

# Entrepreneurship on a Safety Net:

## Evidence from the World's Largest Cash Transfer Program

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# Motivation: Cash Transfers and Entrepreneurial Activity

- Cash transfers are commonly used as tool to alleviate poverty

-  Brazil: "Bolsa Família" provides monthly cash payments to low-income families
-  Mexico: "Prospera" offers conditional transfers tied to health and education requirements promoting human capital accumulation and long-term economic mobility
-  India: "PM-KISAN" gives ₹6,000 annual direct cash transfer to farmer families
-  Kenya: "Inua Jamii" provides elderly cash transfers plus various unconditional programs
-  Indonesia: "Program Keluarga Harapan" offers conditional transfers tied to school and health
-  Philippines: "Pantawid Pamilya" provides cash grants conditional on school and health insurance against failure
-  Pakistan: "Benazir Income Support Programme" provides quarterly transfers to poor women
-  Colombia: "Familias en Acción" transfers cash based on children's school attendance
-  Chile: "Ingreso Ético Familiar" provides unconditional basic income to poor households
-  India: "Pradhan Mantri Darshak" provides unconditional basic income to poor households
-  Spain: "Dependencia" provides unconditional basic income to poor households
-  Italy: "Assegno di Inclusione" provides conditional cash transfers to vulnerable families



# Cash Transfers for Poor Populations... *Government Support*



*“Bolsa Família has supported millions who didn’t even have money to eat and now have income from work and from entrepreneurship.”*

*“We want to soon reach one million Bolsa Família beneficiaries who become entrepreneurs.”*

Wellington Dias, Brazil’s Minister  
of Social Development

# Cash Transfers for Poor Populations...*Beneficiary Support*



*“I started my business while receiving **Bolsa Família**, setting up a small stand selling fruit cocktails. **Today I am a successful entrepreneur**. I now have assets worth almost R\$ 1 million.”*

Karine Rodrigues Ramos, former  
Bolsa Família beneficiary

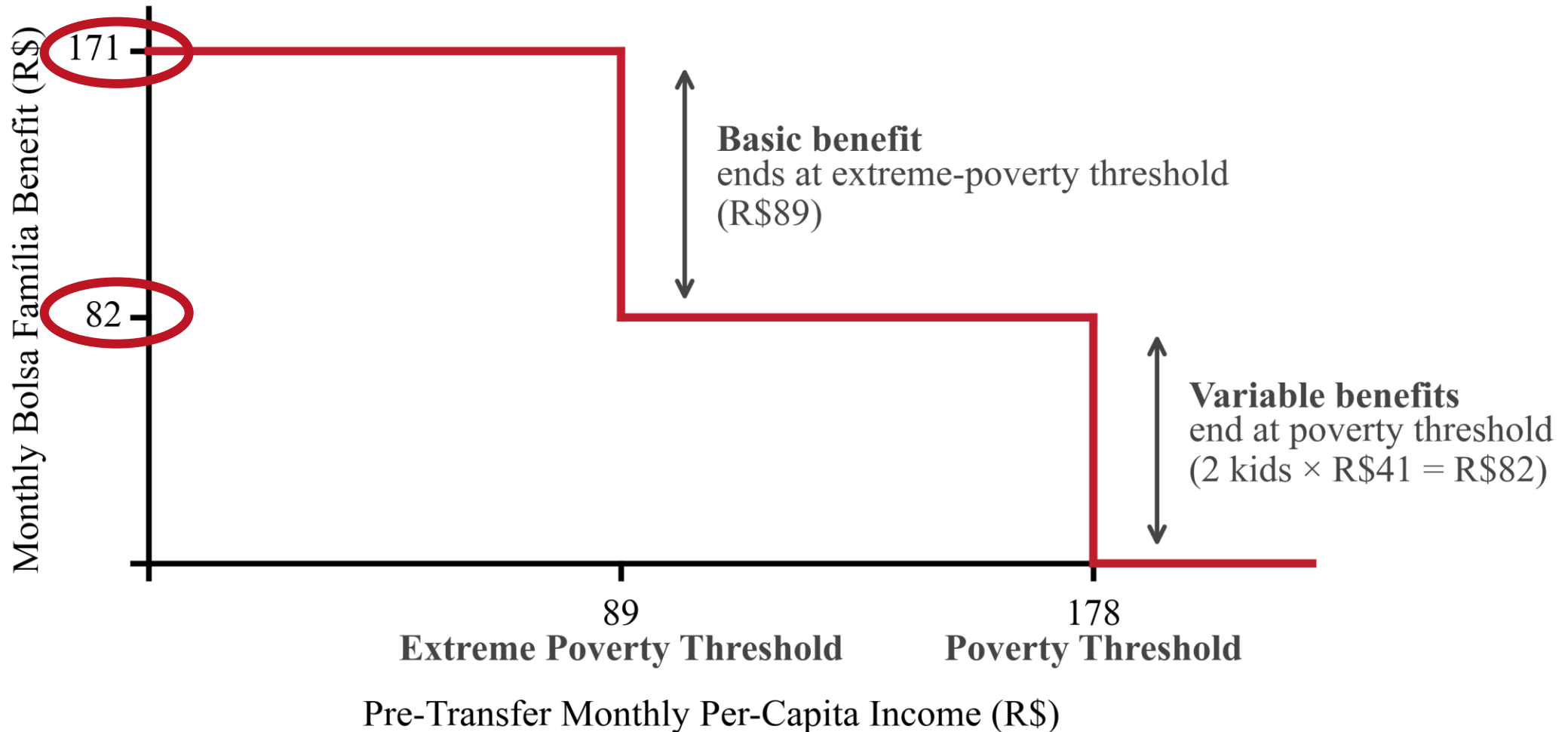
# Motivation: Cash Transfers and Entrepreneurial Activity

- *We ask...*
  - Do cash transfers stimulate *entrepreneurial entry*?
  - How do cash-transfer entrepreneurs *perform* relative to other entrepreneurs?
    - What *channels/mechanisms* explain performance differentials?
  - Do entrepreneurial experiences generate *economic mobility* to beneficiaries?
- We answer these questions using a novel combination of granular administrative datasets that we linked for the first time
- *Let us start by characterizing a significant cash transfer program*

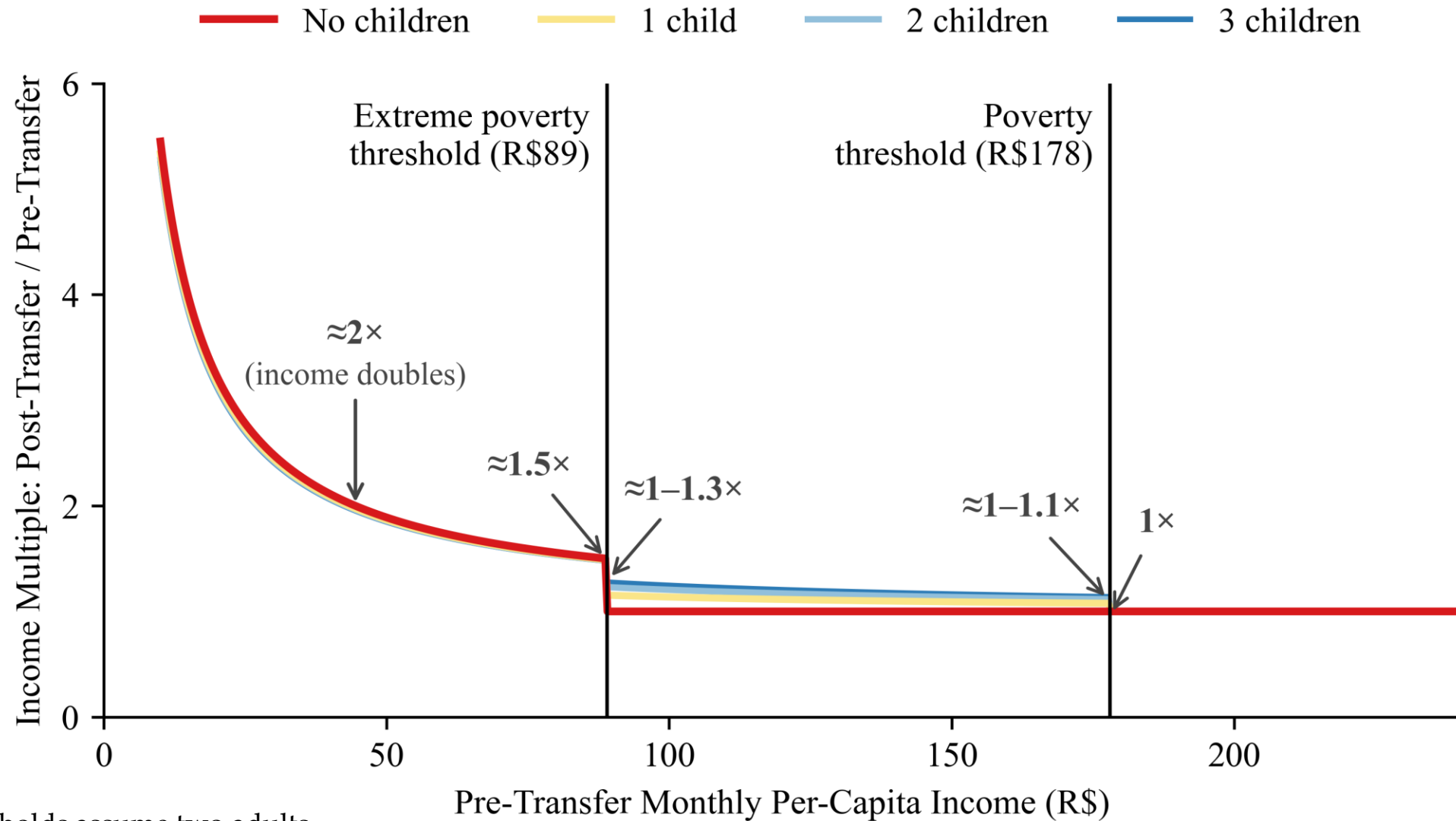
# The Bolsa Família Program: Overview

- The *Bolsa Família program* is the world's largest cash transfer program
- Bolsa Família provides cash transfers for households *with monthly per capita income below R\$178* (equivalent to \$49, or 20% of Brazil's minimum wage)
- To maintain enrollment, families must meet education and health requirements
- *Monthly cash transfer amounts* depend on the household income level:
  - *Extreme poverty* ( $\leq$  R\$ 89 per capita): receive a *basic benefit of R\$89 (\$25)* + a *variable benefit of R\$41 (\$11)* per child or pregnant woman
  - *Poverty* ( $\leq$  R\$ 178 per capita): only get a *variable benefit of R\$41* per child/pregnant woman

