Cash Transfer Entrepreneurs

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Abstract

Can social programs shape the allocation of entrepreneurial talent and capital? We study this question through an occupational choice framework, focusing on Brazil's Bolsa Família —the world's largest conditional cash transfer program, distributing US$30 billion annually to 24 million families. Using administrative data linking recipients to formal businesses, we compare entrepreneurs receiving cash transfers with other entrepreneurs in the same municipality-founding year and industry, controlling for initial investment. Cash transfer entrepreneurs select into sectors requiring minimal technical skills, invest 24% less capital, and exhibit worse business outcomes—they are 11% less likely to survive and 10% less likely to transition to larger business forms. This performance difference extends to learning from experience: while serial entrepreneurs typically improve their survival rates by 12% in subsequent ventures, cash transfer entrepreneurs capture only 64% of these gains. These gaps vary with local economic opportunities: they are largest in high-income regions but vanish in municipalities at the bottom of the regional income distribution. Our findings demonstrate how social programs can systematically affect entrepreneurial selection, performance, and skill development through experience.

KEYWORDS: Entrepreneurship, Human Capital, Corporate Finance, Social Programs
JEL CLASSIFICATION: G24, G28, I38, J24, L26

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1 Introduction

Government assistance programs increasingly aim to promote economic mobility beyond providing basic social insurance. This evolution raises fundamental questions about program design and economic incentives. Cash transfers represent a central policy tool in this effort, with over 100 countries distributing more than US$100 billion annually to low-income households, including US$30 billion through Brazil's Bolsa Família program alone.

The relationship between transfers and entrepreneurship illustrates critical policy trade-offs. While entrepreneurship requires both capital and risk-bearing capacity, means-tested transfers create opposing incentives. On the one hand, guaranteed income stream reduces the downside risk of business failure, potentially enabling productive experimentation. On the other, eligibility thresholds tied to income may discourage growth, as successful ventures lead to benefit loss. These forces create selection effects that shape not just entry into entrepreneurship but also the types of businesses created and their growth trajectories. As Schoar (2010) emphasizes, this distinction is critical: a divide exists between subsistence entrepreneurs—who create small businesses primarily for self-employment—and transformational entrepreneurs who build larger, growth-oriented ventures. Program features like means-testing systematically influence this selection margin, affecting whether transfers enable the creation of growth-oriented firms or instead lead recipients to start small businesses with limited potential for expansion and job creation.

To analyze how means-testing affects the selection between subsistence and transformational entrepreneurship, we need a framework that captures both the incentives created by transfers and the constraints faced by potential entrepreneurs. Building on Evans and Jovanovic (1989), we consider an economy where individuals choose between entrepreneurship and wage employment. Each individual i has entrepreneurial ability θ_i and can access capital k_i. The net return to entrepreneurship is given by $\pi(\theta_i, k_i, y_m) - rk_i$, where r is the cost of capital, y_m is local GDP per capita, and $\pi(\cdot)$ is increasing in all arguments. The return in wage employment is $w(\theta_i, y_m)$, also increasing in both arguments. Social transfers τ affect entrepreneurial choice through three channels: they provide capital that could be invested

($k_i = k_i(\tau)$), guarantee a minimum consumption level c_{min} that reduces the cost of business failure, and create a non-convexity through the means-testing threshold $\bar{y}$. Individuals choose entrepreneurship if $\pi(\theta_i, k_i, y_m) - rk_i + \tau \cdot \mathbb{1}\{\text{business income} < \bar{y}\} > w(\theta_i, y_m) + \tau$—i.e., if entrepreneurial returns plus transfers (when business income remains below the eligibility threshold) exceed wage employment returns plus transfers.

Through the lens of this framework, this paper examines how social programs in the form of cash transfers affect entrepreneurship through four related questions. First, do means-tested cash transfers shape business creation? Second, what types of ventures do cash transfer entrepreneurs start, and do eligibility thresholds influence selection between subsistence and transformational entrepreneurship? Third, how do businesses founded by cash transfer entrepreneurs perform compared to similar ventures? Finally, do cash transfer entrepreneurs differ in how they develop business capabilities through experience?

To address these questions empirically, we use administrative data linking monthly cash transfer payments for 36.8 million Bolsa Família recipients to the universe of formal businesses in Brazil. We first exploit the program's sudden 2022 expansion, which substantially increased both coverage and payment levels, to identify the causal effect of transfers on local business creation. The staggered intensity of this expansion across municipalities, driven by pre-existing variation in program penetration, allows us to compare changes in entrepreneurial activity between more and less exposed areas. Analyzing new business creation around the 2022 expansion (between 2017–2024), we find that areas more exposed to the expansion experience a shift from smaller to larger new firms. Notably, the share of new businesses registered as individual entrepreneurs falls by 12.2 percentage points, while the share of limited liability companies increases by 8.2 percentage points. The inverse relationship between individual entrepreneurs and LLCs suggests that transfers operate primarily through increased local spending (y_m): if transfers were directly enabling recipient business creation by relaxing capital constraints (k_i), we would expect growth in individual entrepreneurship, the most common entry point for recipient–founded businesses. Instead, we observe a shift toward larger business forms better suited to serve expanding local markets.

Building on this evidence of program effects on local business creation, our main anal-

yses examine how social transfers shape entrepreneurial selection, performance, and learning from initial entrepreneurial experience by studying individual business owners who founded firms between 2013–2024. We classify entrepreneurs as "cash transfer entrepreneurs" if they received their first Bolsa Família payment within one year of founding their business, using all other individual entrepreneurs as our comparison group. To ensure we compare similar ventures, we employ fixed effects to control for industry at the CNAE level (the most granular industry level) and municipality-founding year, and control for initial equity investment. This empirical strategy allows us to compare cash transfer entrepreneurs to other entrepreneurs starting businesses in the same sector and location during the same time period, with similar initial capital commitments.

The program's effects on entrepreneurial selection reveal systematic differences in entry patterns that demonstrate *how* cash transfers shape entrepreneurship. Cash transfer entrepreneurs concentrate in sectors with minimal capital requirements—51% operate in services (versus 43% for other entrepreneurs) and 30% in retail trade (versus 28%)—while being significantly underrepresented in sectors requiring more technical expertise or capital, such as construction (4% versus 9%) and transportation, utilities, and communications (5% versus 9%). Even comparing ventures within the same industry and municipality-founding year, cash transfer entrepreneurs invest 24% less capital than other entrepreneurs. These patterns suggest that the guaranteed income floor c_{min} induces entry by individuals with lower θ_i who would not start businesses absent transfers.

Examining venture performance of individual entrepreneurs, we find that cash transfer entrepreneurs consistently underperform relative to other entrepreneurs, providing direct evidence on how transfers affect the mapping between ability and outcomes. To gauge performance, we rely on two fundamental aspects of business development: 1) business survival and 2) the upgrading of an individual entrepreneur to a larger firm type. In our main specification, cash transfer entrepreneurs are 5.4 percentage points less likely to survive and 0.9 percentage points less likely to transition to larger business forms. These effects are robust to specifications with industry $\times$ founding year fixed effects and to a matched sample analysis where we pair each cash transfer entrepreneur with another entrepreneur in the same munic-

ipality and industry who started with similar initial capital. The effects represent substantial economic magnitudes—the survival disadvantage represents an 11% reduction relative to the mean survival rate of 46.5%, while the transition effect represents a 10% reduction relative to the mean transition rate of 6.4%. The survival gap suggests that the marginal entrepreneur induced by transfers has lower θ_i than the marginal entrepreneur without transfers, while the reduction in transitions suggests that the means-testing threshold $\bar{y}$ constrains growth even conditional on survival.

