Entrepreneurship on a Safety Net

Evidence from the World's Largest Cash Transfer Program

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Motivation

- **Cash transfers** are a central policy tool in 70+ countries ($\sim$1% of GDP), primarily targeting consumption insurance and poverty alleviation

  $\rightarrow$ Increasingly aim at **human capital accumulation** and **long-run economic mobility**

- **Entrepreneurship** is a key margin along which recipients are able to accumulate assets, develop skills, and escape poverty

Guaranteed Income Stream

Alleviates Liquidity Constraints and Provides Downside Protection

$\Rightarrow$ Facilitates Entrepreneurial Entry

Income-based Eligibility

Successful Entrepreneurs Risk Losing Program Benefits

$\Rightarrow$ Discourages Entrepreneurial Growth

Empirical Question: Do Cash Transfers Enable **Productive Entrepreneurship** and **Upward Mobility** or Create **Dependency Traps**?

Skepticism in Public Discourse





Skepticism in Public Discourse

Brazilian Social Program Beneficiaries Spent $549 million on Bets in just One Month

Amount measured by the Central Bank represents 20% of the program's payouts in August

Nathalia Garcia
Thaísa Oliveira
Renato Machado

BRASÍLIA Social Program Bolsa Família beneficiaries who engage in online sports betting spent R$ 3 billion [$549 million] on bets via Pix (instant payment) in August, according to a technical analysis by the Central Bank.

FOLHA DE S.PAULO

Government Support for Cash Transfers



"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

Anecdotal Evidence from Beneficiaries



"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$1M."

Karine Rodrigues Ramos,
Former Bolsa Família Beneficiary

Research Questions

1. Do Cash Transfers Affect Entry into Entrepreneurship?

(i) Transfers raise entry by **+16%** from non-employment and **+8%** from wage work

(ii) CT share among new entrepreneurs rises **+46%**

2. How Do Businesses Founded by Cash Transfer Recipients Perform?

(i) CT entrepreneurs exhibit **worse** performance: survival **-15.5%** by year 5, employment **-45%**, credit **-52%**, tax violations **+43%**

(ii) Driven by **managerial constraints** and **program dependence**

3. Does Entrepreneurship Allow Beneficiaries to Develop Lasting Human Capital?

After failure, CT entrepreneurs **61% smaller salary declines** and **faster** reemployment compared to non-CT failed entrepreneurs

Empirical Setting

Bolsa Família Program in Brazil

- **World's Largest CCT Program:** 17M+ Families (25% of Brazilian Households)
- **Large and Persistent Income Support Over a Long Period of Time:** Large Enough to Finance Startup Equity
- **MEI Regime for Sole Proprietorships:** $\sim$1% Tax, Minimal Compliance $\rightarrow$ Low Entry Barriers for Low-Income Individuals

Exploiting the Benefit Structure

- **Extreme Poverty Threshold:** Crossing Wipes the Entire Basic Benefit $\rightarrow$ **Strong Bunching**
- **Poverty Threshold:** Minimal Loss, Two-Year Protection Rule $\rightarrow$ **No Bunching**

Novel Data Linkage

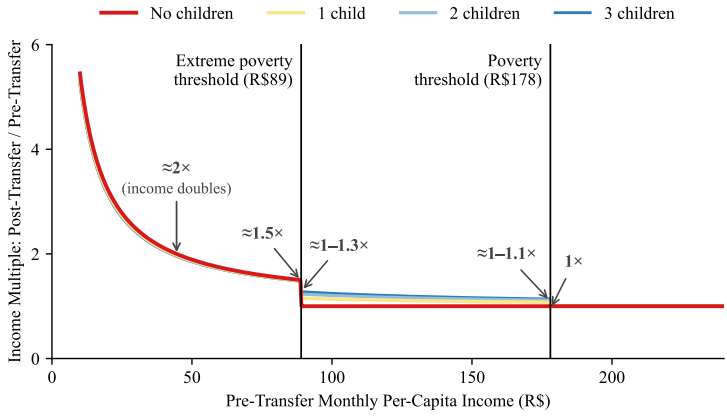
- First Linkage of **Sole-Proprietorship Founders** Across Firm Registries, Beneficiary Records, Employment Histories, Credit Data, and Debt Enforcement

