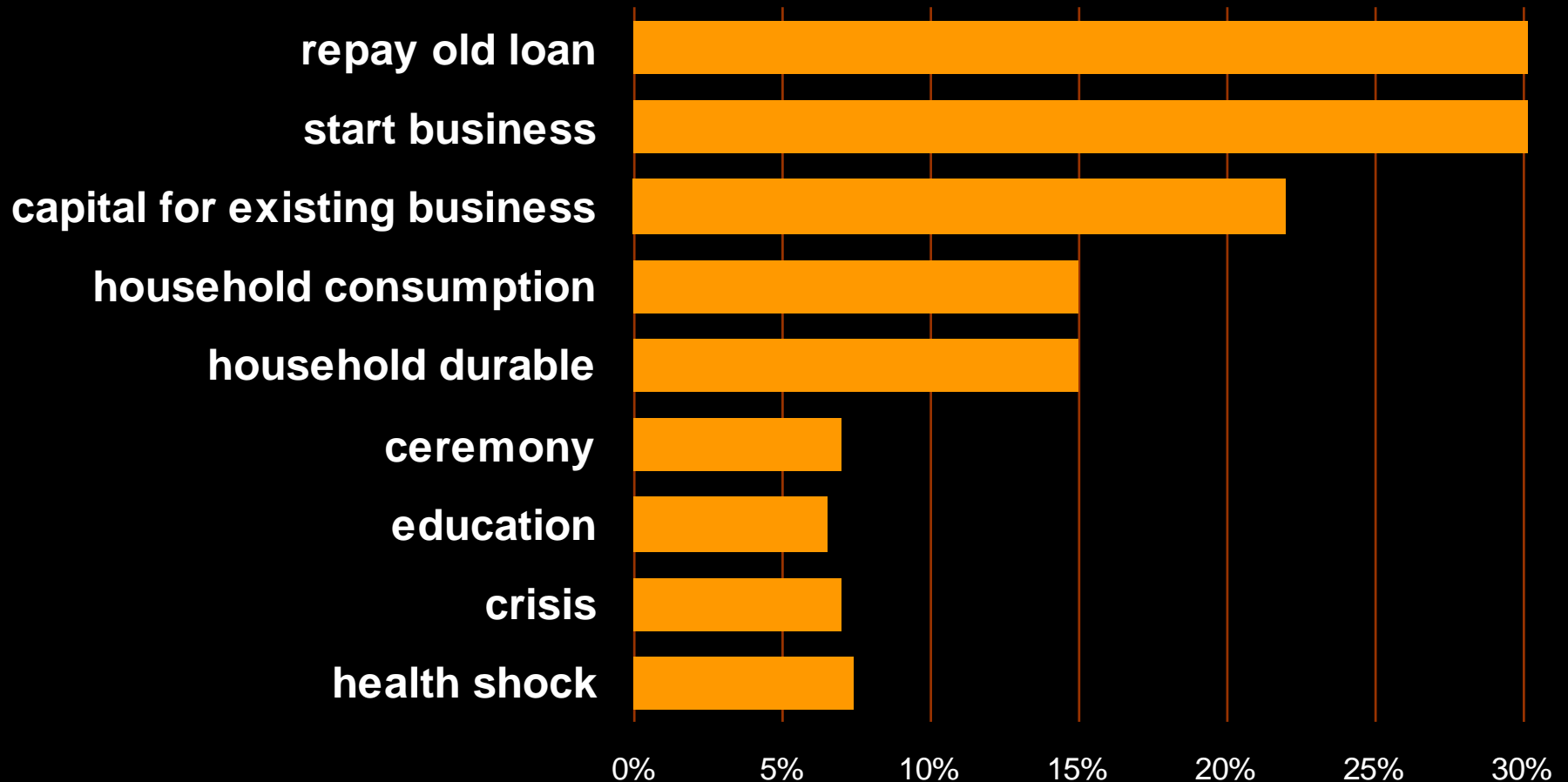
Own land (Hyderabad)



No differences are statistically significantly different

treatment **control**

Why do you want a loan?



(Control) households at endline

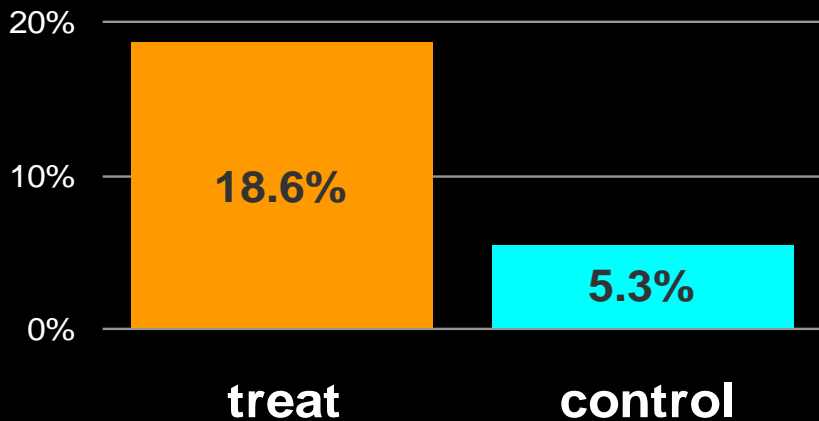
- The average household is a family of 6 (4.7 adu)
- Monthly expenditure of Rs 6,375 (~\$160)
- 96% of the 7-11 year olds, and 85% of the 12-15 year olds in school
- Borrowing is very common (89% of households)
 - average interest rate ~2% per month
- 18.7% have an MFI loan