Bulding on Jara-Figueroa, Jun, Glaeser, and Hidalgo (2018), we further examine how these effects vary with local economic development. In regions with GDP per capita y_m, entrepreneurial returns $\pi(\theta_i, k_i, y_m)$ increase with development, while workers face an outside option $w(\theta_i, y_m)$ that also increases with development. Because transfers τ reduce the downside risk of business failure through the guaranteed income floor c_{min}, their effects on selection and performance are expected to vary systematically across regions. In less developed areas where $w(\theta_i, y_m)$ is lower, this insurance value may be particularly important for enabling experimentation, potentially offsetting the disadvantage that recipient-founded firms face.

Consistent with this prediction, we find that the underperformance of cash transfer entrepreneurs varies with local development. In particular, cash transfer entrepreneurs show a 5.5 percentage point lower survival probability on average, but this disadvantage is reduced by 2.3 percentage points in municipalities in the bottom quartile of GDP. These effects are robust to industry $\times$ founding year fixed effects. For transitions to larger business forms, however, the effects of local development appear to dominate—cash transfer entrepreneurs in low-GDP areas are 0.4 percentage points less likely to transition to larger business forms, amplifying the baseline transition disadvantage of 0.9 percentage points. This suggests that while lower outside options in less developed areas may enable more experimentation through transfers, the returns to growth-oriented entrepreneurship remain constrained by market size.

Following Lafontaine and Shaw (2016), we examine whether entrepreneurs develop business capabilities through experience by studying serial entrepreneurs—individuals who

start multiple ventures. We measure entrepreneurial learning as the difference in performance between an entrepreneur's subsequent ventures and their first attempt. Figure 9 reveals stark differences in learning patterns: while other entrepreneurs show increasing survival rates in subsequent ventures, cash transfer entrepreneurs exhibit declining performance. In our main specification, with industry and municipality $\times$ founding year fixed effects, subsequent ventures are on average 11.5 percentage points more likely to survive than first attempts. However, this learning benefit is substantially muted for cash transfer entrepreneurs, who capture just 64% of this gain (the interaction effect is –4.1 percentage points). These differences in learning persist across specifications and suggest that program eligibility affects not only initial selection but also the accumulation of entrepreneurial skills through experience.

Consistent with our framework, the relationship between transfers and learning varies systematically with local development. In municipalities with lower GDP per capita, cash transfer entrepreneurs' subsequent ventures achieve survival rates 2.9 percentage points higher than in wealthier regions, reducing the baseline learning gap by more than half. This pattern follows the logic of our earlier results: in areas with lower wage returns $w(\theta_i, y_m)$, the guaranteed income floor c_{min} enables more experimentation, mitigating both initial selection effects and subsequent learning disadvantages.

Together, our findings yield three novel insights about how government transfers shape entrepreneurial activity. First, they show that the structure of transfers—not just their availability—fundamentally affects business development through opposing forces. While predictable income guarantees reduce experimentation risk similarly to unemployment insurance (Hombert, Schoar, Sraer, and Thesmar, 2020) or wealth shocks (Bermejo, Ferreira, Wolfenzon, and Zambrana, 2024), we show how means-testing creates growth disincentives that persist even conditional on entry. Our findings extend Bianchi and Bobba (2013), who show Mexico's Progresa affected entrepreneurship through insurance rather than liquidity. We establish that program design creates a trade-off: while guaranteed income enables entry, eligibility thresholds simultaneously constrain the growth trajectories, similar to how credit constraints affect occupational choice (Cagetti and De Nardi, 2006).

Second, we provide new evidence on how social policy affects entrepreneurial human capital formation. Prior work shows how venture capital develops high-potential entrepreneurs (Lerner and Nanda, 2020) and documents learning gains from experience (Gompers, Kovner, Lerner, and Scharfstein, 2010; Lafontaine and Shaw, 2016). While government interventions can generate skilled self-employment (Blattman, Fiala, and Martinez, 2014), we show that government transfers systematically influence not just who becomes an entrepreneur, but also their capacity to learn from experience. Our finding on how program features interact with local conditions in shaping entrepreneurial skill development complements recent evidence from Van Doornik, Gomes, Schoenherr, and Skrastins (2024) that credit access particularly benefits entrepreneurs in areas with limited economic opportunities.

Third, we identify specific mechanisms through which social programs affect the allocation of entrepreneurial talent. Building on evidence that institutional constraints affect talent allocation (Hsieh, Hurst, Jones, and Klenow, 2019; Ghatak, Morelli, and Sjostrom, 2001), we show that means-tested transfers create systematic selection effects, inducing entry primarily into sectors with minimal capital requirements (Klapper, Laeven, and Rajan, 2006; Bernstein, Colonnelli, Malacrino, and McQuade, 2022). Our findings suggest that modifying program thresholds or providing targeted support could improve effectiveness without compromising social insurance objectives.

The remainder of the paper proceeds as follows. Section 2 provides institutional background on Brazil's Bolsa Família program and business environment. After describing our data and sample construction in Section 3, we present empirical results: Section 4 analyzes how the 2022 program expansion affected local business creation, Section 5 documents systematic differences in entrepreneurial selection between cash transfer entrepreneurs and other entrepreneurs, Section 6 examine how these differences manifest in business survival and progression into larger business forms, and Section 7 analyzes changes in business performance of serial entrepreneurs in initial versus subsequent ventures. Section 8 concludes.