Institutional Details

The Bolsa Família Program: Overview

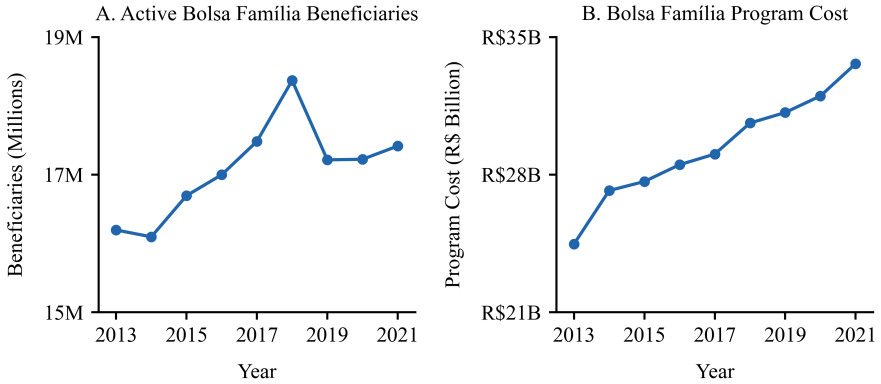
- The Largest Conditional Cash Transfer Program in the World
- Provides Cash Transfers to Households with Monthly Income Below R$178 (Equivalent to $49, or 20% of Brazil's Minimum Wage)
- Enrollment Tied to Schooling and Health Requirements
- Monthly Cash Transfer Depends on Household Income Level:
  - **Extreme Poverty ($\leq$ R$89):** Receive a Basic Benefit of R$89 Monthly + a Variable Benefit of R$41 Per Child or Pregnant Woman
  - **Poverty ($\leq$ R$178):** Receive Only the Variable Benefit

HH Income Multiplier from BF by Family Composition



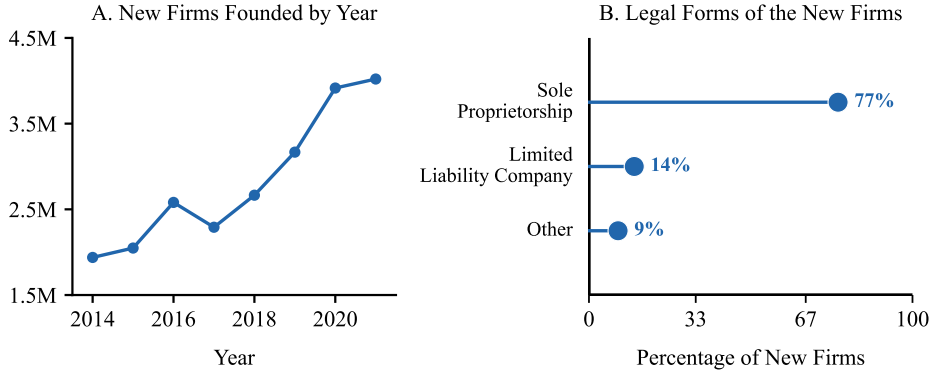
The Bolsa Família Program: Beneficiaries and Cost

Around 17M Beneficiaries ($>$ **25%** of Brazilian households) Per Year and a Fiscal Impact of $>$ R$30B ($8B, or $\sim$**0.5%** of Brazil's GDP)



Newly-Created Firms in Brazil

Around 3M Firms Established Yearly With >**75%** Registered as Sole Proprietorships



Firms in Brazil: Sole Proprietorships

Individual Microentrepreneur (MEI)

Starting Point for Nearly **ALL** Sole Proprietorships

Tax: ∼1% of Revenues — Fixed Fee Counting Toward Retirement Contributions

Revenue Cap: R$81K ($22K) Annually

Employment Cap: 1 Employee

Compliance: One-page Annual Filing, No Accountant Required

Microenterprise (ME)

Transition Regime as Firms **Grow**

Tax: 4%–15% of Revenues — Progressive, Sector-specific

Revenue Cap: R$360K ($100K) Annually

Employment Cap: 9–19 Employees (Sector-dependent)