What should we expect

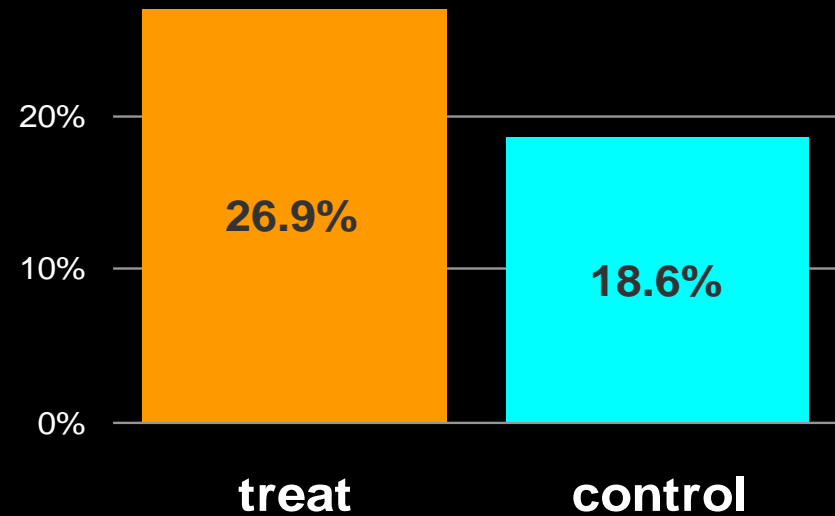
- Assume:
 - fixed cost of starting a business
 - variable cost of running it
- When credit access increases:
 - Those without an existing business decide
 - Some will start a business (richer, lower opportunity cost, those with better ideas)
 - Starting a business might involve cutting consumption
 - The rest will just finance consumption
 - Existing business owners don't face a fixed cost: borrow to increase consumption and variable capital
 - Their profits should go up
- Overall consumption may go up or down

2. TAKE UP?

Spandana loan



Any MFI loan

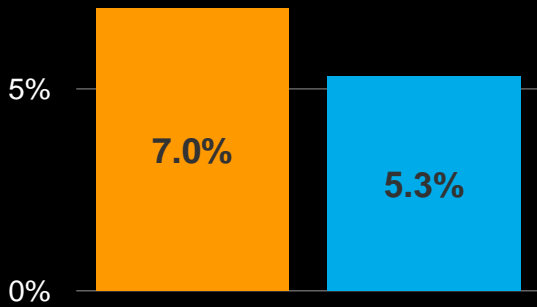


Impact on borrowing

- **8.3** percentage points more MFI borrowers (Spandana or other) in treatment slums
 - **13.3** percentage points more Spandana borrowers
- Average of Rs. **1,260** of additional MFI borrowing per household in treatment slums (ITT estimate)
- These relatively low rates of MFI loan takeup are similar to those found in other J-PAL projects.

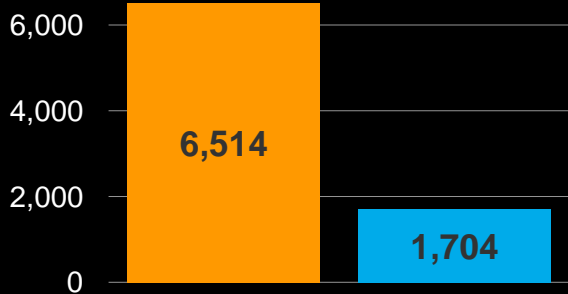
Impact on business

New business **

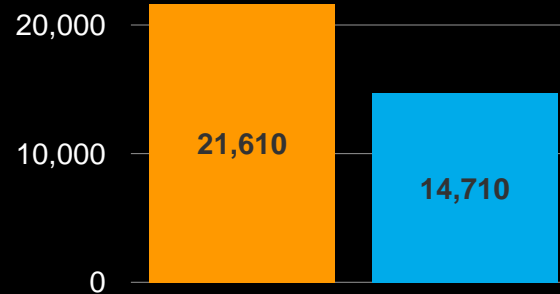


For those starting a business:

Profits **

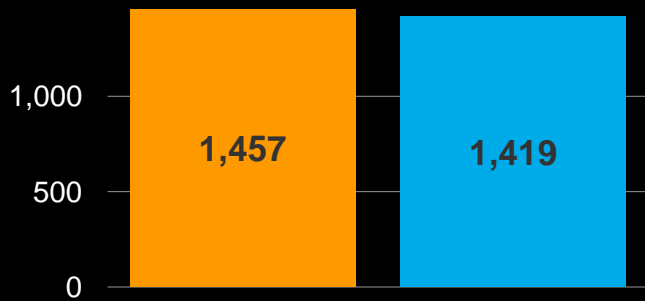


Revenues

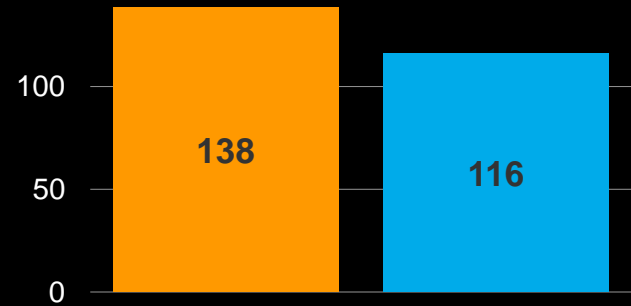


Impact on expenditure

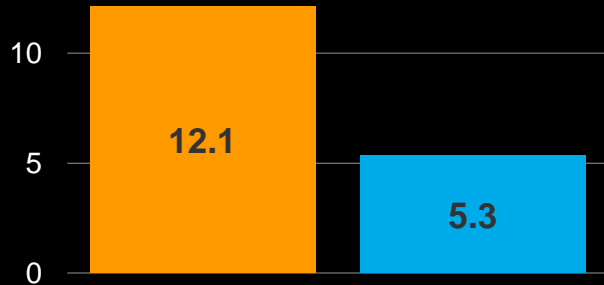
PCE



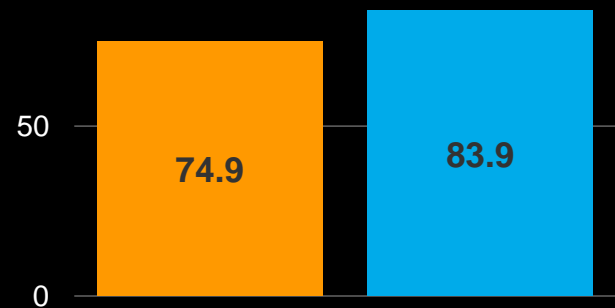
Durable PCE *



Business durables *

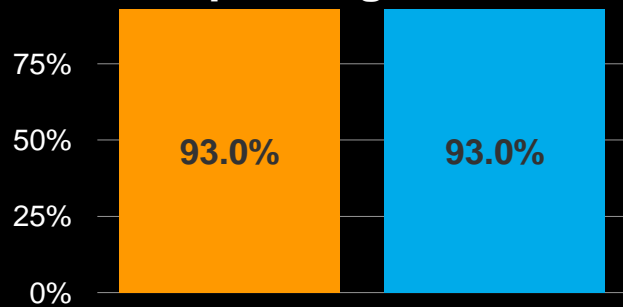


Temptation goods *

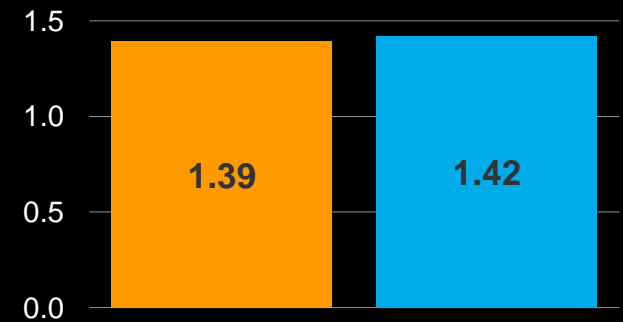


Child welfare and women's "empowerment"