2 Institutional Background

2.1 Bolsa Família

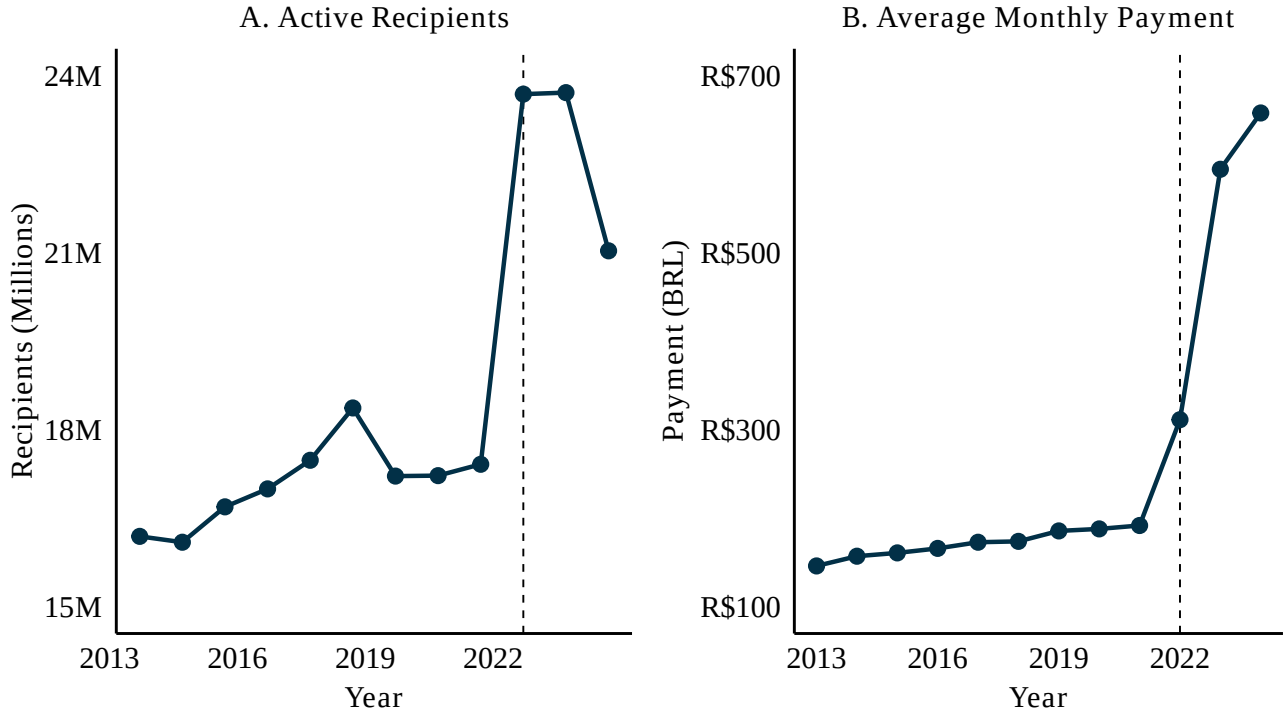
Bolsa Família is the world's largest government transfer program, distributing R$150 billion (approximately US$30 billion) annually to 24 million Brazilian families. The program's scale–1.4% of Brazil's GDP in 2023–and systematic disbursement of resources to low-income households creates a unique setting to examine how predictable transfers affect entrepreneurial risk-taking and experimentation.

To qualify, households must demonstrate per capita monthly income below R$218 (approximately US$44, equivalent to 16% of Brazil's minimum wage) and register in the national Unified Registry (CadÚnico). The payment structure combines a guaranteed base income with targeted supplements. All eligible families receive a minimum of R$600 monthly through a R$142 support per family member. Additional transfers include R$150 per child aged 0–6 years and R$50 for each child aged 7–18 years, pregnant woman, or nursing mother with babies up to 6 months.

To maintain benefits, households face education and health conditions that are continuously monitored through integrated government systems. Education requirements specify 60% school attendance for children aged 4–5 and 75% attendance for those aged 6–18. Health conditions mandate child vaccinations up to age 7, regular growth monitoring and health check-ups, and prenatal care for pregnant women. The government actively monitors compliance through direct integration with health and education databases.

The program incorporates features that fundamentally shape entrepreneurial incentives. Most notably, a protection rule allows families whose income rises above R$218 but remains below half the minimum wage (R$660) to maintain benefits for up to 24 months, with guaranteed program return if income falls. This creates a formal safety net that affects entrepreneurial risk-taking in two ways: the guaranteed income stream enables experimentation by reducing subsistence risk, while the income eligibility threshold may simultaneously create disincentives for business growth.

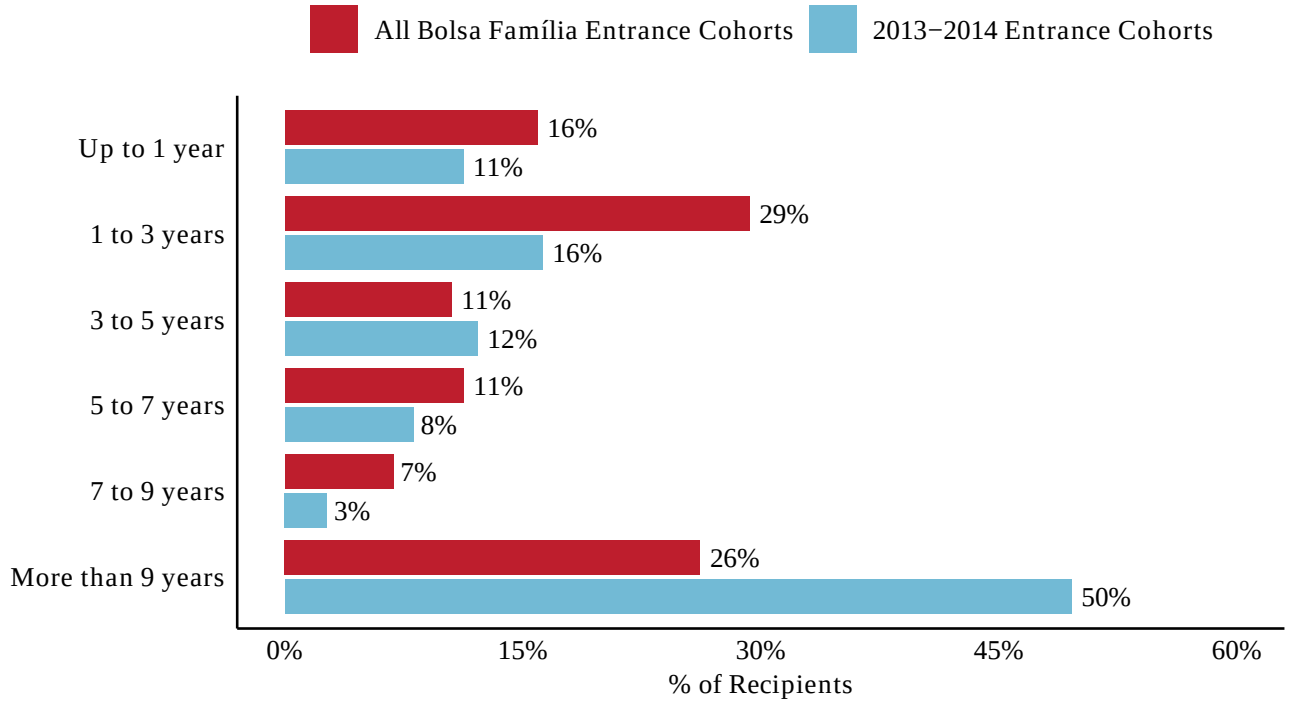
Figure 1: Bolsa Família Program Evolution



This figure shows the evolution of Brazil's Bolsa Família program from 2013 to 2024. Panel A plots the number of active recipients (in millions) over time. Panel B shows the average monthly payment per recipient (in Brazilian Reais). The vertical line in 2022 marks the temporary replacement of Bolsa Família with Auxílio Brasil, which expanded coverage and increased payment levels before the program was relaunched as Bolsa Família in 2023.

As shown in Figure 1, Panel A, program participation remained stable at approximately 17 million recipients during 2013–2020 before expanding to 24 million following its temporary replacement by Auxílio Brasil in late 2021. Panel B shows that average monthly payments increased from R$200 in 2021 to R$600 by 2023, representing a substantial shock to household income. This expansion led to significant growth in fiscal costs, illustrated in Figure IA1. Annual program expenditures increased from R$35 billion in 2021 to R$150 billion in 2023 (Panel A), with the program's share of GDP rising from 0.4% to 1.4% (Panel B).