# Bolsa Família Benefit Structure: Two-Child HH Example



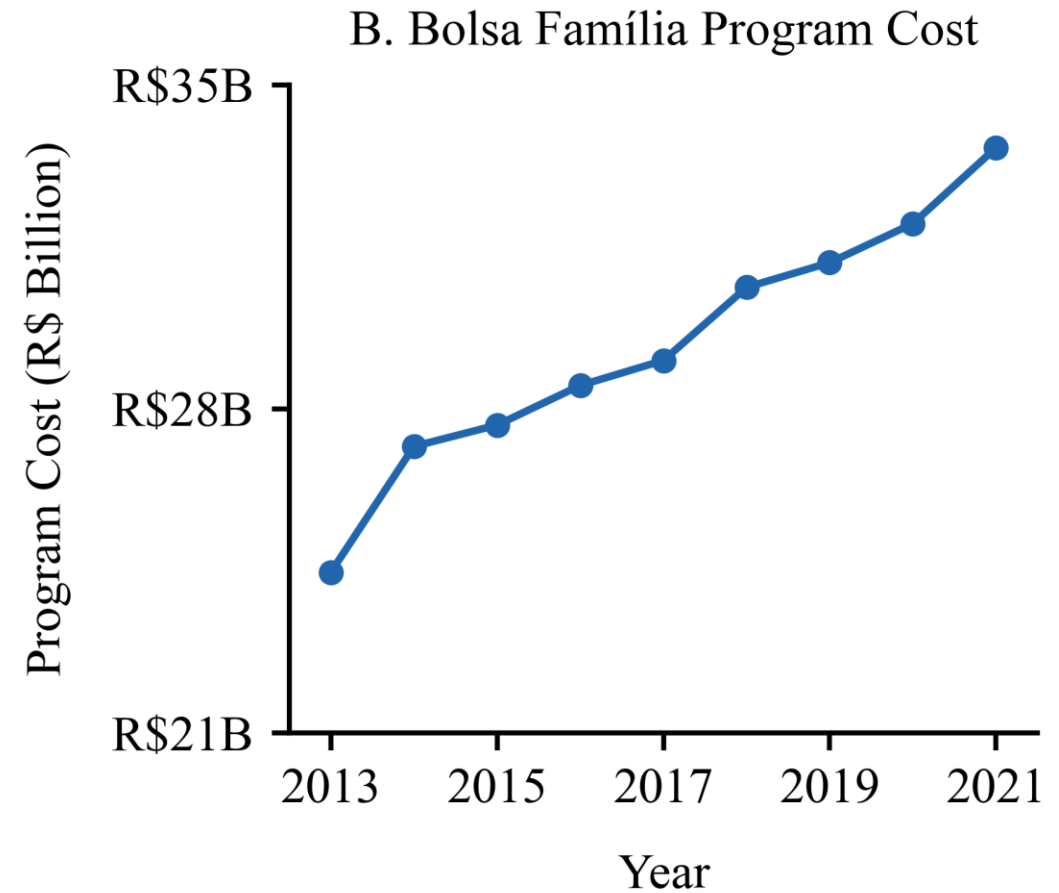
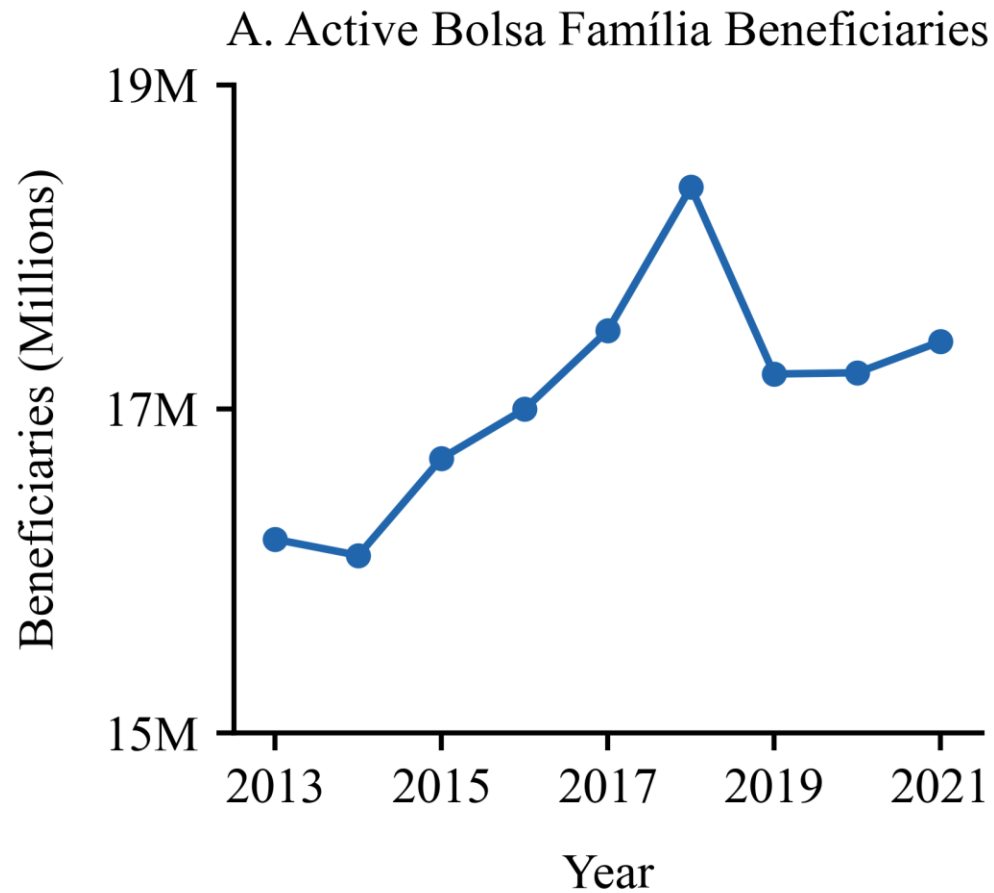
# HH Income Multiplier from BF by Family Composition



Note: All households assume two adults

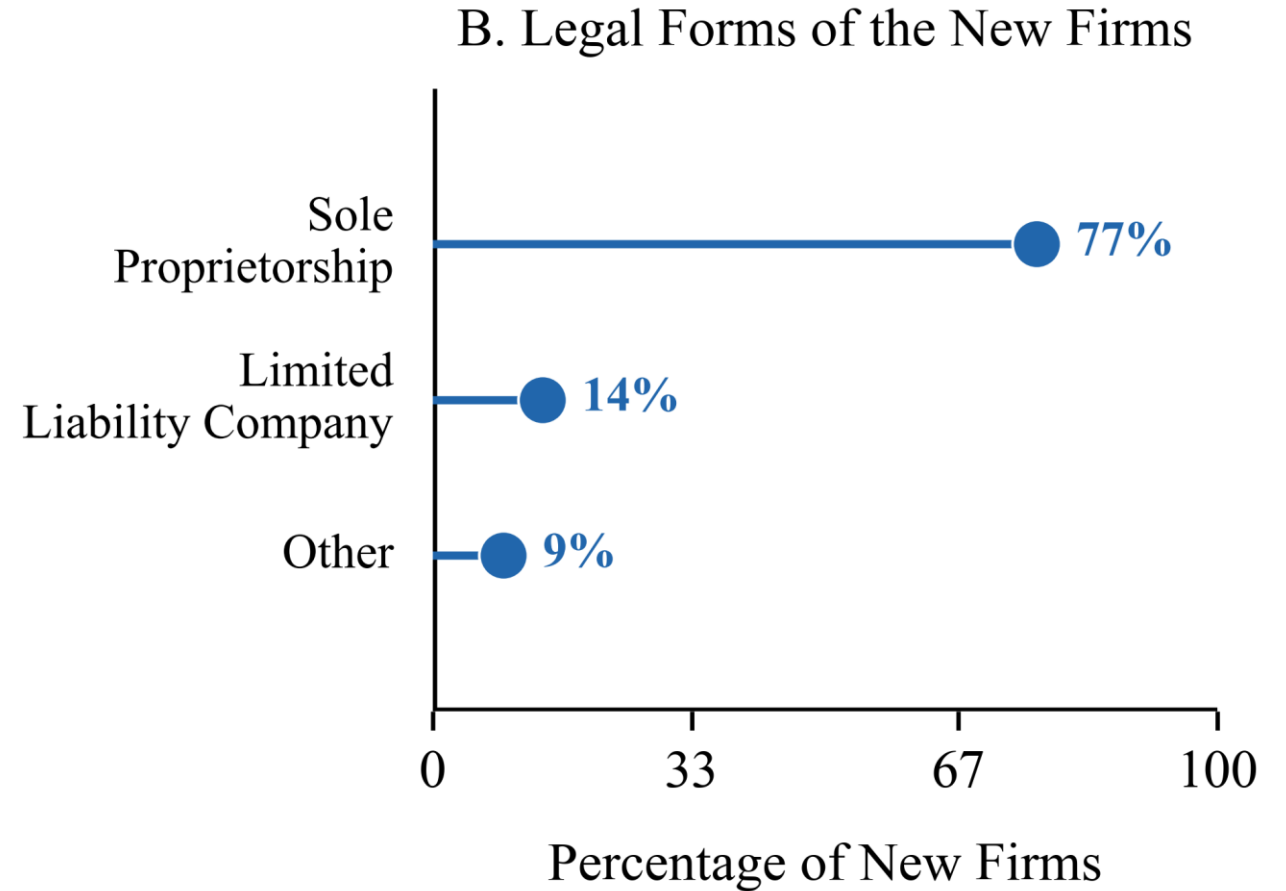
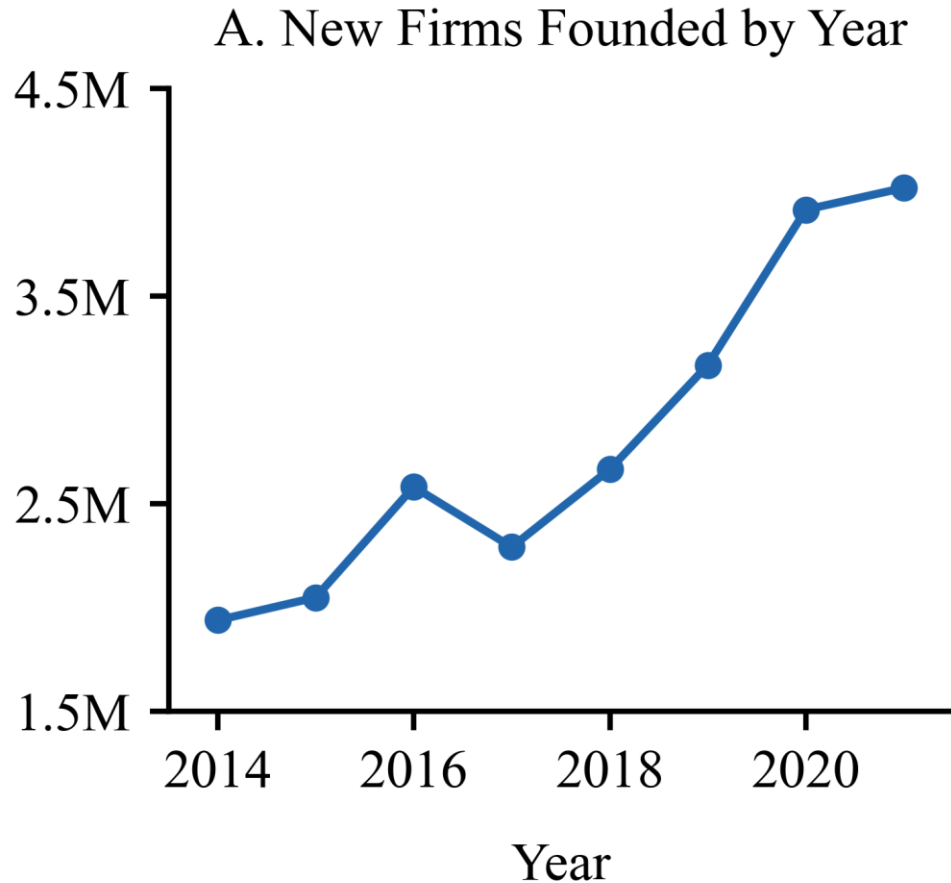
# The Bolsa Família Program: Beneficiaries and Cost

- *Bolsa Família* has about 17 million beneficiaries (over one-quarter of the Brazilian households)