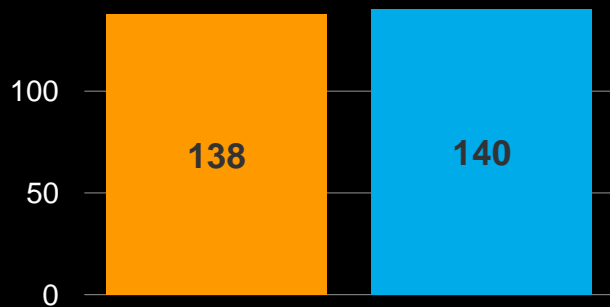
Woman's spending decision



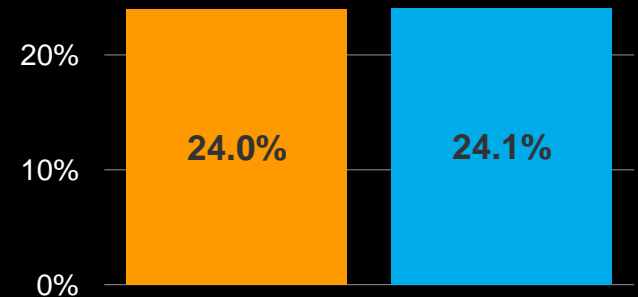
Kids in school



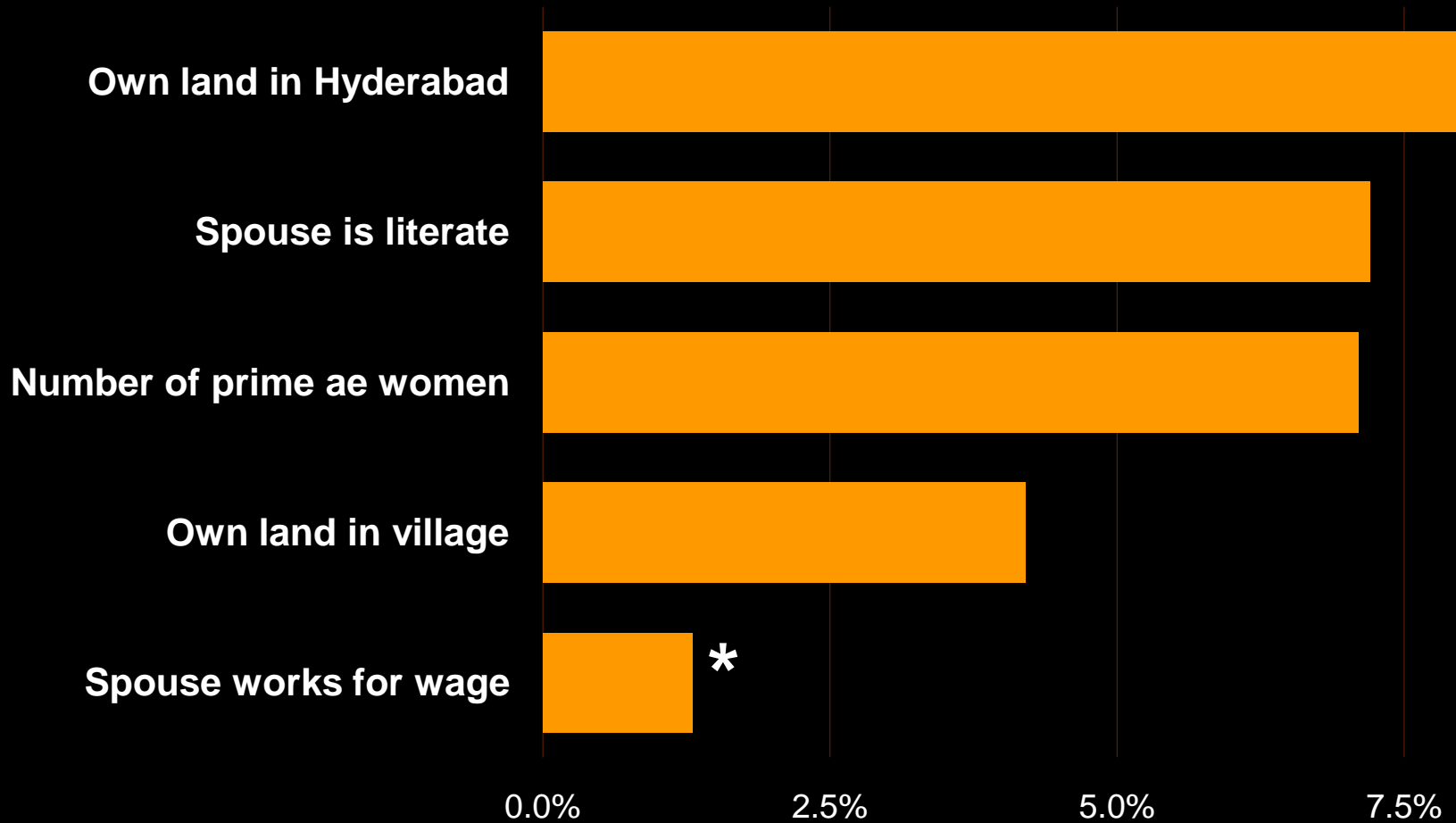
Health expenditure



Child's major illness



Predicting who is a likely entrepreneur



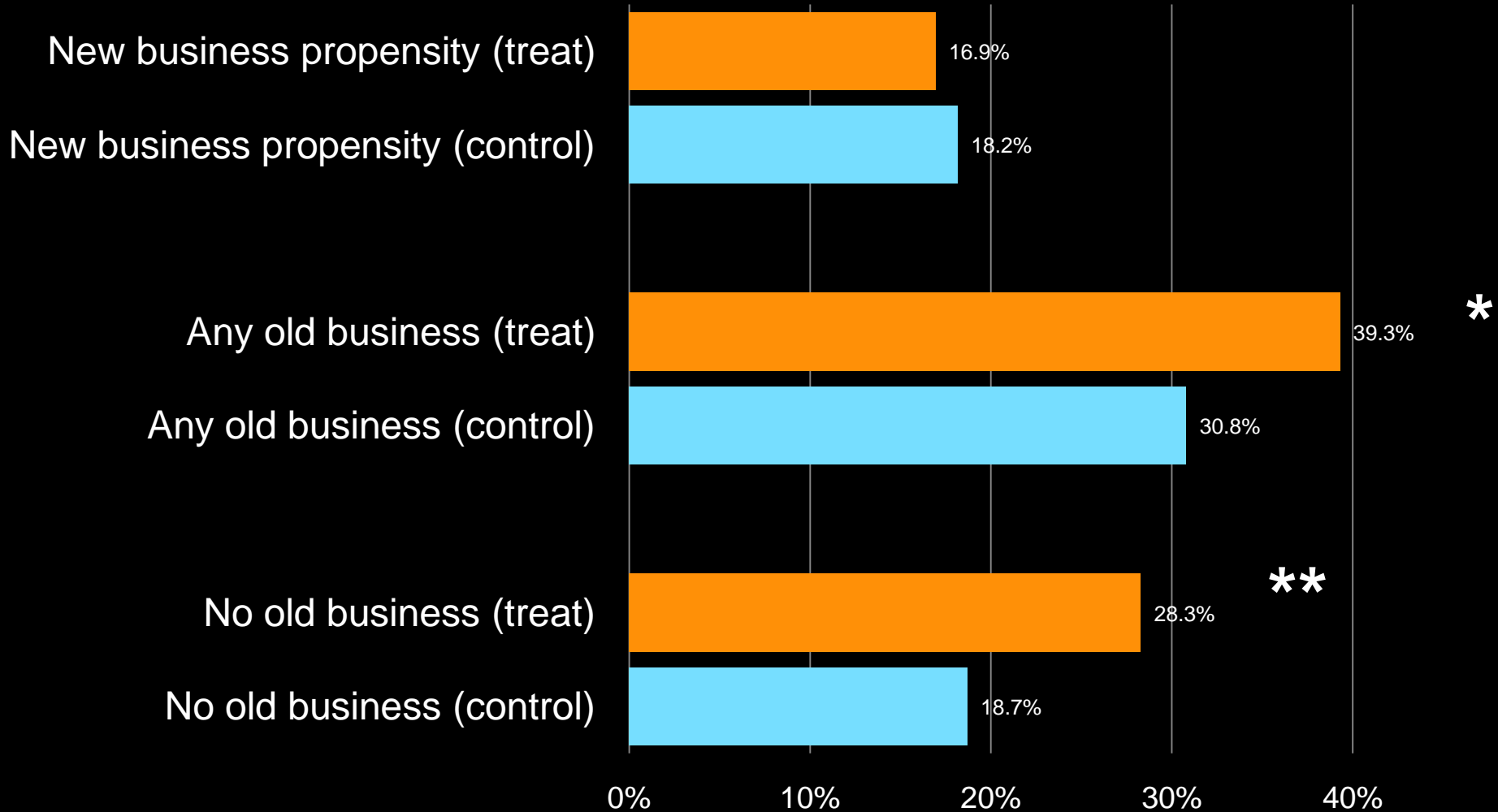
Expenditure of groups, by business status

Table 5: Expenditure for control households, by business status