Figure 2: Distribution of Program Duration



This figure shows the distribution of program participation duration for Bolsa Família recipients. The sample includes all program recipients from January 2013 to June 2024 (red bars) and the subset of recipients who entered the program in 2013–2014 (blue bars). The horizontal axis shows the percentage of recipients in each duration category, ranging from up to one year to more than nine years of program participation.

Figure 2 reveals substantial heterogeneity in program utilization. While 16% of all recipients exit within one year, suggesting use as temporary support during economic transitions, 26% maintain participation for more than nine years. Among the 2013–2014 entrance cohorts, this long-term participation is even more pronounced. This stark variation in usage patterns has sparked debate about the program's effects. Critics argue that income stability reduces incentives for productive investment and creates welfare dependency. Proponents counter that reducing household exposure to subsistence risk enables entrepreneurial risk-taking and human capital investment that can generate transformational effects.

2.2 Brazilian Business Environment

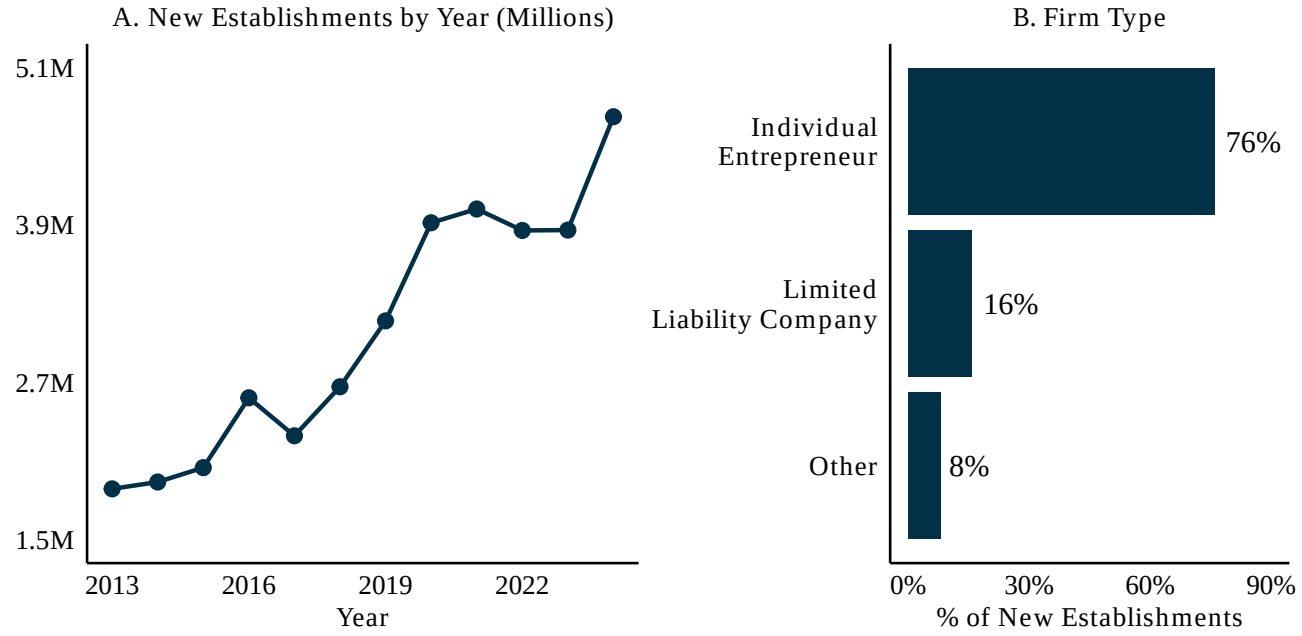
Brazil experienced a transformation in business formation over the past decade. As shown in Figure 3, Panel A, the number of new establishments tripled from approximately 1.5 million in 2013 to 4.7 million in 2024. This growth was driven largely by reforms that simplified business registration and reduced tax burdens for small entrepreneurs, particularly through the Microempreendedor Individual (MEI) program. Panel B reveals that individual entrepreneurs dominate this landscape, constituting 76% of new establishments, while limited liability companies account for 16% and other legal forms representing 8%.

The high prevalence of individual entrepreneurs reflects a business environment designed to facilitate formalization. The MEI framework offers streamlined registration, reduced tax obligations (approximately 5% of minimum wage monthly), and basic social security coverage. To qualify, entrepreneurs must operate individually or with at most one employee, maintain annual revenues below R$81,000, and conduct activities within approved sectors. These requirements create clear incentives for both entry and potential transitions to larger business forms as ventures grow.

The relationship between entrepreneurship and social programs exhibits significant geographic variation. Figure 4 shows that states with higher Bolsa Família penetration tend to have lower rates of new establishment creation. This negative relationship persists even after controlling for local economic development, as shown by the state-level correlation between program spending and entrepreneurship in Figure IA2. Areas with greater dependence on income support consistently exhibit lower business formation rates across different levels of GDP per capita, highlighting potential regional variation in the barriers and opportunities.

This institutional context creates a particularly relevant setting for studying how social policies affect entrepreneurship. The simplified individual entrepreneur framework reduces entry barriers, while the clearly defined thresholds for transitioning to other business forms provide measurable indicators of venture growth. Simultaneously, the substantial variation in local economic conditions and program penetration enables us to examine how the entrepreneurial effects of social transfers interact with market opportunities.

Figure 3: New Establishment Creation and Firm Types



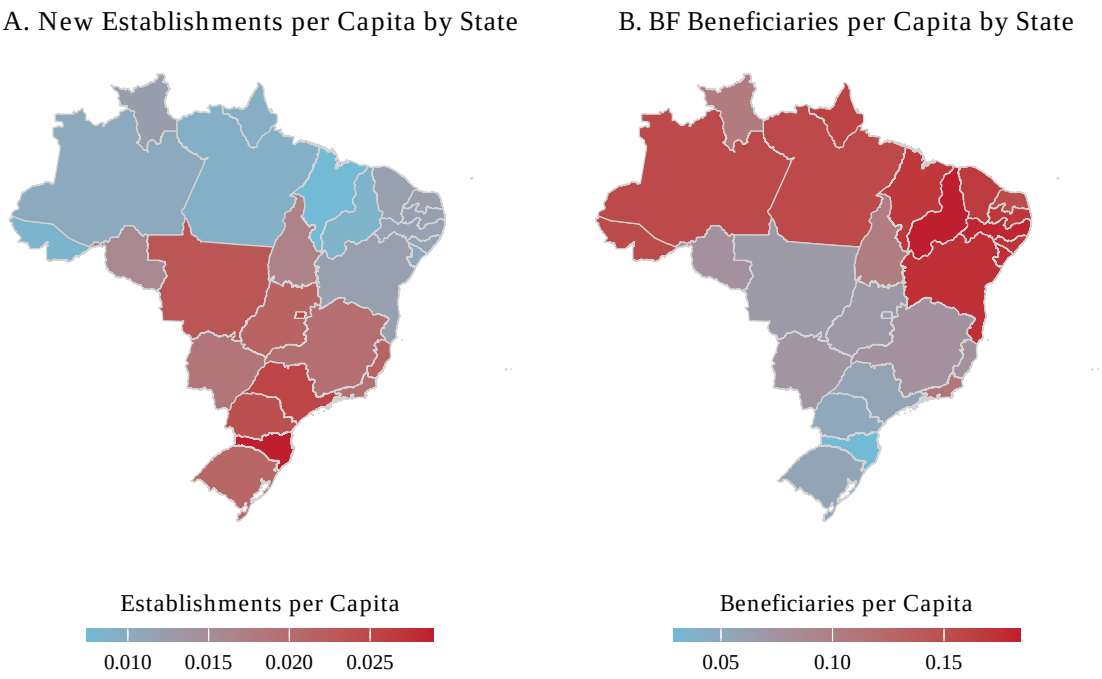
This figure shows new establishment creation and firm type distribution in Brazil from January 2013 to September 2024. Panel A plots the number of new establishments created per year (in millions), with 2024 figures annualized based on data through September. Panel B shows the distribution of legal forms for new establishments over the same period. Individual Entrepreneurs include Microempreendedor Individual (MEI) registrations.