Compliance: Mandatory Accounting, Monthly Filings

Data and Final Sample

Data Sources

PNAD
Nationally Representative Household Survey

CNPJ
Firm Registry for Both Active and Inactive Firms Including Exit Outcomes

Bolsa Família Payments
Monthly Beneficiary-Level Cash Transfer Amounts

RAIS
Employer-Employee Data Including Roles, Wages, Demographics

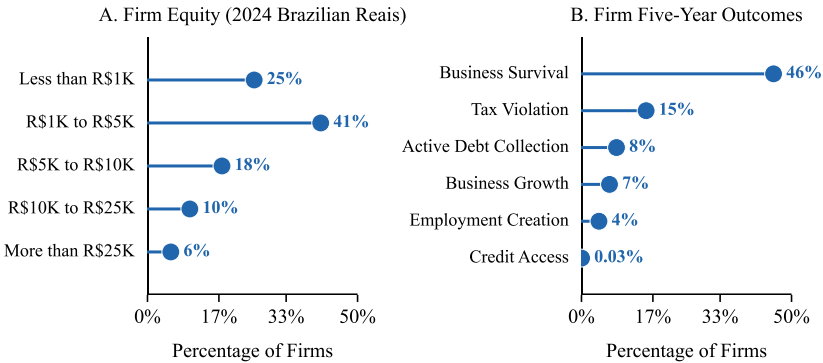
BNDES Credit
Small Business Loans from Development Bank

Dívida Ativa
Debt Collection for Unpaid Government Obligations

Sample: 2.3M First-time Sole Proprietors (254K Bolsa Família Beneficiaries) With Formal Employment Before Founding Business
CT Entrepreneur: Beneficiary at Founding or Within Prior 12 Months

Sample Characteristics

Majority of Firms Start With Equity **Under R$5K** ($1.4K) and **46%** Survive By Year 5

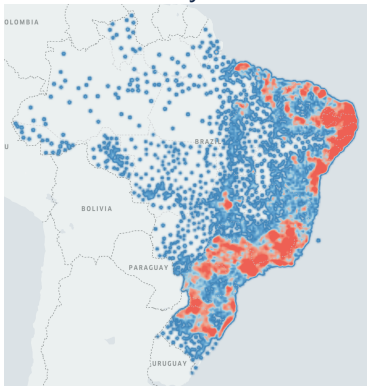


Cash Transfers and Entrepreneurial Entry

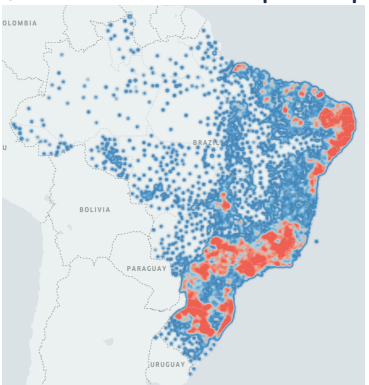
Bolsa Família Payments and Entrepreneurship

Strong Geographic Overlap Between Cash Transfer Amount and Growth in Newly-Created Sole Proprietorships Across the 5,571 Brazilian Municipalities

Bolsa Família Payment *Amounts*



***% Growth* in New Sole Proprietorships**



Program Eligibility Rules and Income Manipulation Incentives

- Clear Spike **Just Below the Poverty Threshold** Where Benefit Losses Are the Largest
- No Visible Bunching **at the Poverty Threshold** (Lower Incentives + Two-Year Protection Rule)



Evidence on Bunching

Households Near the **Extreme Poverty Threshold** Manipulate Reported Income

Exclusion Window	Excess Mass (b)	Elasticity (e)	t-statistic	95% Confidence Interval	Observations
	(1)	(2)	(3)	(4)	(5)
Panel A: Extreme Poverty Threshold					
±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
Panel B: Poverty Threshold					
±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

Bolsa Família and Entrepreneurial Entry: IV Strategy

Instrument: Share of Households With Income Below Poverty Threshold in a Location

- **Two-Stage Least Squares Estimation:**

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

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

- The parameter of interest, ρ, captures the local average treatment effect of program participation on entrepreneurship
- The vector X_{st} includes household-level demographic controls
- Location fixed effects (δ'_s) absorb time-invariant local characteristics and state-year fixed effects ($\theta'_{r(s),t}$) control for region-specific shocks