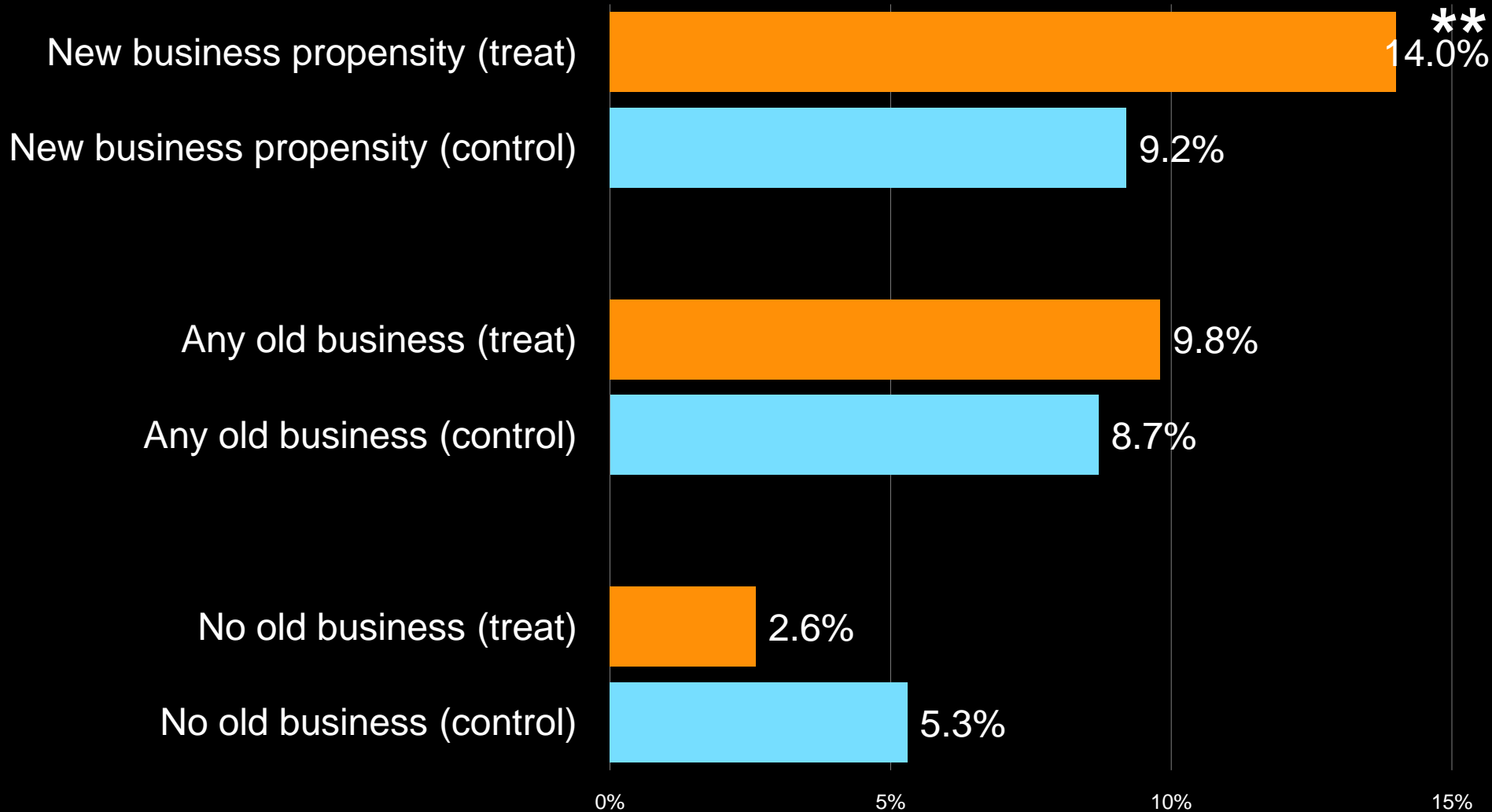
	Did not have a business 1 yr ago			P value: (1)=(3)	P value: (2)=(3)
	Old business owners	High-business propensity	Low-business propensity		
	(1)	(2)	(3)		
Total PCE (Rs/mo)	1,479.56	1,430.31	1,347.56	0.014	0.011
Nondurable PCE (Rs/mo)	1,335.57	1,336.81	1,237.32	0.006	0.051
Number of control HHs	979	2,571	1,525		