# New Firms in Brazil

- About *3 million new firms* are founded each year in Brazil



# Firms in Brazil: Sole Proprietorships

- Nearly all sole proprietorships start under the *individual microentrepreneur* (MEI):
  - Taxes: About 1% of revenues (fixed fee that counts toward retirement contributions)
  - Cap: Up to R\$81K (\$22K) annual revenues or 1 employee
- As sole proprietorships grow, they move to the *microenterprise* (ME) regime:
  - Taxes: From 4% to 15% (progressive and sector-specific)
  - Cap: Up to R\$360K (\$100K) annual revenues or 9–19 employees (sector-dependent)

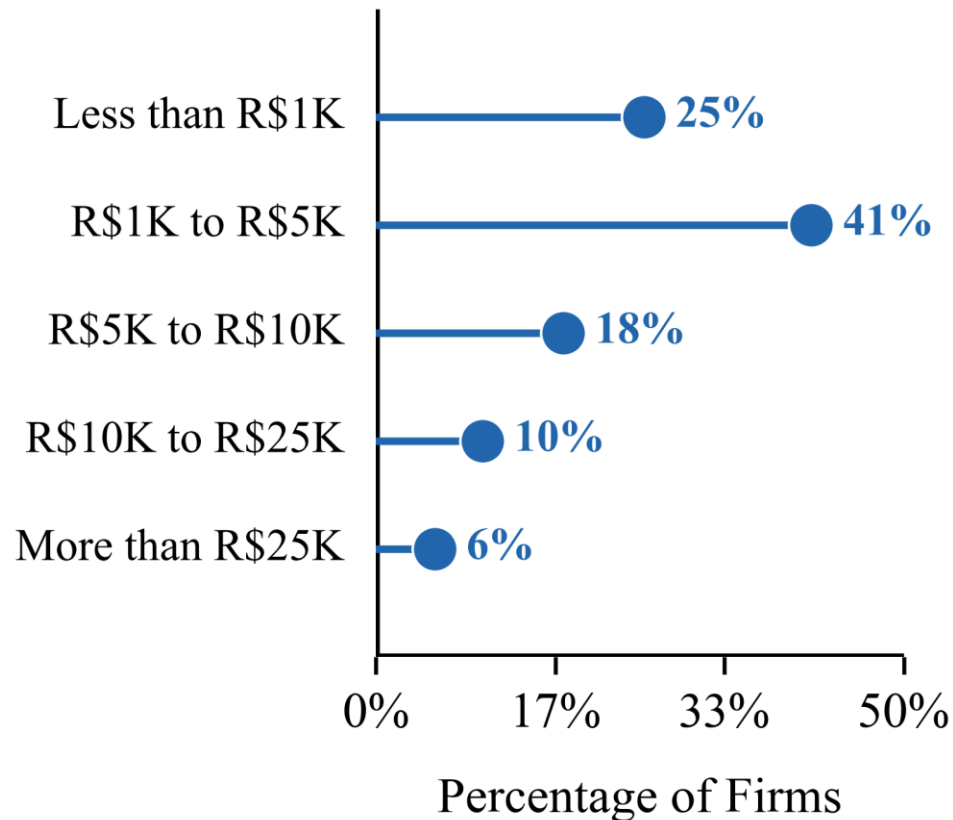
# Data and Sampling

- Use six datasets sourced directly from the Brazilian government:
  - PNAD: nationally representative *household survey* (by IBGE, the US-Census equivalent)
  - CNPJ: *firm registry* (all active and inactive firms in Brazil) and *their outcomes*
  - Bolsa Família Payments: *monthly beneficiary-level* Bolsa Família payments
  - RAIS: *formal workers* in Brazil (employment history, roles, salaries, demographics)
  - Operações Indiretas Automáticas: *small business loans*
  - Dívida Ativa da União: *debt collection proceedings* for unpaid government obligations
- Collect data on firm entries and outcomes between 2014 and 2024
- Focus on *sole proprietorships* started by *first-time* entrepreneurs who were *employed* in the formal labor market *before* starting their venture
  - *2.3 million sole proprietorships* (254K of which have been Bolsa Família beneficiaries)
  - *Cash-transfer entrepreneur* defined as Bolsa Família beneficiaries and recent graduates

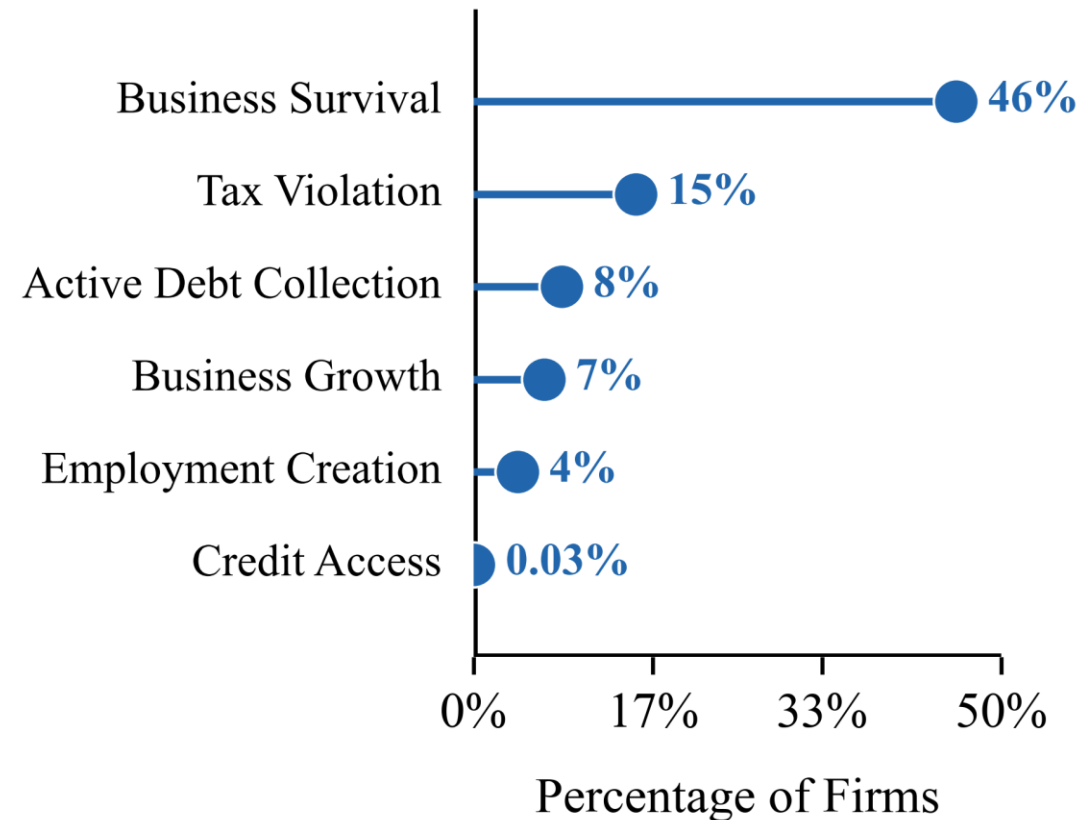
# Sample Characteristics

- 66% of the firms in our sample have *equity* (capital social) *under R\$5K* (\$1.4K)
- By year five, only 46% of the firms *survive* and 15% have incur a *tax violation*

A. Firm Equity (2024 Brazilian Reais)

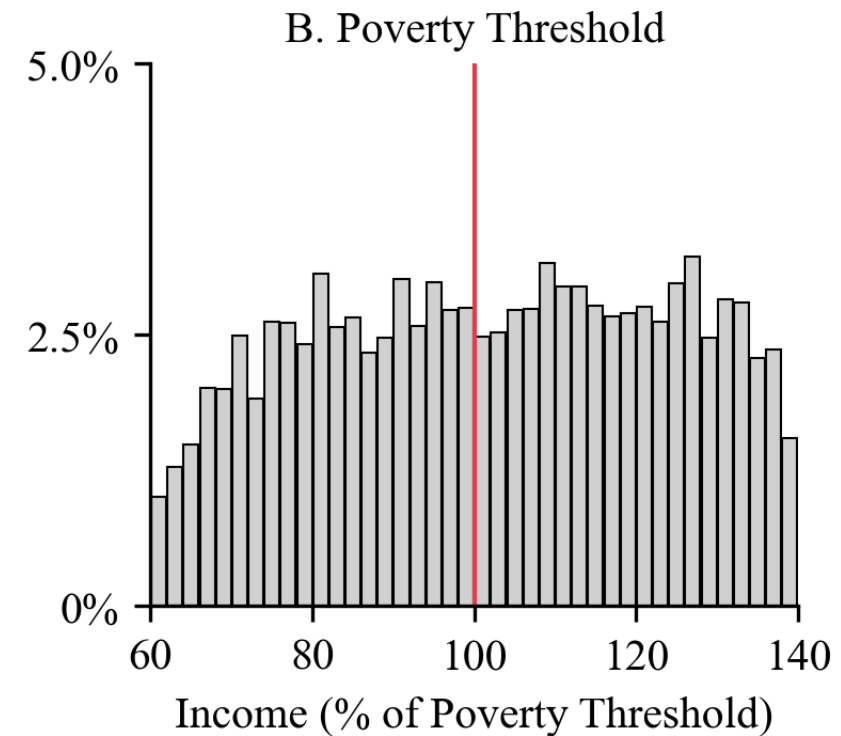
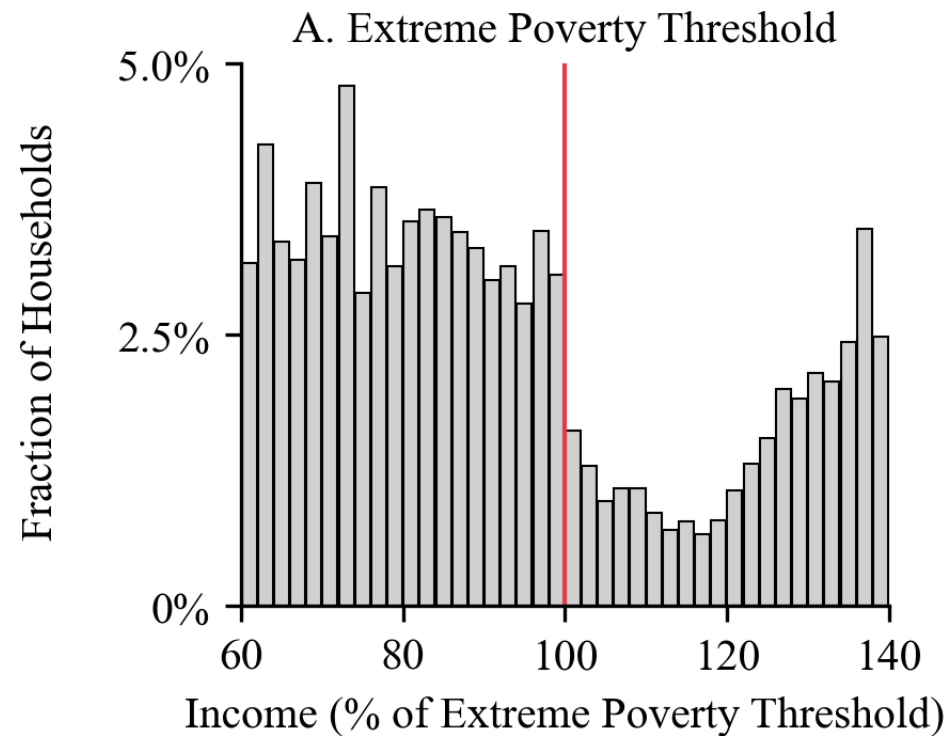