2.3 Individual Entrepreneur Companies

Individual Entrepreneur Companies (IEs) represent the institutional foundation for small business formalization in Brazil. The program's design offers a simplified path to business registration while imposing clear thresholds for progression to larger business forms.

The program minimizes barriers to formalization through three features. First, entrepreneurs can register online at no cost and low bureaucratic requirements. Second, they pay a fixed monthly fee of R$75 (approximately US$15) that covers tax obligations and social security contributions, regardless of revenue up to R$81,000 annually. Third, IEs gain access to the formal financial system through corporate bank accounts and microcredit programs. These features enable experimentation with minimal financial commitment. For instance, Thaina Prado, a tattoo artist in Rio de Janeiro, established her business in 2018 with just R$450 (approximately US$90) in initial capital for equipment and supplies (do Carmo, 2024).

Figure 4: Geographic Distribution of New Establishments and Bolsa Família



This figure shows the geographic distribution of new establishments and Bolsa Família beneficiaries across Brazilian states in 2023. Panel A maps new establishments per capita. Panel B maps Bolsa Família beneficiaries per capita. Population figures are from IBGE (2022).

However, the program includes important restrictions. Annual revenue cannot exceed R$81,000 (approximately US$16,200), and activities must fall within approved sectors. Once entrepreneurs exceed this threshold, they must transition to more complex business forms such as Small Business Enterprises (known as EPP in Brazil, or Empresa de Pequeno Porte) or Limited Liability Company (LLC). EPPs can have revenue up to R$4.2 million and face progressive tax rates between 5% and 14%. Unlike LLCs, which offer limited liability protection, IEs maintain full personal liability for business obligations. These limitations create natural progression paths that make IEs particularly valuable for studying both initial entrepreneurial selection and subsequent business development.

3 Data and Sample Construction

Our analysis combines comprehensive administrative datasets that provide a detailed view of Brazilian firms and social program participation. The primary dataset is the Brazilian Business Registry (Receita Federal's CNPJ dataset), containing registration information for 59.6 million businesses as of September 2024. We focus on establishments founded between 2013–2024, retaining 39.3 million establishments after applying our sample filters. Individual Entrepreneurs (IEs) constitute 79.1% of these establishments, followed by Limited Liability Companies at 18.6%.

For individual identification, we match entrepreneurs and shareholders with social program records using authorized Serasa Experian data and legal name descriptions. This process yields personal identification for 21.6 million (79.2%) of the 27.3 million IE establishments in our sample period. For firms with partner structures, we have monthly shareholder records from November 2021 to November 2024, covering 27.4 million unique shareholders.[1]

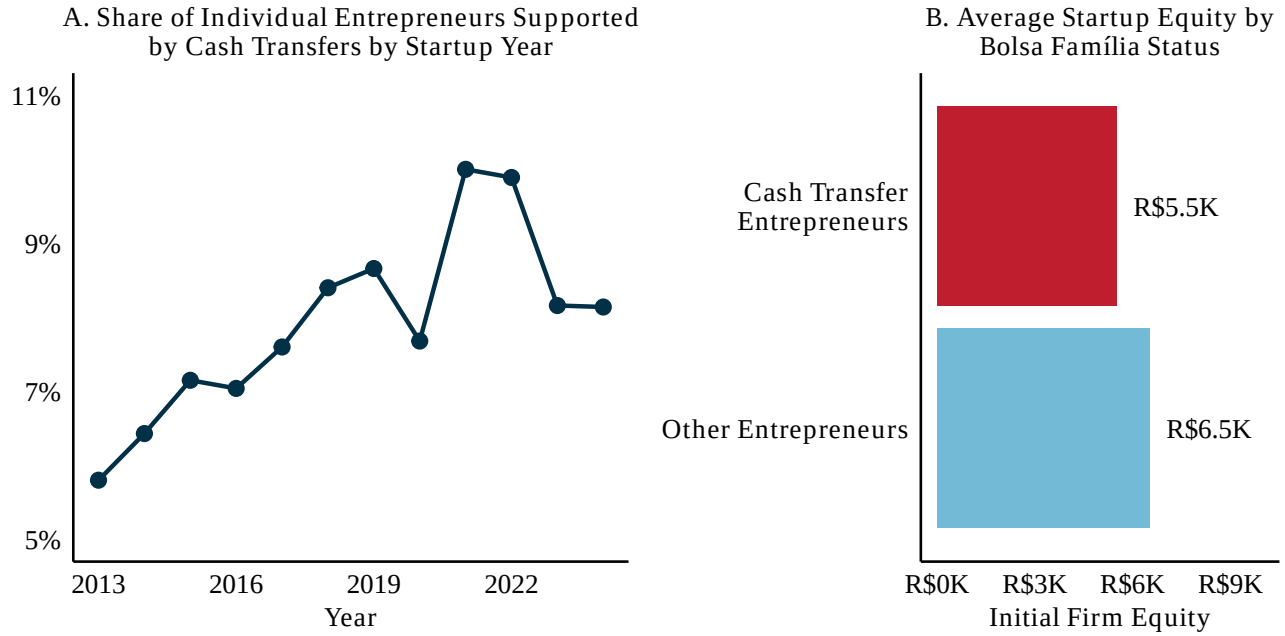
Our social program data comes from Brazil's Ministry of Social Development and Fight Against Hunger (MDS), covering Bolsa Família payments for 37.9 million recipients from January 2013 to June 2024. To ensure we capture entrepreneurship directly related to program participation, we classify entrepreneurs as 'cash transfer entrepreneurs' if they received their first Bolsa Família payment within one year of business founding, using all other individual entrepreneurs as our comparison group. Of all Bolsa Família recipients in our sample, 1.8 million (5%) become cash transfer entrepreneurs within this window, while 403,947 (1%) appear as shareholders in other business forms.

3.1 Key Variables and Summary Statistics

We measure business performance through two main outcomes: survival and business development. Business survival ($\mathbb{1}\{\text{Business Survival}\}$) indicates whether the establishment maintains active registration status as of September 2024. Business development ($\mathbb{1}\{\text{Business Transition to Larger Form}\}$) captures whether an IE transitions to a larger business form during our sample

[1] Details on data construction and sample coverage are provided in Section A.1.