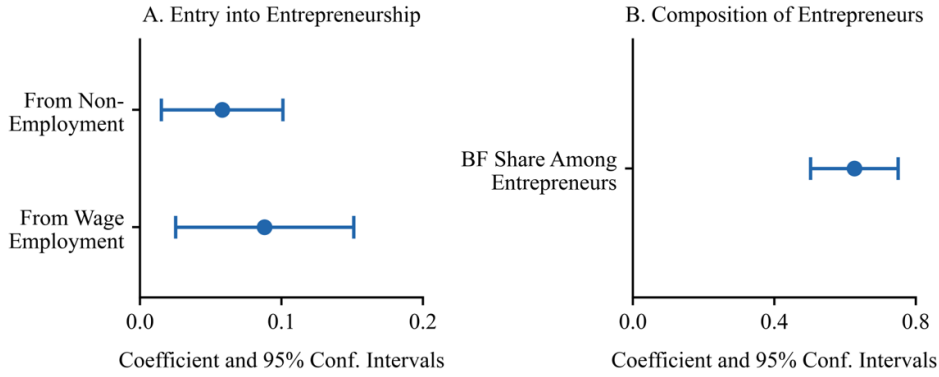
Share Below Poverty Threshold Predicts Program Participation

A 10 pp. ↑ in the Share of Households Below the Poverty Threshold ↑ BF Participation By 2.2 pp.

Dependent Variable:	Beneficiary Share of Households	
	(1)	(2)
Share Below Poverty Threshold	**0.247***** **(32.96)**	**0.224***** **(30.46)**
Observations	66,374	66,374
Adjusted R_2	0.838	0.841
F-Statistic	1,086.34	927.59
Location FE	✓	✓
State × Year FE	✓	✓
Controls		✓

Cash Transfers Increase Entrepreneurial Entry

A 10 pp. ↑ in Predicted BF Participation ↑ Entry By **16%** from Non-employment, **8%** from Wage Employment, and the Beneficiary Share Among Entrepreneurs By **46%**



Exclusion Restriction

Instrument Affects Entrepreneurship **Only Through** Bolsa Família Participation

- Households close to the threshold report income of ∼\$1.60/day → **Not enough** to finance initial startup capital independently
- Lack of bunching rules out **sorting** → Variation reflects genuine **income differentials**, not strategic positioning
- Fixed effects absorb **broad poverty effects** and **regional economic conditions**
- Results **disappear** in 2020-2021 when the threshold temporarily became **irrelevant for program eligility** (Auxilio Emergencial)

Cash Transfers and Entrepreneurial Performance

Identification

Challenge: CT Beneficiaries **Differ Systematically** Across Multiple Dimensions

Solution 1: Granular Fixed Effects

Entrepreneur FEs — Joint Profile of Race, Gender, Education, Age, Occupation, Wage, Employer Size

Business FEs — Industry × Initial Equity × Founding Year

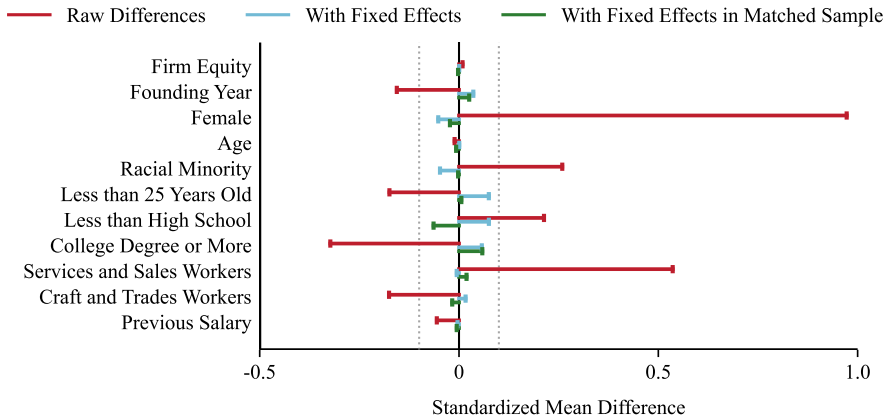
Solution 2: Coarsened Exact Matching

Match on **Education**, **Gender**, **Wage**, **Industry**, **Equity**, **Founding Year** → Retain Only Strata Containing Both CT and Non-CT Entrepreneurs