B. Firm Five-Year Outcomes



# Bolsa Família Rules & Income Manipulation Incentives

- We start by examining whether beneficiaries *strategically manipulate* their income
  - Look at extent beneficiaries *cluster* at maximum income requirements for program benefits
  - Clear spike *just below the poverty threshold* where benefit losses are largest
  - No visible bunching at the poverty threshold (lower incentives + two-year protection rule)



# Bolsa Família Rules & Income Manipulation Incentives

- We formally estimate the *elasticity of income to cash transfers* via bunching methods

Exclusion Window	Excess Mass ( <i>b</i> )	Elasticity ( <i>e</i> )	<i>t</i> -statistic	95% Confidence Interval	Observations
	(1)	(2)	(3)	(4)	(5)
<i>Panel A: Extreme Poverty Threshold</i>					
±8%	0.197***	0.165	2.91	[0.059, 0.326]	3,709
±10%	0.232***	0.189	2.94	[0.081, 0.391]	4,507
±12%	0.238***	0.192	2.60	[0.146, 0.504]	5,277
<i>Panel B: Poverty Threshold</i>					
±8%	0.007	—	0.25	[-0.053, 0.060]	11,973
±10%	0.034	—	1.08	[-0.027, 0.090]	14,744
±12%	0.045	—	1.26	[-0.017, 0.122]	17,436

*For each 1p.p. increase in income loss from crossing the threshold, households reduce reported income by ~0.2%*

# Bolsa Família & Entrepreneurial Entry: IV Strategy

- Instrument: *Share of households with income below poverty threshold* (Survey Areas)

- Two-stage least squares estimations:

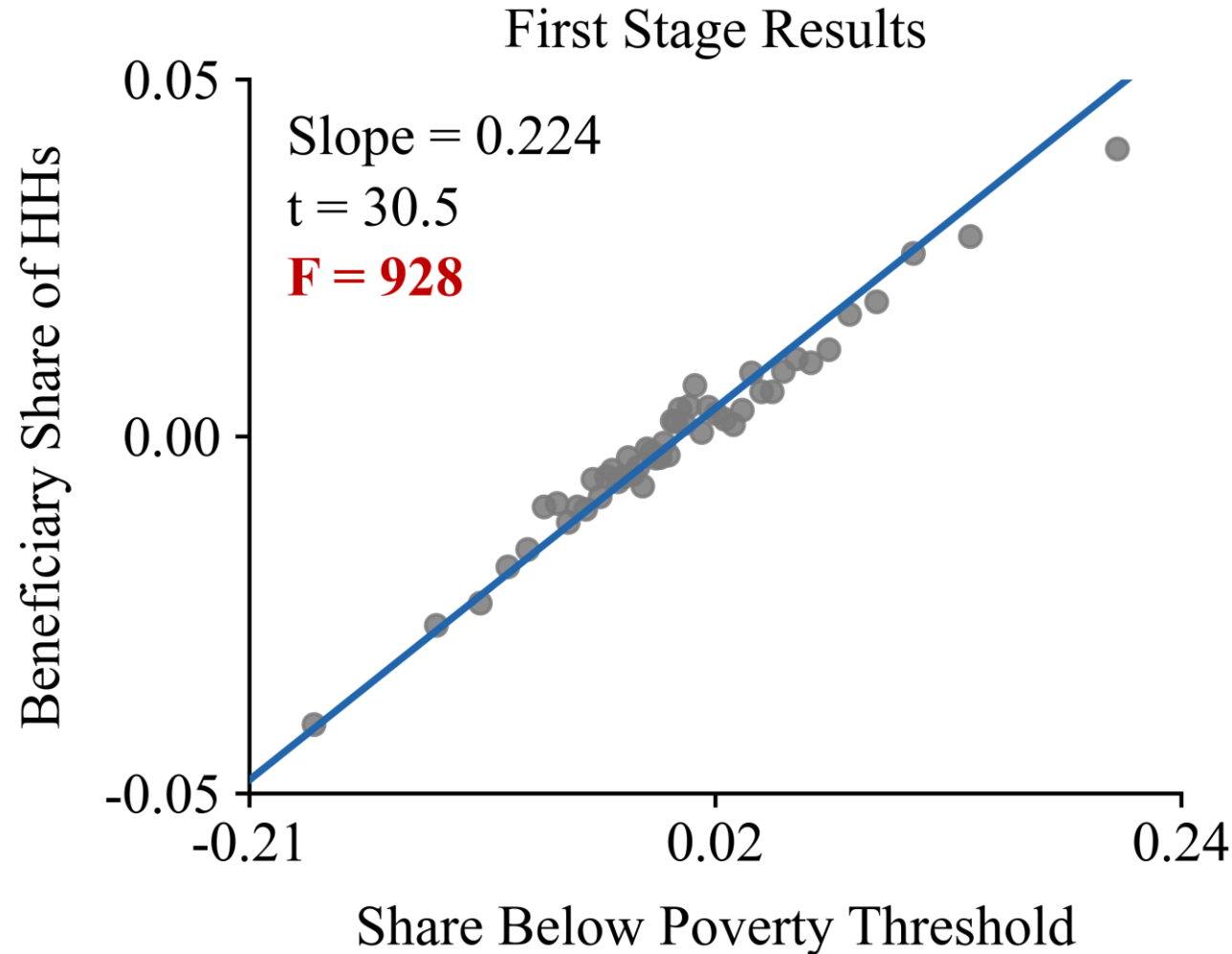
$$\text{Beneficiary Share of Households}_{st} = \alpha + \beta \cdot \text{Share Below Poverty Threshold}_{st} + \gamma X_{st} + \delta_s + \theta_{r(s),t} + \epsilon_{st}$$

$$Y_{st} = \alpha' + \rho \cdot \widehat{\text{Share of Beneficiary Households}}_{st} + \gamma' X_{st} + \delta'_s + \theta'_{r(s),t} + \epsilon_{st}$$

- The parameter of interest,  $\rho$ , captures the local average treatment effect of program participation on entrepreneurship (entry rate, share of beneficiary entrepreneurs)
- The vector  $X_{st}$  includes demographic controls for the head of households in the given Survey Area: share of males, mean age, literacy rate
- Survey Area fixed effects  $\delta'_s$  absorb time-invariant local characteristics, and state-year fixed effects  $\theta'_{r(s),t}$  control for region-specific shocks, where  $r(s)$  denotes the Survey Area's state

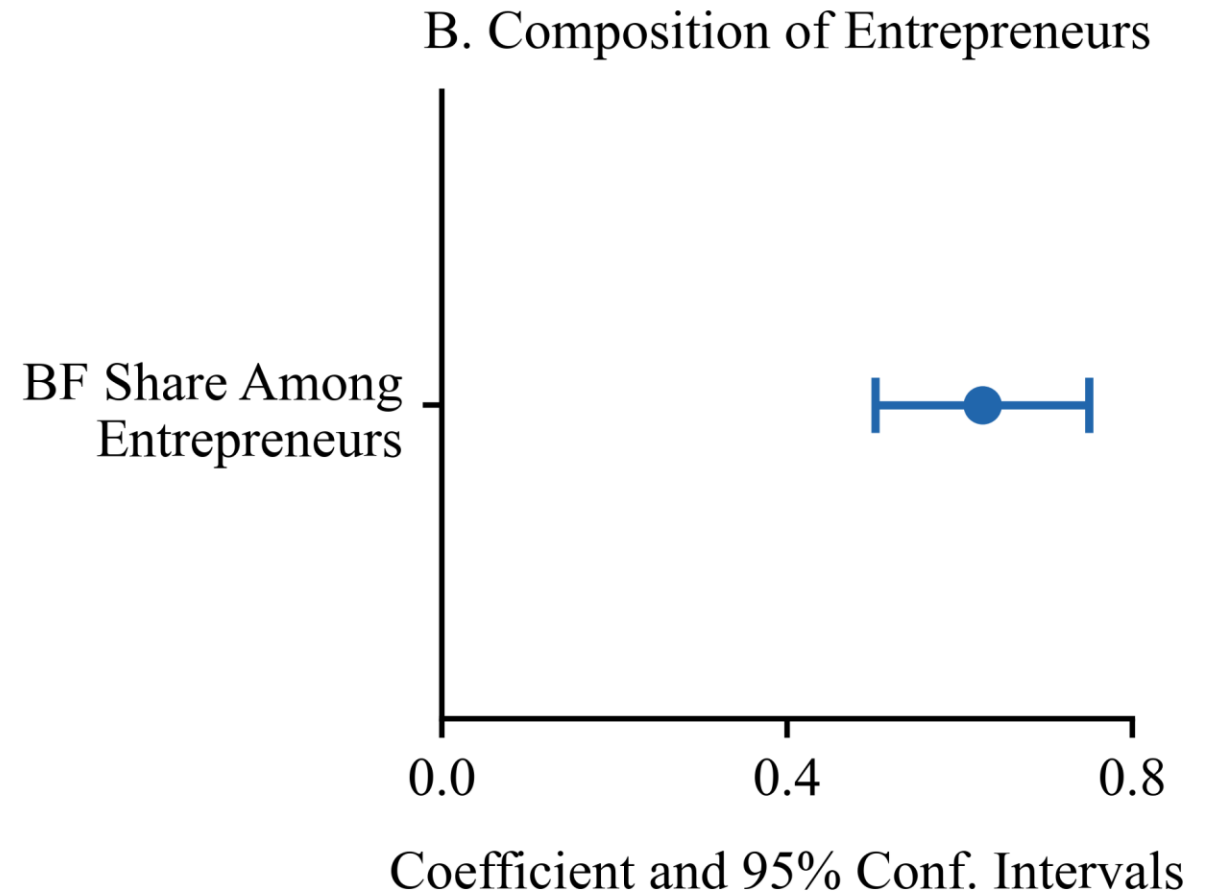
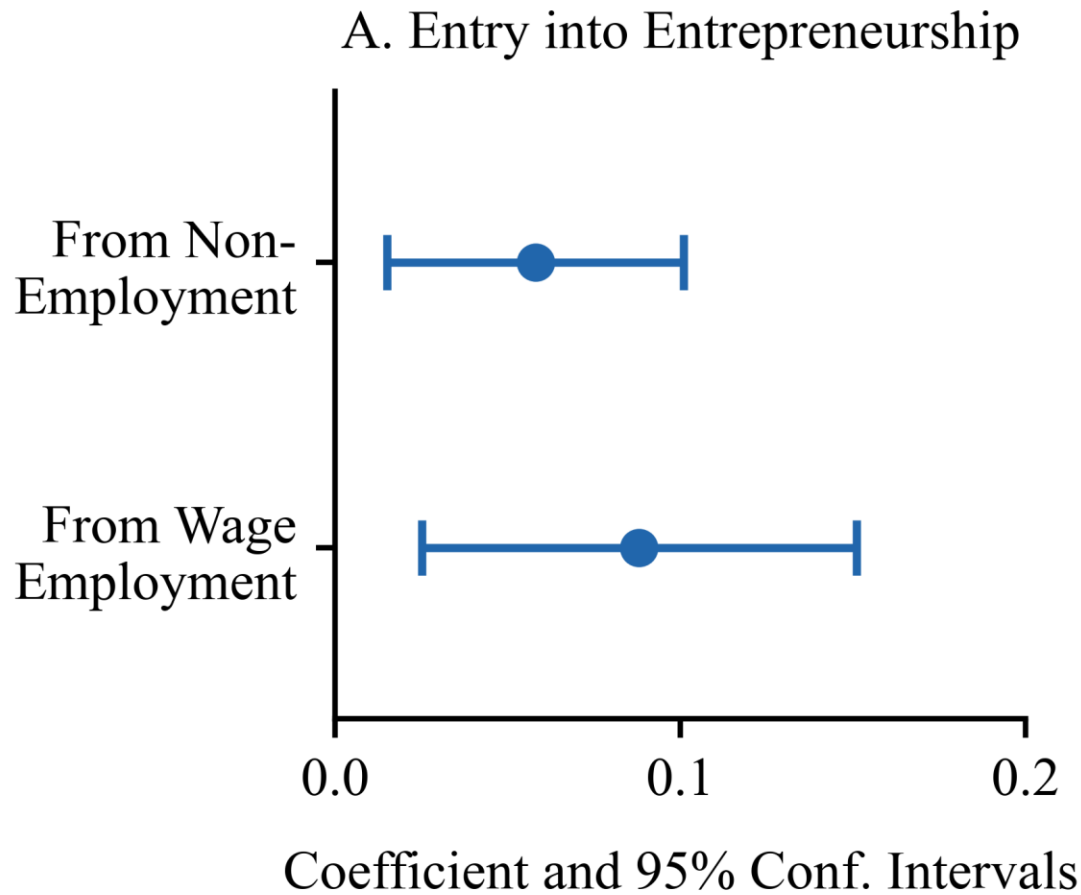
# Share Below Poverty Threshold Predicts BF Participation