Figure 5: Individual Entrepreneurs and Bolsa Família



This figure shows the relationship between Individual Entrepreneurs (IEs) and Bolsa Família (BF) participation in Brazil from 2013 to 2024. Panel A plots the share of new IEs who received Bolsa Família benefits within one year of business registration. Panel B compares the average startup equity between entrepreneurs who received Bolsa Família benefits (Recipients) and those who did not (Non-Recipients). Startup equity represents the declared initial capital of the firm at registration, and is winsorized at the 1^{st} and 99^{th} percentiles.

period, either within or out of the simplified tax regime (Simples), identified through changes in tax status without establishment closure.

Figure 5 illustrates key patterns in our data. Cash transfer entrepreneurs constitute 8% of new entrepreneurs in our sample period, increasing from 5.8% in 2013 to 10% in 2021, before declining to 8.1% in 2024. These entrepreneurs commit substantially less startup equity, averaging R$5.5K compared to R$6.5K for other entrepreneurs–an 18.2% gap that foreshadows important selection patterns we analyze in Section 5.

Table 1 presents summary statistics for our main analysis samples. Panel A shows that among the 21.6 million IEs in our sample, 8.3% are Bolsa Família recipients, with 46.0% of establishments remaining active and 6.2% transitioning to larger business forms by September 2024. Panel B focuses on serial entrepreneurs, revealing that subsequent ventures constitute 66.4% of their establishments and achieve higher survival rates (49.6%) and transition rates

(9.1%). Panel C provides municipality-level statistics used in our analysis of the 2022 program expansion, showing substantial variation in program penetration and local economic conditions.

4 Evidence from the 2022 Program Expansion

A key empirical challenge in studying the impact of cash transfers on entrepreneurship lies in addressing the endogeneity of program participation. To provide causal evidence, we leverage quasi-experimental variation from a major expansion of the Bolsa Família program in 2022. During this expansion, both program coverage (from 17.5 to 24 million recipients) and monthly payments (from R$200 to R$600) increased substantially, resulting in a large exogenous shock to household incomes.

The identification strategy hinges on cross-sectional variation in the intensity of this expansion. Prior to the 2022 reform, municipalities differed in the fraction of their population enrolled in Bolsa Família. Municipalities with higher pre-expansion beneficiary shares were more exposed to the income shock introduced by the 2022 expansion. Under the assumption of common pre-trends, this setting allows us to identify the causal effect of increased transfers on local entrepreneurial activity. We estimate:

$$Y_{mt} = \beta_0 + \beta_1 \cdot [\text{Pre-2022 Share of Population on Bolsa Família}_m \times \mathbb{1}\{\text{Post-2022}_t\}] + \beta_2 \cdot Xmt + \delta_m + \lambda_t + \varepsilon mt$$

where Y_{mt} captures entrepreneurial outcomes in municipality m at time t. Municipality fixed effects δ_m absorb time-invariant local characteristics, while time fixed effects λ_t control for aggregate trends. The vector X_{mt} includes time-varying municipality controls for business stock, number of beneficiaries, and average payment levels.

Table 2 presents regression results from this differences-in-differences design. The estimates suggest that municipalities more exposed to the program expansion experienced meaningful shifts in the composition of new ventures. In areas where beneficiaries made up

a larger share of the population, the proportion of new businesses formed as individual entrepreneurs (IEs) decreased by 12.2 percentage points, while the share of businesses formed by cash transfer entrepreneurs increased by 7.5 percentage points, with both effects statistically significant at the 1% level. These patterns, together with an 8.2 percentage point increase in the share of limited liability companies (LLCs), are consistent with the idea that liquidity and income protection provided by Bolsa Família relax entrepreneurial constraints.

Importantly, these effects vary systematically with local economic conditions. As shown in Table 3, the impact of the expansion was particularly pronounced in lower-income areas. Low-GDP municipalities (those in the bottom quartile of the pre-period GDP distribution) experienced an additional 1.1 percentage point increase in the share of Bolsa Família entrepreneurs following the expansion. This effect strengthens over time, reaching 1.2 percentage points by 2024, and remains robust to excluding the pandemic year of 2020. These patterns suggest that the entrepreneurial response to increased transfers is strongest in areas where alternative economic opportunities are more limited.

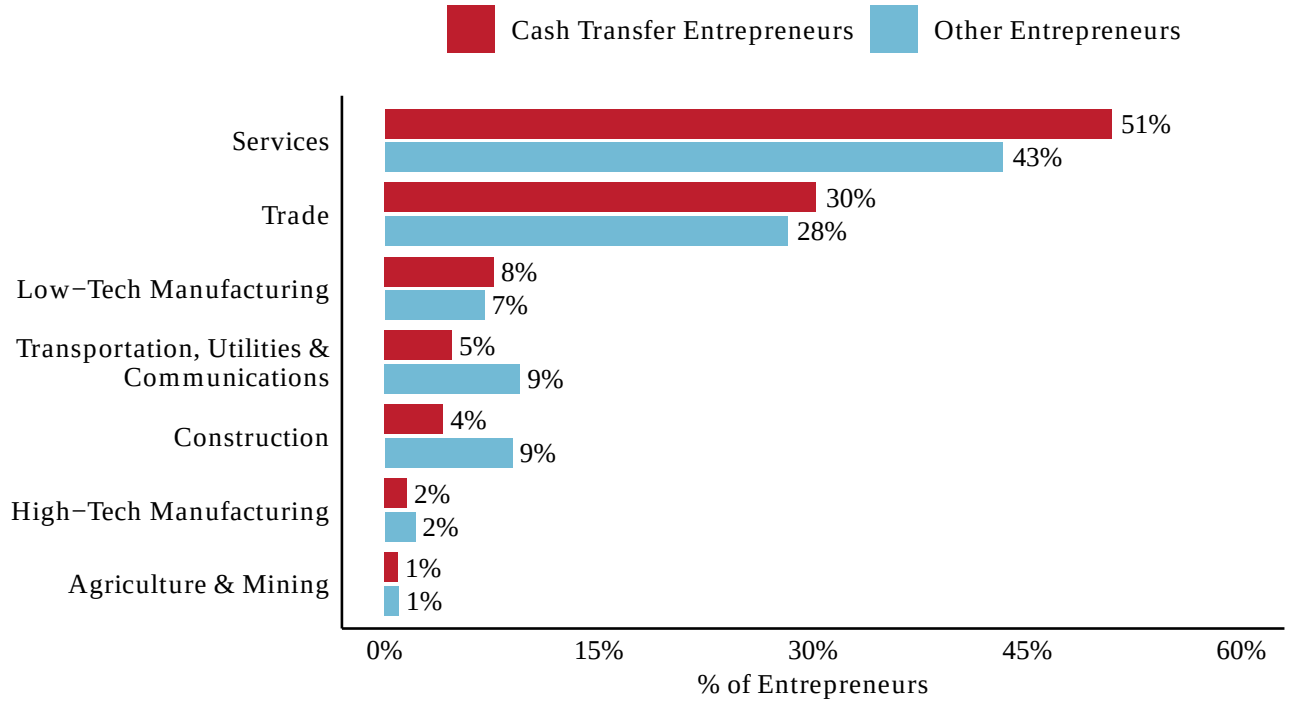
To further explore these dynamics across industries, we break down the analysis by sectoral composition. In Table IA1 of the Appendix, we show that the expansion's effect on entrepreneurship operates similarly across different industry groups. These results indicate that the response to the 2022 expansion is not confined to a single economic activity, suggesting a broad influence on entrepreneurial entry decisions.