Empirical Specification: $Y_f = \alpha + \beta \cdot 1(\text{Cash-Transfer Entrepreneur}_f) + \delta_i + \theta_s + \varepsilon_f$

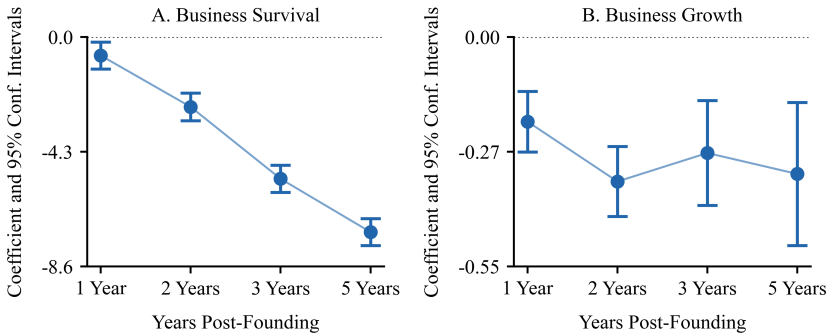
Covariate Balance Diagnostics

Use **Standardized Mean Differences** (Imbens and Rubin, 2015) to Assess Whether Observables Are Within the Recommended $\pm$ 0.10 Threshold for Balance



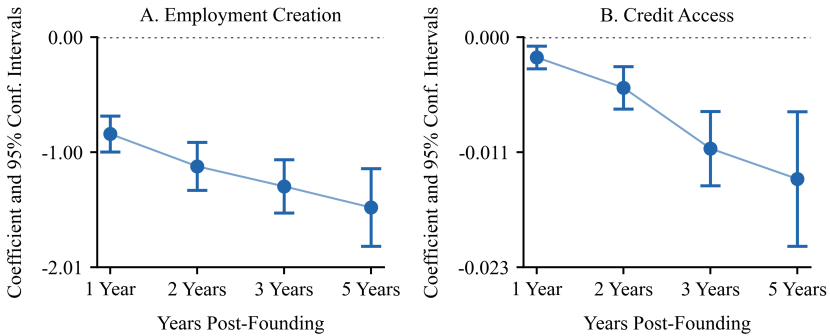
Business Survival and Growth

CT Entrepreneurs Exhibit **Persistent Adverse Performance** in Terms of Business **Survival** (-1% to -16%) and **Growth** (–11% to –12%)



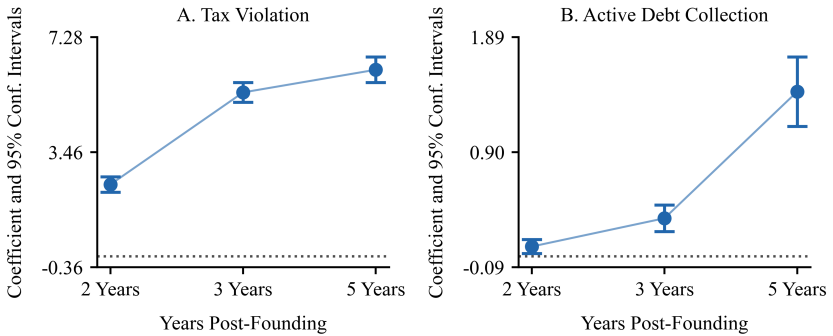
Employment Creation and Credit Access

Performance Gaps Persist in **Employment Creation** (-38% to -42%) and **Access to Credit** (–45% to –65%)