- Share of HHs below the poverty threshold is a strong predictor for BF participation



# Cash Transfers Causally Increase Entrepreneurial Entry

- For *each 10pp inc. in predicted BF participation*, entry inc. 16% from non-employment, 8% from employment

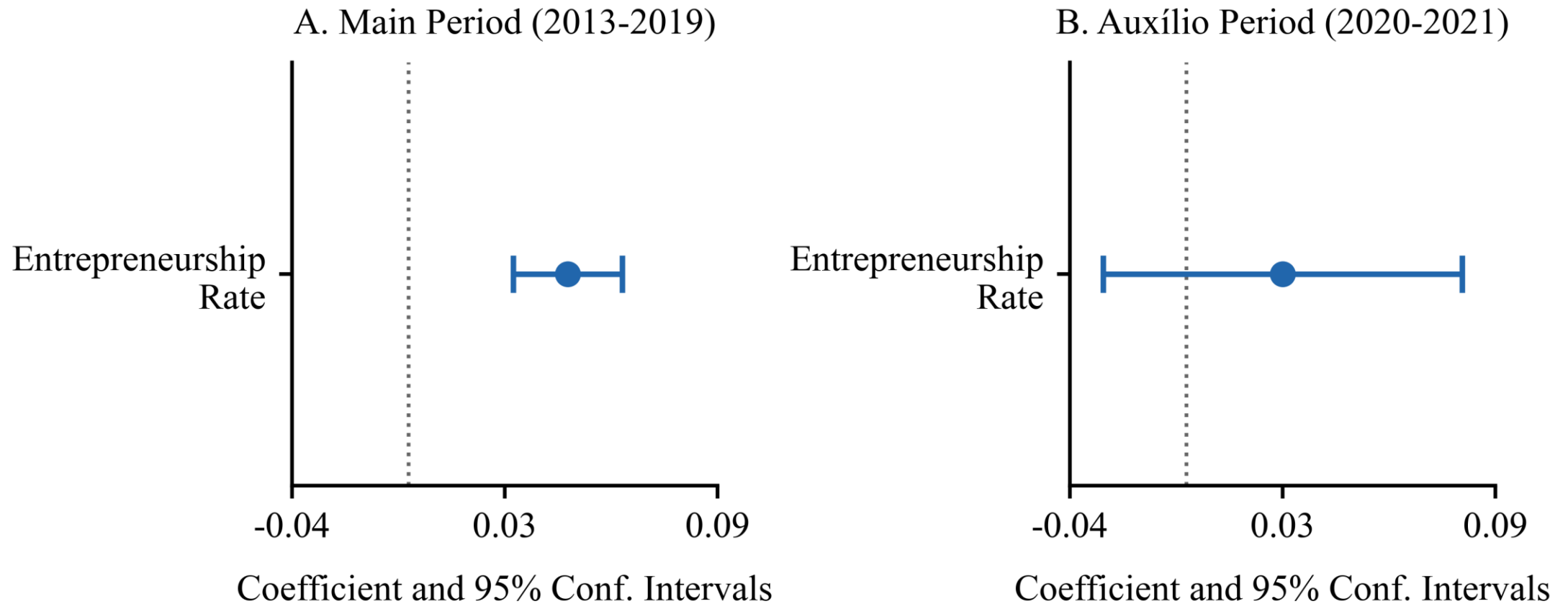


# IV Exclusion Condition

- The exclusion restriction requires that the *share of HHs with income below poverty threshold* affects entrepreneurship *only* through Bolsa Família participation
  1. Households near the poverty threshold are *very poor*: live on ~\$1.60 per capita per day
    - Household savings rate in Brazil is 1.8% → it would take *6 years to save \$1K* (mean initial equity)
  2. The poverty threshold income carries *no other policy significance*
    - No credit programs, tax benefits, housing assistance, or other interventions key off this cutoff
  3. The no-bunching result *rules out sorting*
    - Variation reflects genuine income differences, not strategic positioning
  4. Fixed effects absorb *broad poverty effects* and *regional economic conditions*
    - Survey Area FE absorb permanent neighborhood characteristics (infrastructure, networks, etc.)
    - State × Year FE absorb regional economic conditions
  5. Negative shocks that increase poverty also *worsen local business conditions*
    - Instrument and outcome move in *opposite directions* absent the program

# Placebo: Auxílio Emergencial Period (2020-21)

- Auxílio Emergencial (2020-21) made poverty cutoff temporarily lose relevance
  - Flat R\$600 transfers to ~all low-income HHs, regardless of the R\$178 threshold for BF eligibility
  - We estimate the reduced form (entrepreneurship on share below cutoff) for 2013-19 vs. 2020-21



# Testing Hypotheses: Entrepreneurial Performance

- *Question*: How do cash-transfer entrepreneurs perform relative to other entrepreneurs?
- *Challenge*: Cash-transfer beneficiaries *systematically differ* from other entrepreneurs
  - Differences persist even among *sole proprietorships* started by *first-time* entrepreneurs with *prior formal employment*

# Testing Hypotheses: Entrepreneurial Performance

- *Solution #1*: Introduction of granular fixed effects

## Entrepreneur Characteristics FEs



## Business Characteristics FEs

*Joint profile of:*

Race × Gender × Education × Age × Previous Occupation × Previous Salary × Previous Salary Type × Prior Employer Size

**Example:**

White × Female × High School Complete × Age 25-34 × Office Clerk × Salary R\$500—R\$1,000 per month × Hourly Salary × Small Past Employer

*Joint profile of:*

Industry × Equity × Founding Year

**Example:**

Textile Manufacturing Business × Up to R\$ 1,000 Equity × Founded in 2014

# Testing Hypotheses: Entrepreneurial Performance

- *Solution #2*: Coarsened Exact Matching (cf. [Iacus et al., 2012](#); [Aneja et al., 2025](#))

## Matching Dimensions

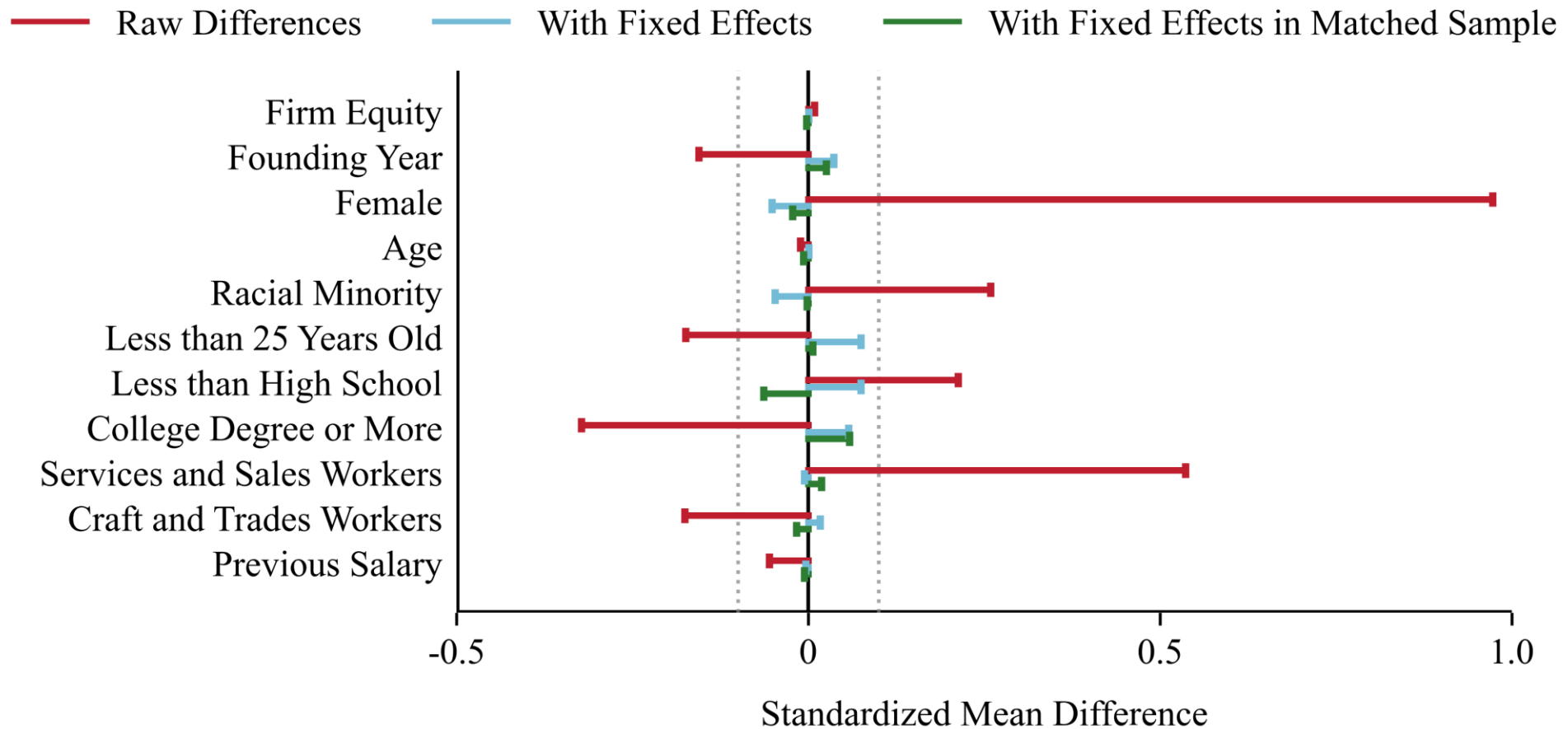
Education	×
Gender	×
Pre-Entrepreneurship Salary	×
Industry of the Entrepreneurial Business	×
Equity (Capital Social)	×
Founding Year	

## Example Stratum

High School Complete	×
Female	×
R\$ 500 to R\$ 1,000	×
Textile Manufacturing Sector	×
Up to R\$ 1,000	×
2014	

# Covariate Balance Diagnostics

- We use *standardized mean differences* (Imbens and Rubin, 2015) to assess whether observables are within the recommended  $\pm 0.10$  threshold for balance