Having established that Bolsa Família can induce entrepreneurial activity, the next sections delve deeper into the nature of these ventures. We examine which types of businesses cash transfer entrepreneurs enter (Section 5), their performance and survival (Section 6), and the extent to which these entrepreneurs learn and improve over time (Section 7).

5 Selection into Entrepreneurship

We begin by examining the types of businesses created by cash transfer entrepreneurs compared to other individual entrepreneurs. Even within this category of smaller-scale ventures, this analysis helps distinguish between two possibilities: whether government transfers en-

Figure 6: Industry Distribution



This figure shows the industry distribution of individual entrepreneurs founded between 2013–2024 by type of entrepreneur. Cash Transfer Entrepreneurs (red bars) are defined as entrepreneurs who received their first Bolsa Família program payment within one year of business founding. Other Entrepreneurs (blue bars) are all other entrepreneurs. Industry classifications follow Dix-Carneiro (2014).

able previously constrained individuals to pursue ventures similar to those of other individual entrepreneurs, or instead induce entry into activities with even lower capital requirements and barriers to entry. The distinction matters for understanding whether these programs foster ventures with growth potential or primarily enable subsistence self-employment.

The data reveal that even among all individual entrepreneurs, cash transfer entrepreneurs systematically select into different sectors than other entrepreneurs. As shown in Figure 6, cash transfer entrepreneurs concentrate in sectors with particularly low barriers to entry: 51% operate in services (versus 43% for other entrepreneurs) and 30% in retail trade (versus 28%). Conversely, they are significantly underrepresented in sectors requiring more technical expertise or capital, such as construction (4% versus 9%) and transportation/utilities (5% versus 9%).

Table 4 shows this pattern is even more striking at the subsector level. Within services, cash transfer entrepreneurs cluster heavily in basic consumer-facing activities requiring minimal upfront investment—33.3% in food service (versus 23.8% for other entrepreneurs, a 9.5 percentage point difference) and 26.8% in personal services (versus 18.3%, an 8.5 percentage point difference). Other entrepreneurs, in contrast, show substantially greater representation in business services requiring more formal training or specialized skills: they are 3.8 percentage points more likely to operate in advertising and market research (11.6% versus 7.8%) and 6.5 percentage points more likely to engage in office administration (11.5% versus 5.0%). Education services show a similar pattern, with other entrepreneurs having 7.2 percentage points higher representation (10.6% versus 3.4%).

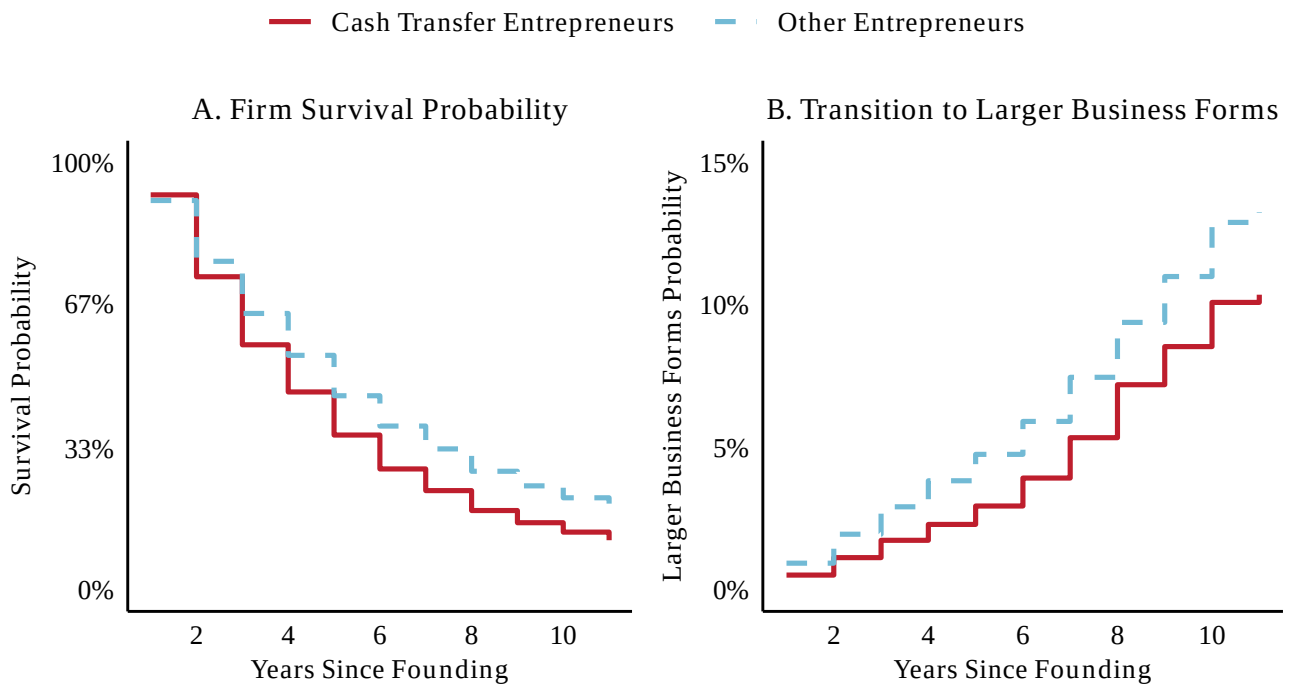
These sector choices align with differences in initial capital investment. Table 5 shows that while the median other entrepreneur starts with R$3,000 in equity, the median cash transfer entrepreneur begins with R$2,000. These gaps persist across the entire distribution and over time. To isolate the effect of recipient status on capital investment, we estimate a regression model with municipality $\times$ founding year and industry fixed effects, finding that cash transfer entrepreneurs invest 24% less capital than other entrepreneurs in similar ventures (Table 6). This pattern is robust to alternative specifications with industry $\times$ founding year fixed effects (Column 6).

Program features may help explain these patterns. While the guaranteed income stream enables business experimentation, the program's eligibility threshold—households lose benefits when income exceeds half the minimum wage—may discourage ventures with higher growth potential, even within the individual entrepreneur category. The next section examines how these systematic differences in initial conditions translate into performance outcomes.