Tax Violations and Active Debt Collection

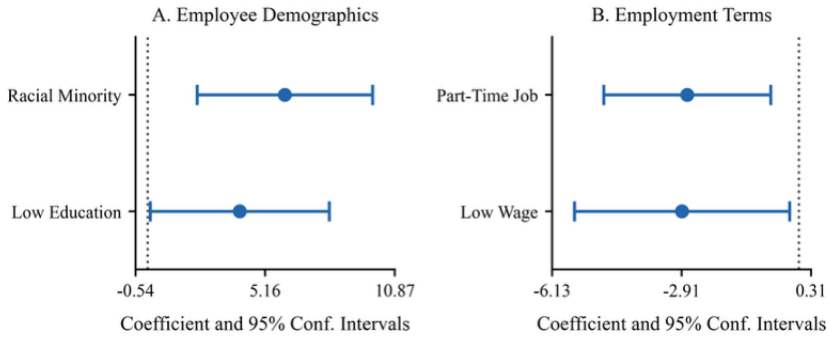
Performance Gaps Extend to Compliance and Distress, Including **Tax Violations** (+40% to +47%) and **Debt Collection** (+12% to +17%)



Mechanisms and Economic Mobility

Mechanisms: Managerial Constraints

Focus on Entrepreneurs' Employment Decisions



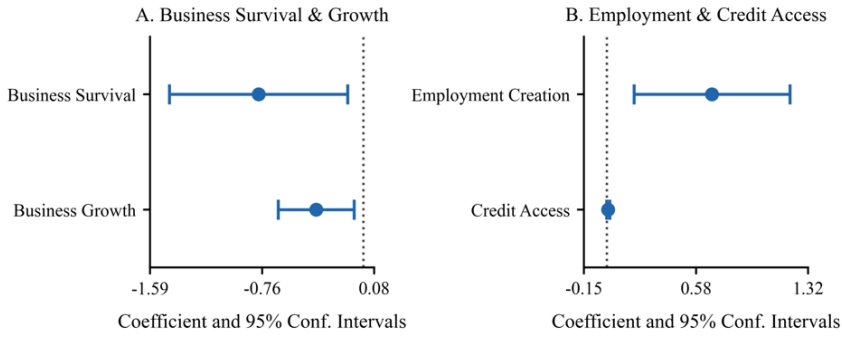
Managerial Constraints: CT Entrepreneurs Hire **Less Educated** Employees into **Production** Roles — Reflects Skill Constraints

Positive Spillovers: Despite Lower-Skilled Hires, CT Firms Hire **More Minorities** and Offer **More Stable Work**

Mechanisms: Not Enough Cash?

Beneficiaries Receive the Same Transfer Amount Regardless of Local Prices

- *Wealthier* Municipalities → *Less* Real Cash → *Larger Gaps* in Performance
- Still, Gaps Persist Even in Municipalities at the Bottom of the GDP Distribution



Mechanisms: Dependency Trap?

Longer Program Exposure Monotonically Increases Performance Gaps

Measure: Normalized Months Enrolled at Founding
Interpretation: CT × Duration Coefficient = *Additional* Gap per SD Increase, Beyond the Baseline BF Gap

5-Year Survival: Baseline CT Gap = −7.7pp → a SD Increase in Exposure **Adds −1.9pp**

5-year Tax Violations: Baseline = +7.3pp → a SD Increase in Exposure **Adds +3.6pp**

Consistent with **Dependency Effects** → Longer Exposure Discourages Business Growth

Cash Transfer Entrepreneurs' Economic Mobility

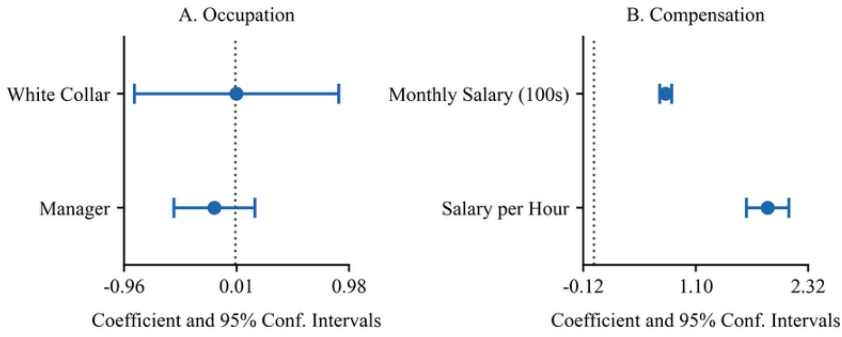
Compare Labor Market Outcomes for Cash and Non-Cash Entrepreneurs Before and After Entrepreneurial Experience