Note: P-values computed using cluster-robust standard errors. Old business owners are those who own a business started at least 1 year before the survey. High-business propensity households are those (who did not have a business 1 year before the survey)

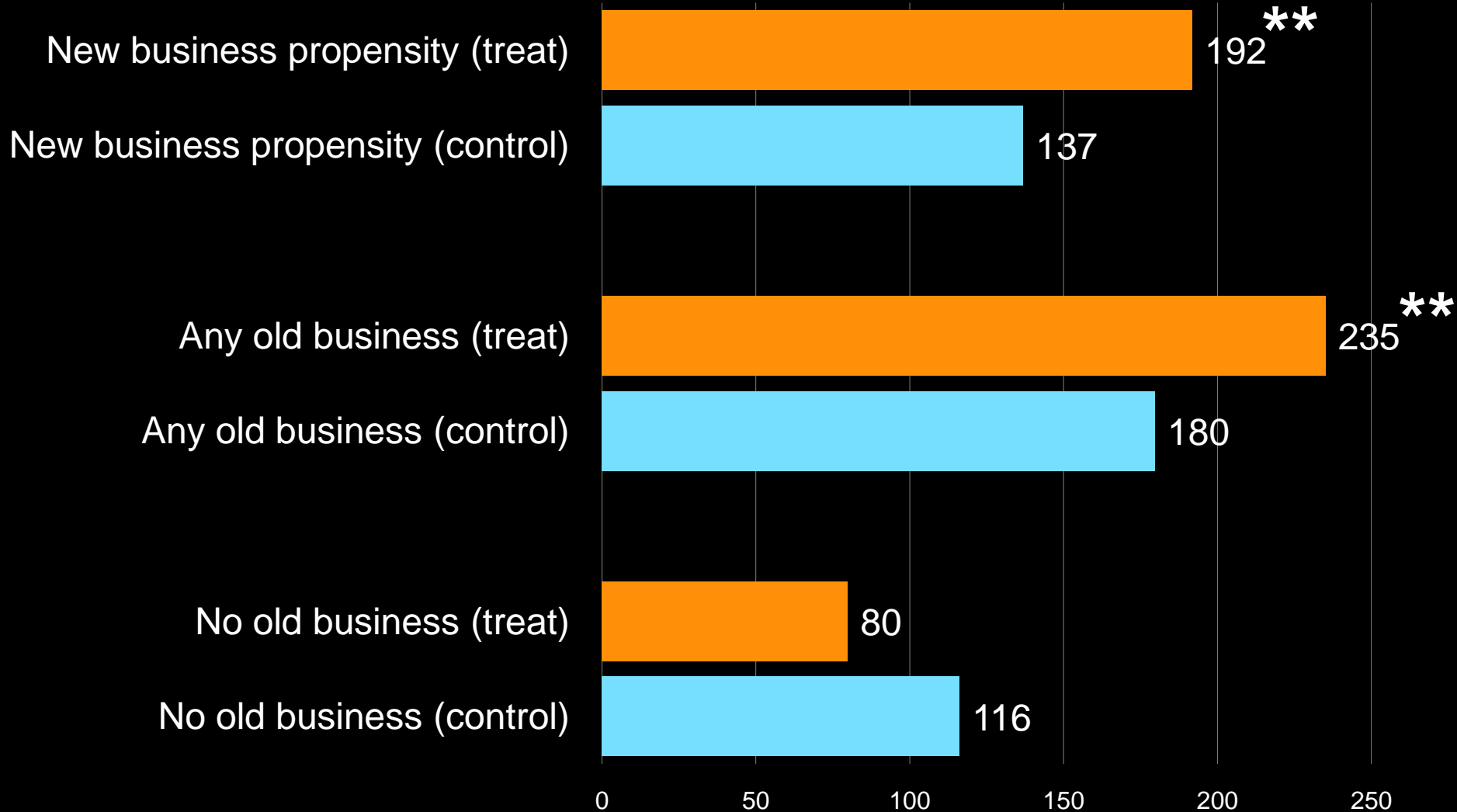
Borrow from any MFI?