# Cash Transfers and Entrepreneurial Performance

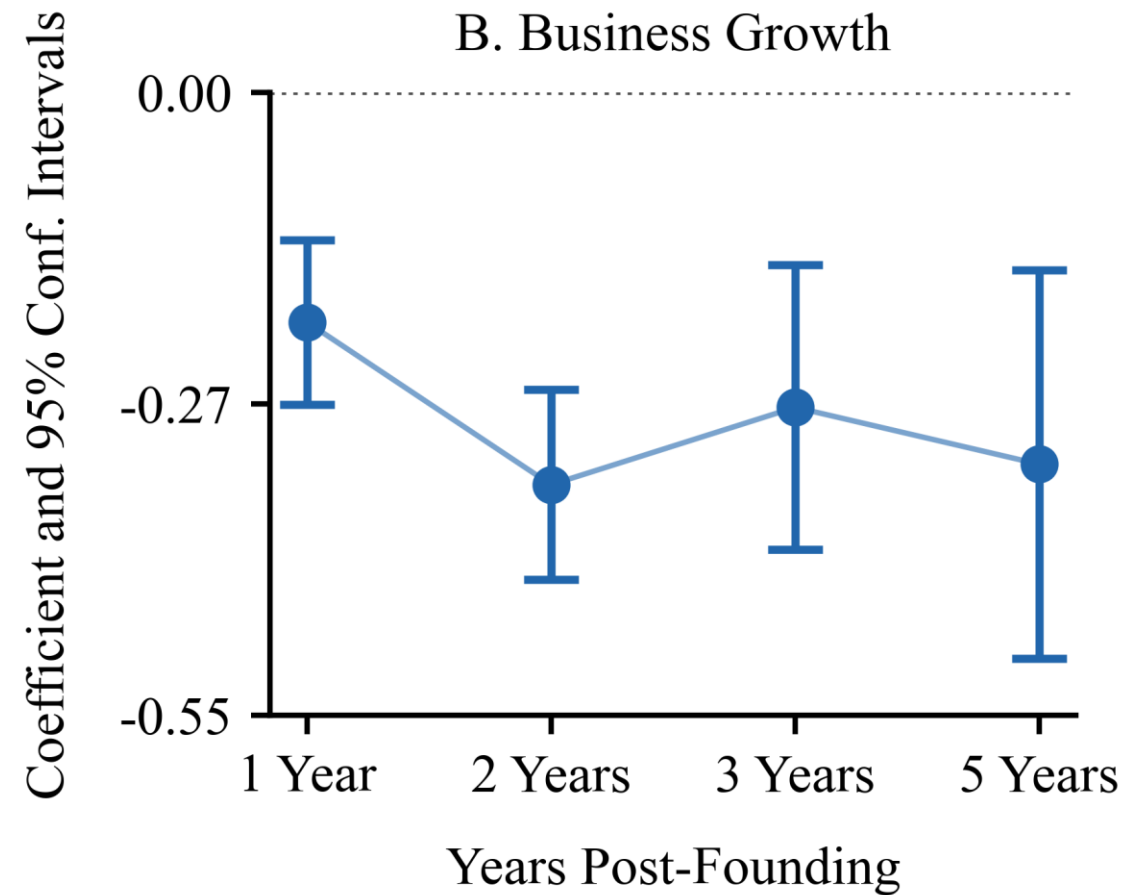
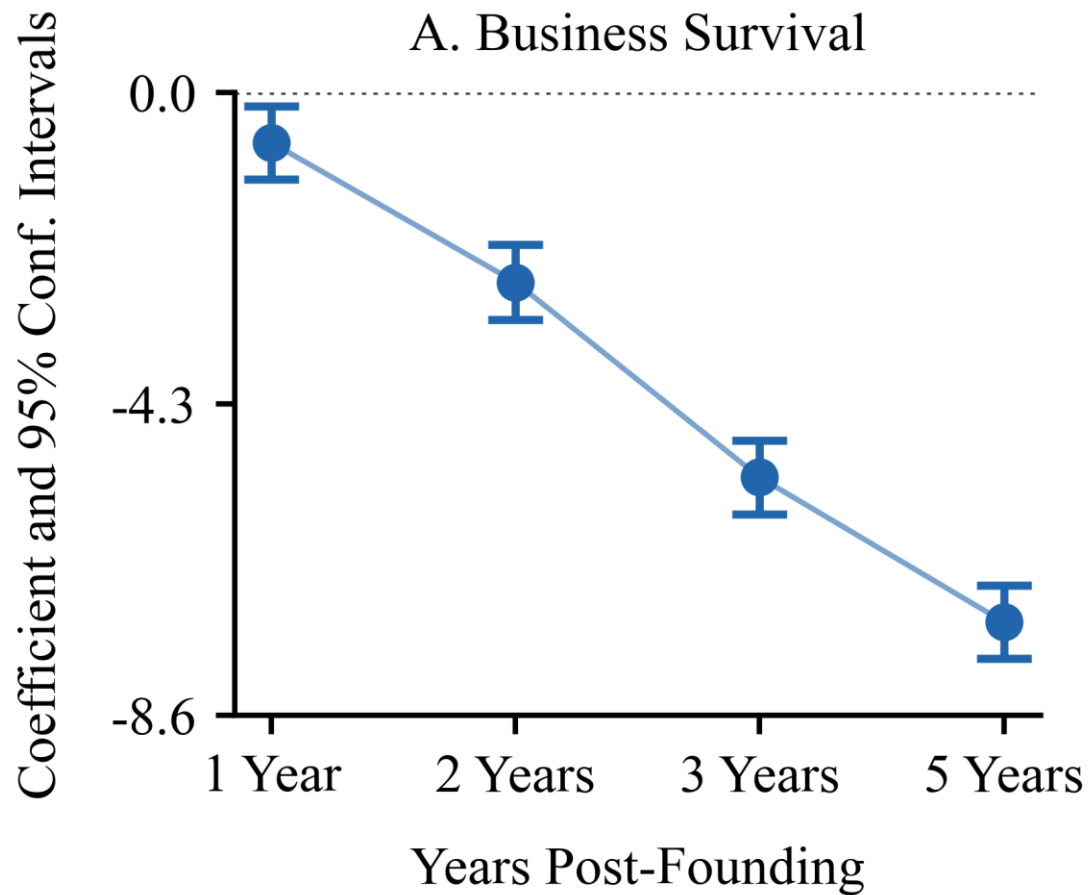
- Our linear model estimates:

$$Y_f = \alpha + \beta \mathbb{1}\{\text{Cash-Transfer Entrepreneur}_f\} + \delta_i + \theta_s + \varepsilon_f$$

- $Y_f$  is the outcome of interest for firm  $f$
- The outcomes of interest  $Y$  are measured 1, 2, 3, and 5-year post-firm founding
- The coefficient of interest,  $\beta$ , measures the *differential* performance between cash-transfer entrepreneurs and other entrepreneurs
  - Entrepreneur FEs ( $\delta_i$ ) absorb the *joint* profile of individual characteristics
  - Business FEs ( $\theta_s$ ) absorb the *joint* profile of business characteristics, controlling for time-varying industry conditions, capital requirements, and macroeconomic factors
  - Standard errors clustered at the municipality level account for potential correlation in entrepreneurial outcomes within local economic environments

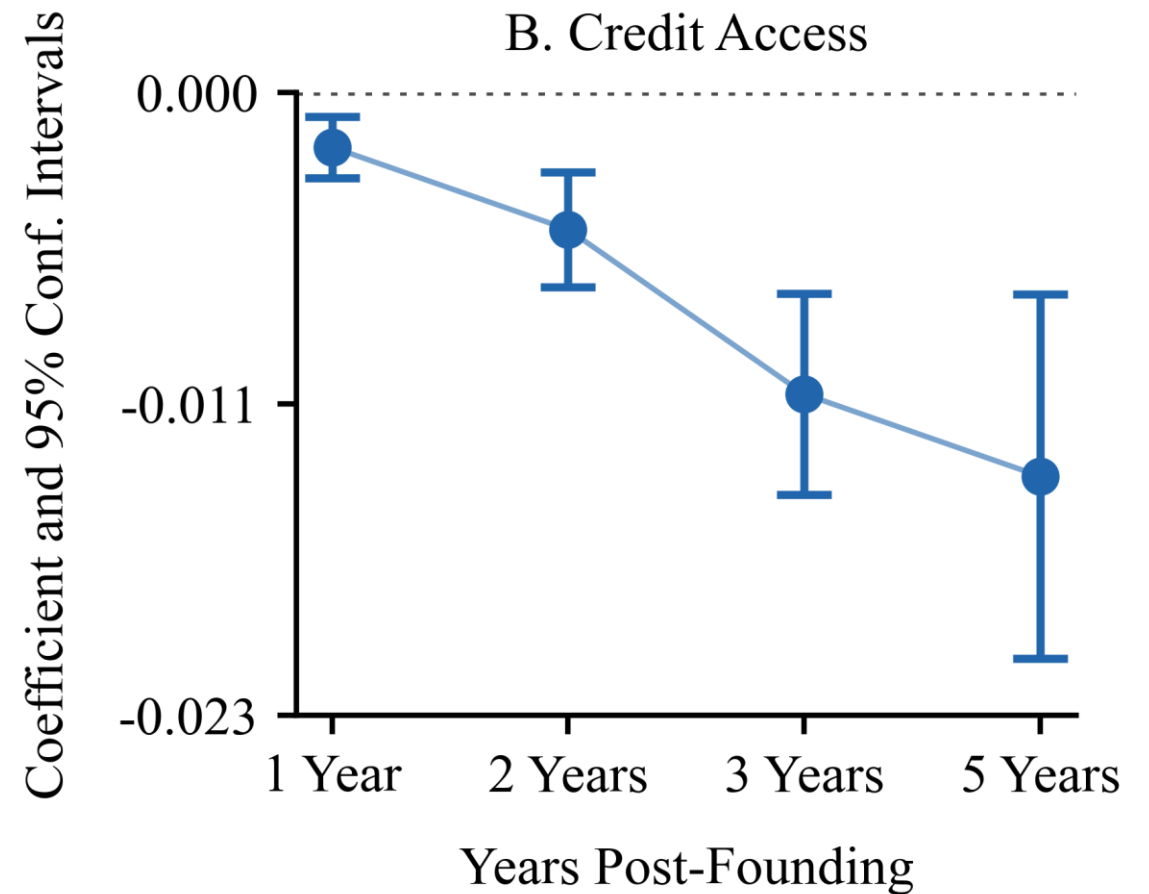
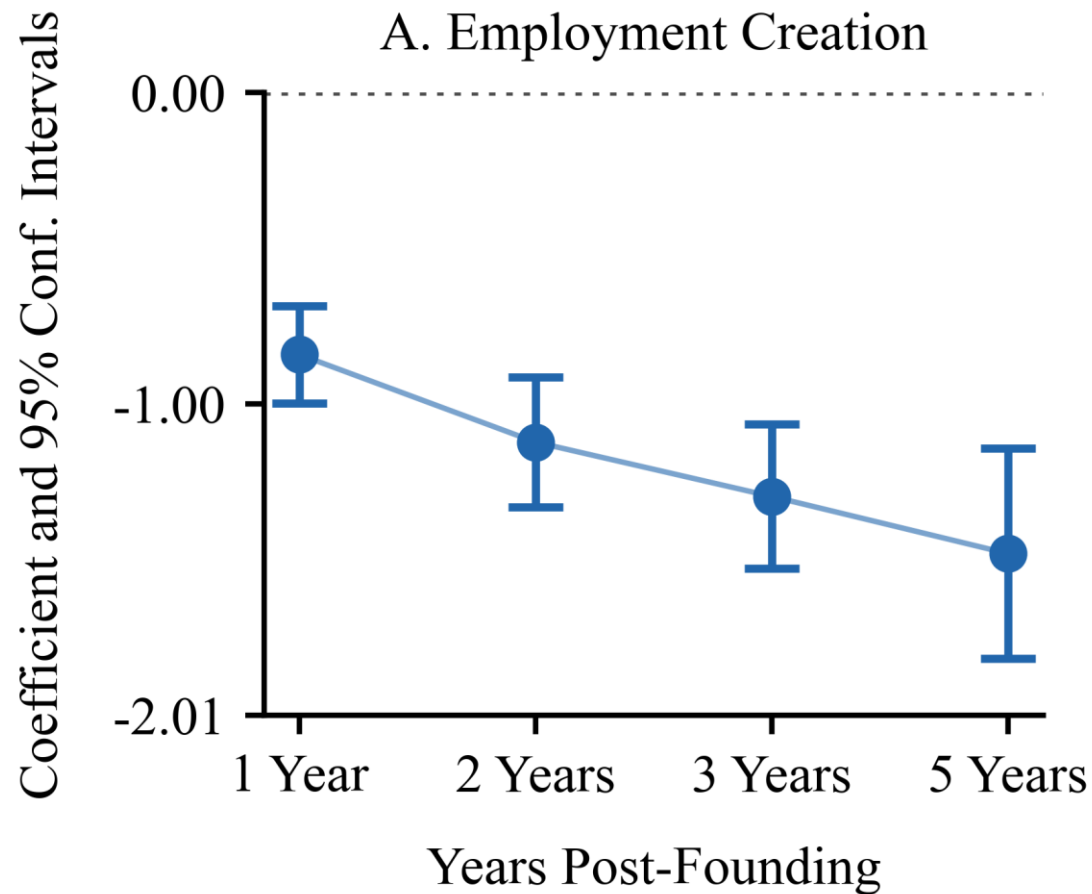
# Results: Business Survival and Growth