$$Y_{p,t} = \alpha + \beta_1 \cdot 1(\text{Cash-Transfer Entrepreneur}_p) + \beta_2 \cdot 1(\text{Post- Entrepreneurship}_{p,t})$$
$$+\beta_3 \cdot 1(\text{Post- Entrepreneurship}_{p,t}) \times 1(\text{Cash-Transfer Entrepreneur}_p) + \delta_p + \theta_s + \varepsilon_{p,t}$$

- Coefficient of interest, β_3, measures *differences* in labor market outcomes of CT entrepreneurs relative to non-CT entrepreneurs
- δ_p and θ_s are *individual* FEs and business characteristics (*joint* profile) FEs, respectively

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

Relative to Non-CT Entrepreneurs, CT Entrepreneurs Find **Similar Jobs**, and Earn **Higher Wages**



Identification: The 2009 Bolsa Família Expansion

DiD Exploiting **Quasi-Experimental Variation** in the Size of the **2009 PBF Expansion** Across Municipalities → Administrative **NOT** Demand-Driven

Source of Exogeneity

- PBF Is **Capacity-Constrained** → Meeting Income Criteria ≠ Receiving Benefits
- 2009 Revision Changed the Rule **Exogenously** Allocating **Beneficiary Slots Across Municipalities** By Changing the Estimation of Poverty to Follow the **World Bank Standard**

Identifying Variation

- **Treatment Intensity:** Quota Expansion Component at the Municipality-Level Driven **ONLY** by the Rule Change
- Beneficiaries **Increase** in High-Expansion Municipalities, **Flat** in Low-Expansion Municipalities ⇒ **+13.4%** Differential Payments

A Model of Selection into Entrepreneurship

Heterogeneous-Agent Occupational-Choice Model that Rationalizes Our Primary Findings $\rightarrow$ Transfers **Raise Entry**, Select **Lower-Quality** Entrants, Yet **Build Human Capital**

$$T\uparrow \Rightarrow \text{ Liquidity Constraints} \downarrow \Rightarrow \; q^*(T)\downarrow \Rightarrow \underbrace{\Pr(W \to E)\uparrow}_{\text{Entry}}, \; \underbrace{\mathbb{E}[q \mid \text{Entry}]\downarrow}_{\text{Adverse Selection}} \Rightarrow \text{ Survival, Employment}\downarrow, \; \Pr(E \to W)\uparrow$$

Predictions

- **Entry:** $T\uparrow \Rightarrow \Pr(W \to E)\uparrow$
- **Adverse Selection:** $q^*(T)\downarrow \Rightarrow \mathbb{E}[q \mid \text{Entry}]\downarrow$
- **Performance:** $q\downarrow \Rightarrow$ survival, growth, jobs $\downarrow$
- **Frictions Amplify:** $b' \leq \theta k', \;\; q\downarrow \Rightarrow k'\downarrow$
- **Return + Learning:** $q\downarrow \Rightarrow \Pr(E \to W)\uparrow; \;\; \chi_E > 0$ Post-Exit Wage Gains

Counterfactuals

- **No Selection** ($F_T = F_0$): Contribution of Selection to Underperformance
- **No Frictions** ($\theta \to \infty$): Amplification from Credit Constraints?
- **Targeted Transfers** $T(q)$: Is Targeting Improving Quality?
- **Entry Versus Credit Subsidies:** Which Policy Design Dominates?

Conclusion

Do Cash Transfers Enable Productive Entrepreneurship?

- We use Brazil's Bolsa Família – the world's **largest social program** – and novel **administrative** data to study **entrepreneurship** among **low-income** individuals
- Cash transfers **stimulate entry** into entrepreneurship — from both non-employment and wage employment
- However, CT entrepreneurs' firms **systematically underperform** — exhibiting lower survival, growth, and employment creation — potentially, due to **managerial constraints** and **program dependence**
- The entrepreneurial experience generates **differential human capital accumulation** that disproportionately benefits CT participants