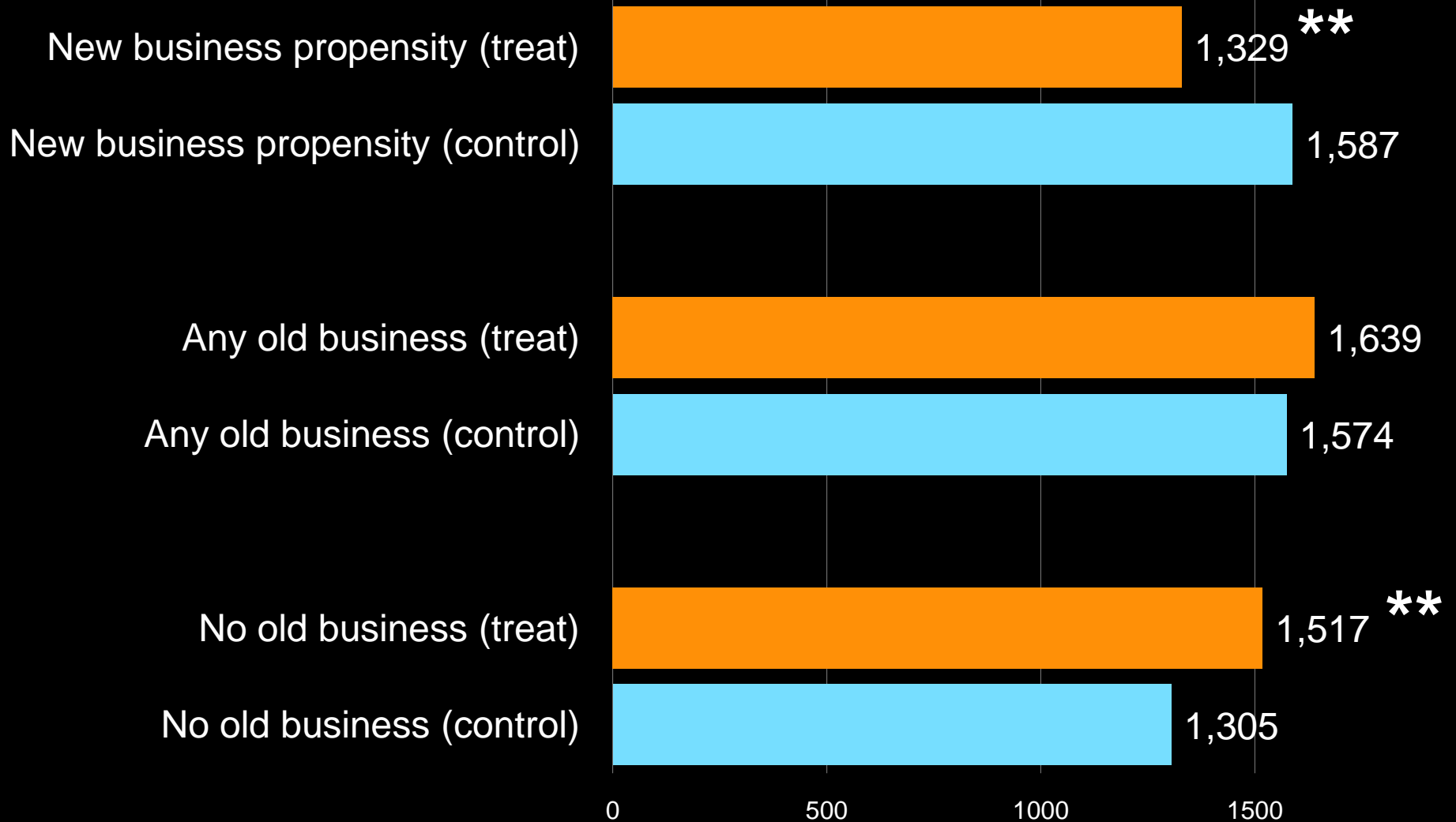
Start a new business



Durable expenditure



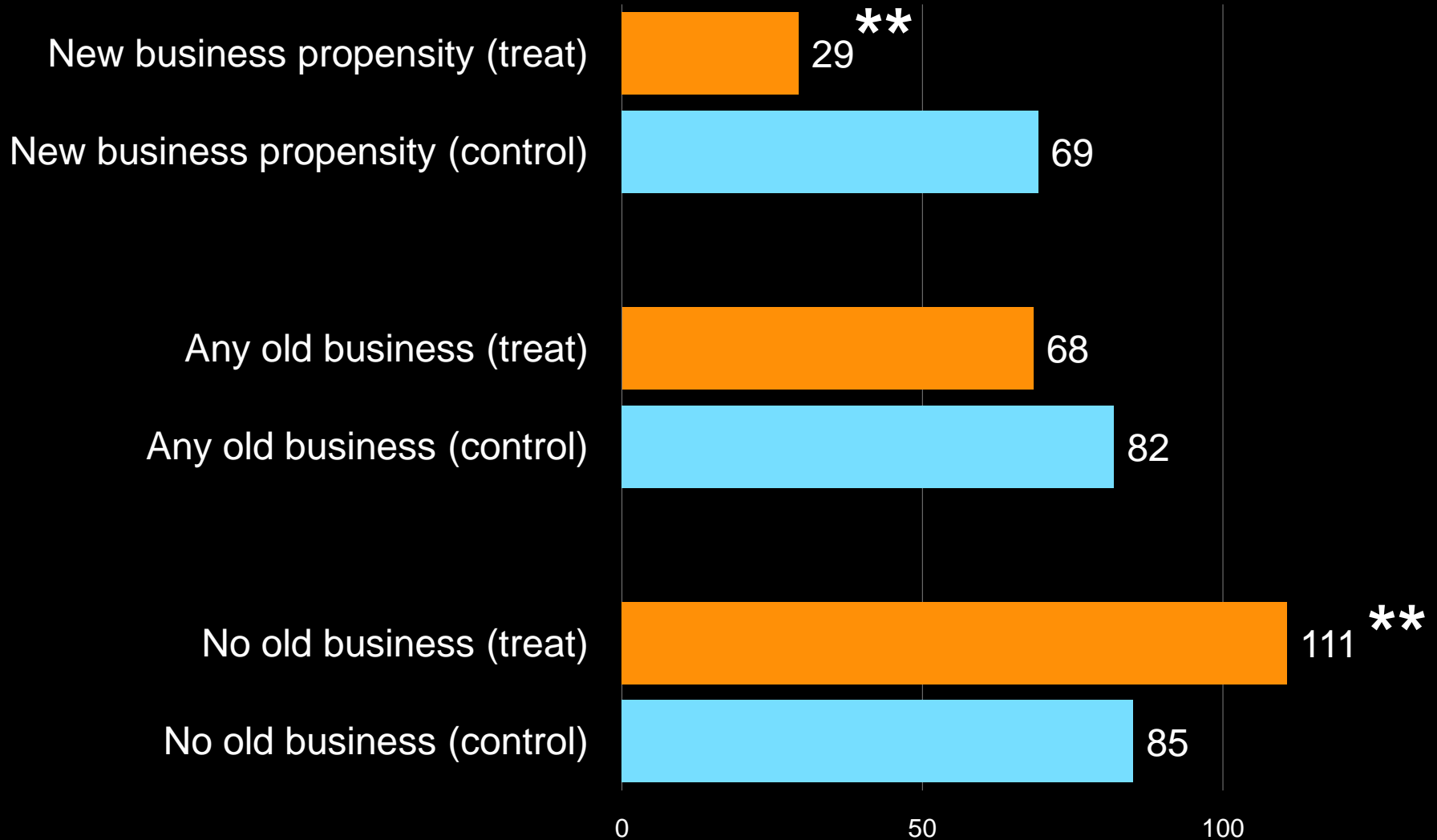
Non durable expenditure



Temptation



Temptation goods



Results by business status

- Old business owners borrow at (relatively) high rates, invest in durable goods and see increased business profits.
- Among those who didn't have a business 1 year ago:
 - Those with high propensity (literate, non-wage-working spouse) borrow and *reduce* nondurable consumption
 - Those with low propensity (illiterate and/or wage-working spouse) borrow and *increase* nondurable consumption

The impact of borrowing (TOT)

- If there are no GE/spillover effects of Spandana's expansion, treatment is a valid instrument for borrowing from Spandana.
- IV effects will be an
 - **over-estimate** if the presence of Spandana also induced some who did not take a loan to start or expand a business (for example, due to social learning)
 - **under-estimate** if the presence of Spandana discouraged some who did not take a loan to start or expand a business (for example, due to competition)

Impacts of borrowing on borrowers

Table 8: IV estimates

	New business	Durables	Durables used in a business	Nondurable PCE	"Temptation goods"
Spandana borrower	0.130** [0.058]	126.141 [86.129]	43.612 [26.833]	-77.076 [225.890]	-66.360* [36.511]
Control Mean	0.071	138.554	12.085	1318.585	75.158
Control Std Dev	0.314	482.692	174.368	1054.137	125.905
N	6555	6570	6611	6570	6651

Note: Spandana borrowing instrumented with living in a treated slum. Cluster-robust standard errors in brackets.

Conclusions

- Takeup of MFI loans is lower than is often predicted
 - This matters for planning sample sizes
 - It also suggests microcredit is not for everyone
- Microcredit does have impacts, and they differ for different households:
 - 1 in 8 new borrowers start a new business
 - Those who already had businesses invest in durables and restrict their “temptation” consumption; their profits go up
 - Others consume more
- Microcredit may neither be the life changing experience that some have described, nor the new usury: the bottom line is that not everyone may want to become an entrepreneur.