- Cash-transfer entrepreneurs show *persistent disadvantages* in business survival (-1% to -16%)



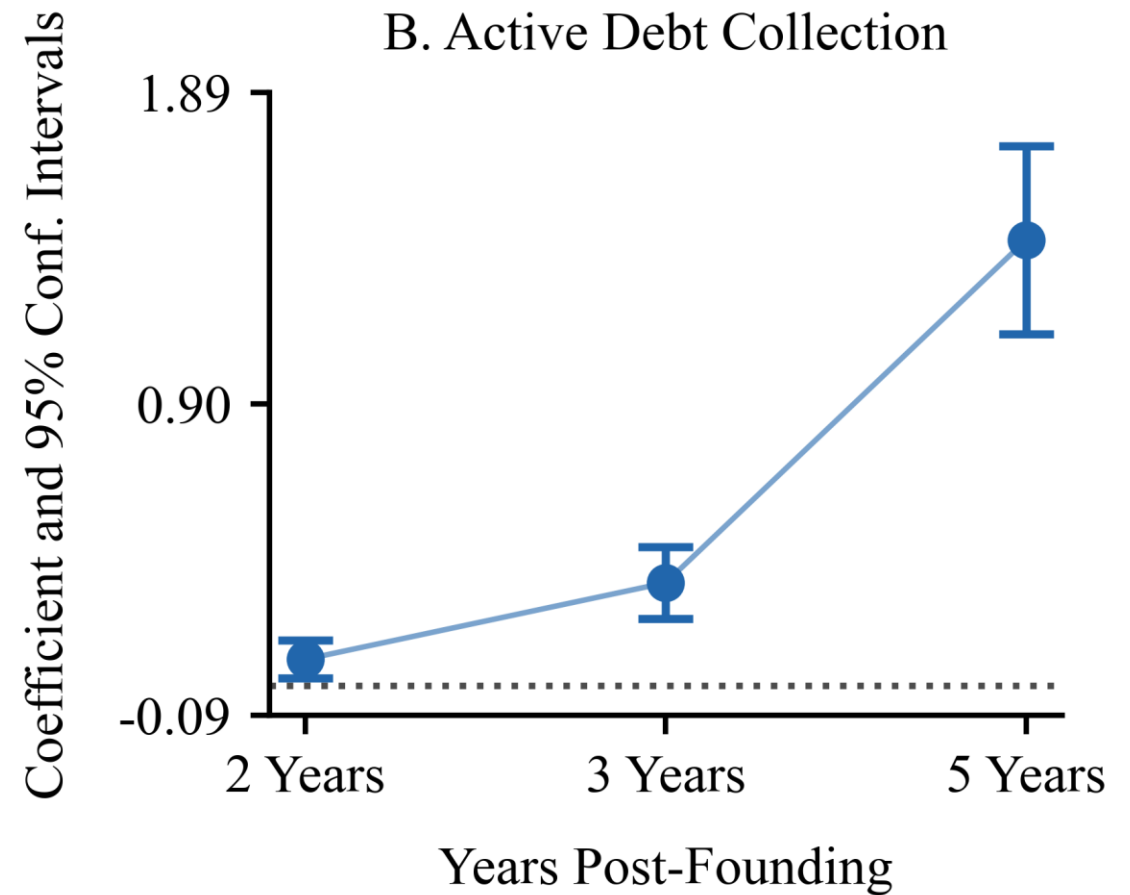
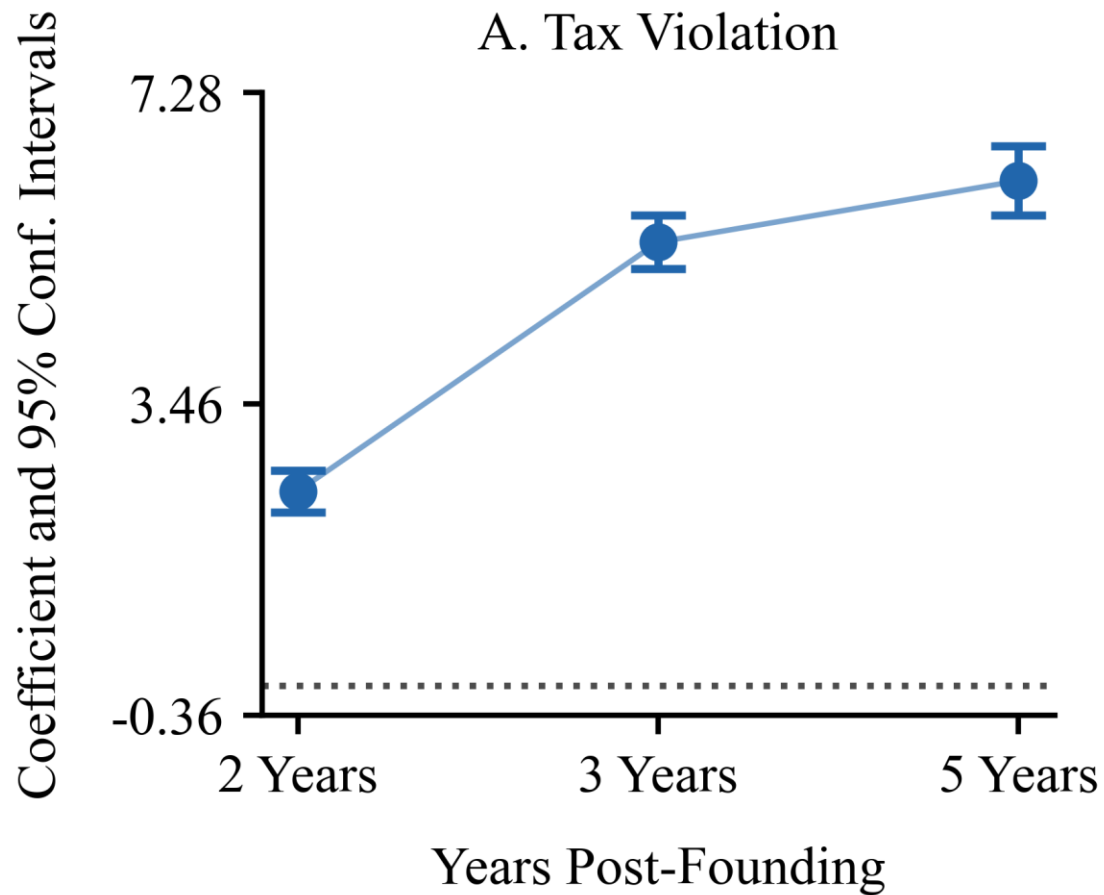
# Results: Employment Creation and Credit Access

- These persistent and *growing performance gaps* also appear in employment creation (-38% to -42%)



# Results: Tax Violation and Active Debt Collection

- These disadvantages extend to compliance and distress, including tax violations (+40% to +47%)



# Robustness: Coefficient Stability (Oster, 2019)

- How much would unobservables need to matter to explain away our results?
- Oster (2019): method to compute  $\delta$ , the ratio of selection on unobservables to selection on observables that would be needed to *drive a coefficient to zero*
  - $\delta > 1$ : unobservables must exceed observables in importance to overturn the result
  - $\delta < 0$ : unobservables must *oppose the direction* controls move the coefficient — stronger condition
- **Business Survival** (5-years):  $\delta = 33.9$  — i.e., unobservables would need to be *34x more important* than observables
- **Other outcomes**:  $\delta < 0$  → selection would need to *oppose* the direction of controls
- Bias-adjusted estimates  $\beta$  *preserve the sign\** of  $\beta$  in every outcome-horizon cell

# Mechanisms: Not Enough Cash?

- *Key feature*: Beneficiaries receive the *same transfer amount* regardless of local prices
  - *R\$200 in São Paulo (SP)* is equivalent to *~R\$300 in Aracajú (SE)* in purchasing power terms
- We proxy for purchasing power using (lagged) local GDP per capita

- Our linear model estimates:

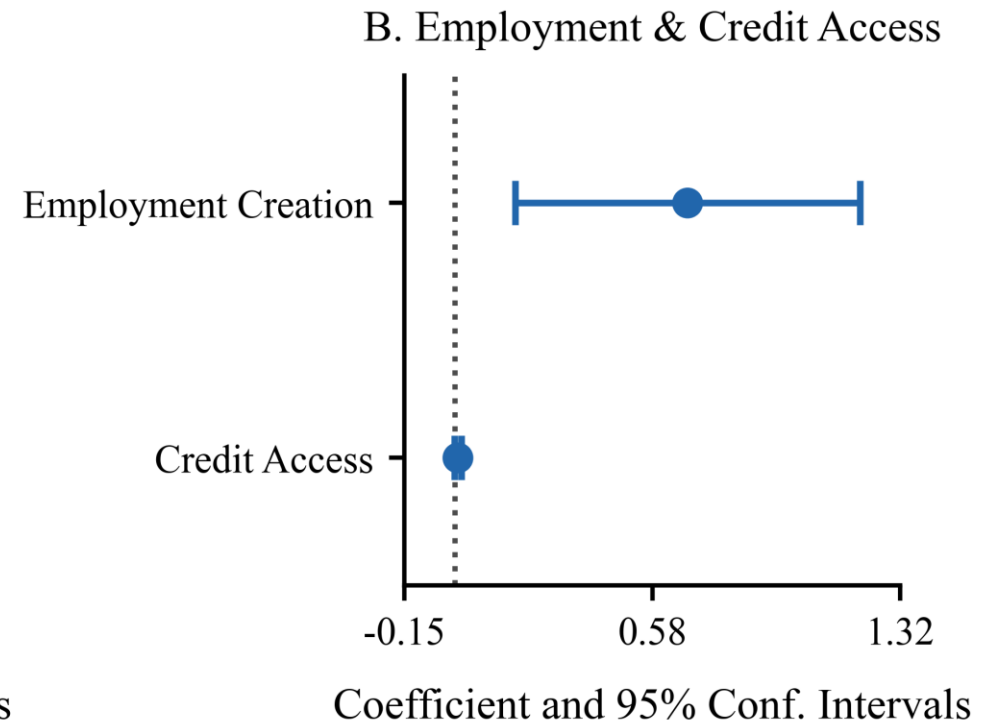
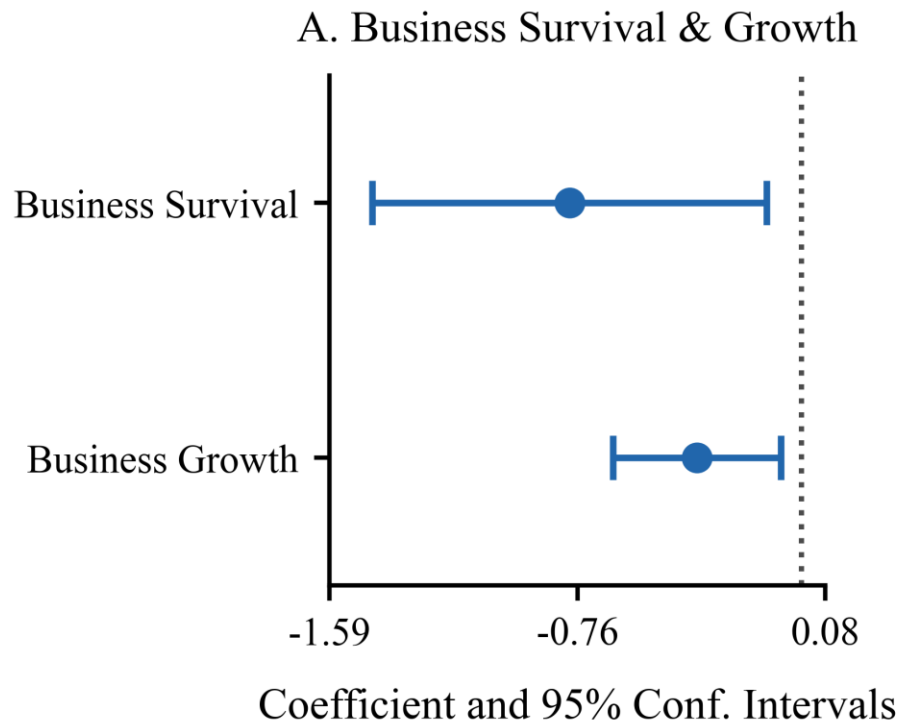
$$Y_f = \alpha + \beta_1 \cdot \mathbb{1}\{\text{Cash-Transfer Entrepreneur}_f\} + \beta_2 \cdot \text{GDP per Capita}_m$$

$$+\beta_3 \cdot \mathbb{1}\{\text{Cash-Transfer Entrepreneur}_f\} \times \text{GDP per Capita}_m + \delta_i + \theta_s + \varepsilon_f$$

- The coefficient of interest,  $\beta_3$ , captures whether performance gaps *increase* where transfers are worth *less* in real terms
  - $\delta_i$  and  $\theta_s$  are entrepreneur characteristics (*joint* profile) fixed effects and business characteristics (industry  $\times$  equity  $\times$  founding year) fixed effects, respectively

# Mechanisms: Not Enough Cash?

- *Wealthier* municipalities → *less* real cash → *larger* gaps in survival, growth
  - Equivalently: *poorer* municipalities → *more* real cash → *smaller* performance gaps
- Still, most gaps persist even in municipalities at the bottom of the income distribution



# Mechanisms: Dependency Trap?

- Does *longer program exposure* worsen performance?
  - We use a *continuous* measure: months enrolled at founding, standardized (mean 0, SD 1)
  - CT × Duration coefficient = *additional* gap per SD increase, beyond the baseline BF gap
  - Mean enrollment at founding: 33.8 months; each SD ≈ 22 additional months
- Performance *gaps increase* with pre-entrepreneurship program exposure, e.g.:
  - **5-year survival**: baseline CT gap of -7.7pp; each SD more exposure *adds -1.9pp*
  - **5-year tax violations**: baseline +7.3pp; each SD more exposure *adds +3.6pp*
  - **5-year active debt collection**: baseline +1.9pp; each SD more exposure *adds +1.4pp*
- Consistent with *dependency effects*: longer program exposure monotonically *deepens all performance gaps*, discouraging growth beyond eligibility thresholds

# Cash Transfer Entrepreneurs' Economic Mobility

- We analyze economic mobility by comparing the employment outcomes of entrepreneurs immediately before and after their entrepreneurial experience
- We compare cash-transfer and other entrepreneurs. We estimate:

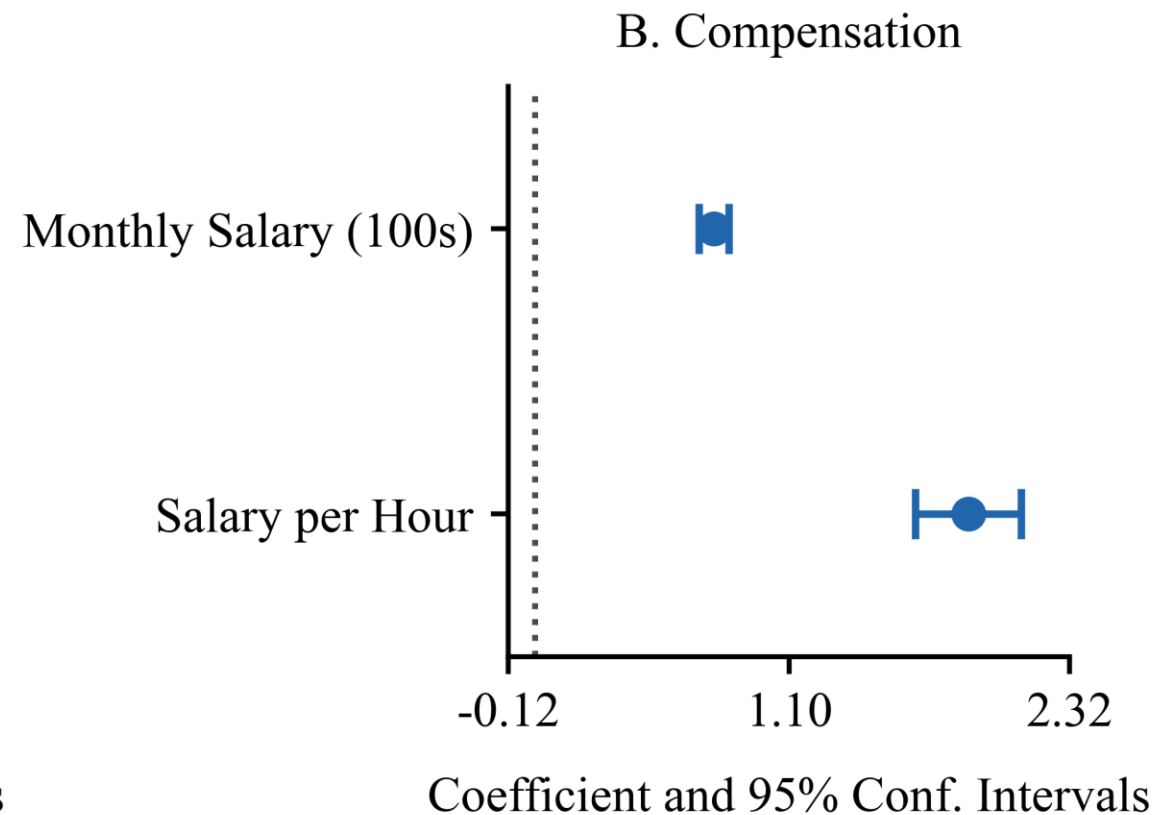
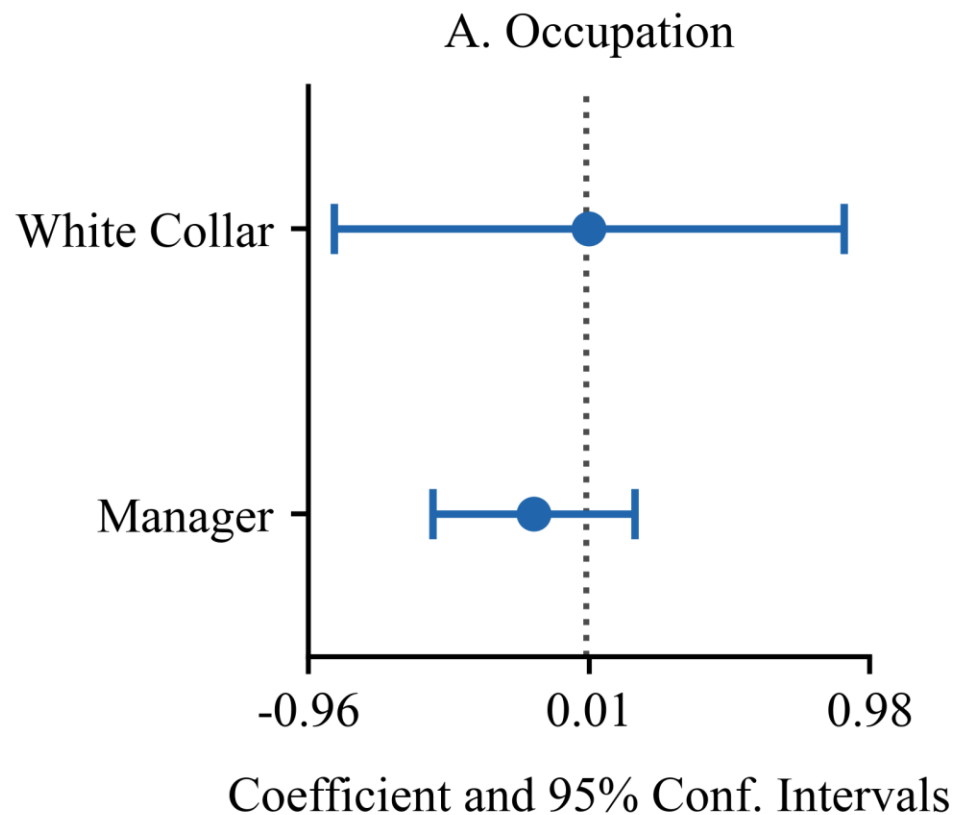
$$Y_{p,t} = \alpha + \beta_1 \cdot \mathbb{1}\{\text{Cash-Transfer Entrepreneur}_p\} + \beta_2 \cdot \mathbb{1}\{\text{Post-Entrepreneurship}_{p,t}\}$$

$$+ \beta_3 \cdot \mathbb{1}\{\text{Cash-Transfer Entrepreneur}_p\} \times \mathbb{1}\{\text{Post-Entrepreneurship}_{p,t}\} + \delta_p + \theta_s + \varepsilon_{p,t}$$

- The coefficient of interest is  $\beta_3$  measures the *differential employment transition* for cash-transfer entrepreneurs relative to other entrepreneurs
- $\delta_p$  and  $\theta_s$  are *individual* FEs and business characteristics (*joint* profile) FEs, respectively

# Post- vs. Pre-Entrepreneurship Jobs: CT vs. Non-CT

- Relative to other entrepreneurs after entrepreneurship, cash-transfer entrepreneurs attain similar occupations



# Conclusion

- We use Brazil's Bolsa Família—the world's largest social program—and novel linked admin. data to study entrepreneurship among low-income populations
- Cash transfers *stimulate entrepreneurship*: more entry from non-employment, more entry from wage employment; beneficiary share among entrepreneurs rises 46%
- Cash-transfer entrepreneurs systematically *underperform* relative to observationally equivalent entrepreneurs and are more likely to run *troubled* businesses
  - I.e., cash transfer does not stimulate growth-oriented entrepreneurship
- However, entrepreneurship *builds human capital* for beneficiaries: CT entrepreneurs earn 61% better wages post-entrepreneurship relative to other failed entrepreneurs