6 Performance Analysis

The selection patterns documented above raise a crucial question: do these systematic differences in industry choice and initial capital translate into divergent business outcomes? If se-

Figure 7: Firm Survival and Business Development

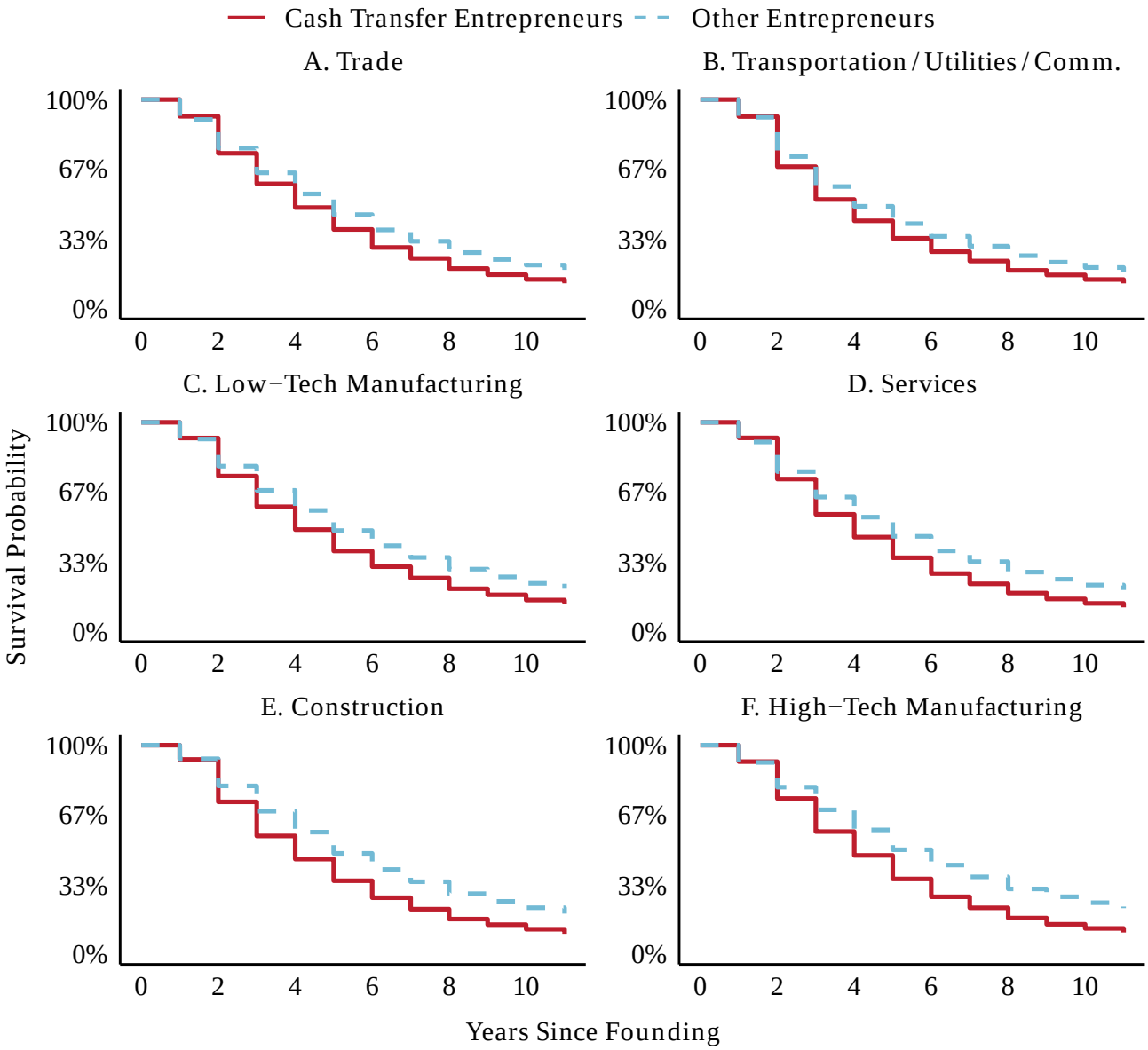


This figure presents survival patterns and business development of individual entrepreneurs by type of entrepreneur using Kaplan-Meier estimates. Panel A plots survival probabilities from firm founding to closure, where survival indicates maintaining active registration status. Panel B shows the cumulative probability of transitioning to a larger business category over time (e.g., from individual entrepreneur to LLC). Cash transfer entrepreneurs (red lines) are defined as entrepreneurs who received their first program payment before or up to one year after founding their business. Other Entrepreneurs (blue dashed lines) are all other entrepreneurs.

lection into less capital-intensive sectors primarily reflects financial constraints, we might expect similar performance conditional on entry. However, if selection patterns reflect broader differences in growth orientation or entrepreneurial preparation, we would expect to see persistent performance gaps.

We begin with non-parametric Kaplan-Meier estimates of survival functions. The data reveal substantial performance differences. As shown in Panel A of Figure 7, by year 5, cash transfer entrepreneurs' survival rate is 36.2% compared to 45.3% for other entrepreneurs, with this gap expanding to 7.9 percentage points by year 11 (13.6% versus 21.5%). Cash transfer entrepreneurs are also less likely to transition to larger business forms, with the cumulative probability reaching 9.6% versus 13.3% for other entrepreneurs by year 11 (Panel B).

Figure 8: Survival Patterns Across Industries



This figure presents Kaplan-Meier survival estimates for individual entrepreneurs by type of entrepreneur across industries. Cash Transfer Entrepreneurs (red lines) are defined as entrepreneurs who received their first Bolsa Família program payment before or up to one year after founding their business. Other Entrepreneurs (blue dashed lines) are all other entrepreneurs. Industry classifications follow Dix-Carneiro (2014).

These performance differentials exhibit heterogeneity across industries. As shown in Figure 8, the survival disadvantage is most pronounced in sectors requiring greater technical expertise or capital investment—high-tech manufacturing and construction show gaps of 10–

15 percentage points by year 5, while sectors with lower entry barriers like trade and services show more modest differences of 5–7 percentage points.

The regression evidence in Table 7 confirms these patterns. In our main specification, which includes municipality $\times$ founding year and industry fixed effects while controlling for startup equity, cash transfer entrepreneurs are 5.4 percentage points less likely to survive and 0.9 percentage points less likely to transition to larger business forms (Column 3). These effects represent substantial economic magnitudes—the survival disadvantage represents a 11% reduction relative to the mean survival rate of 46.5%, while the transition effect represents a 10% reduction relative to the mean transition rate of 6.4%. The results are robust to controls for time-varying industry conditions, as evidenced by specifications with industry $\times$ founding year fixed effects (Column 4 of Panels A and B).

Importantly, we find that these performance gaps vary with local economic conditions. In Table 8, we interact cash transfer entrepreneur status with a low-income municipality indicator (defined as municipalities in the bottom quartile of GDP). In our main specification, while cash transfer entrepreneurs underperform on average with a 5.5 percentage point lower survival probability, this disadvantage is reduced by 2.3 percentage points in low-GDP municipalities. These effects are robust to industry $\times$ founding year fixed effects, suggesting that the impact of transfers on entrepreneurial outcomes depends crucially on local economic conditions. However, we find no such mitigation for business transitions—-cash transfer entrepreneurs in low-GDP areas are actually 0.4 percentage points less likely to transition to larger business forms, slightly amplifying the baseline transition disadvantage of 0.9 percentage points.

To ensure robustness, we complement our main analysis with a nearest-neighbor matching procedure following Abadie and Imbens (2006) and Abadie and Imbens (2011). For each cash transfer entrepreneur, we first attempt exact matching on municipality and 3-digit CNAE industry codes. Within these exact-match cells, we use Mahalanobis distance based on standardized firm equity and founding year to find the closest other entrepreneur, imposing a caliper of 0.2 standard deviations to ensure match quality (following Rosenbaum and Rubin (1985)). For treated units without matches at the 3-digit industry level, we progressively

broaden the industry match to 2-digit and then 1-digit levels while maintaining the exact municipality match and caliper requirement. This procedure yields 1.63 million matches at the 3-digit industry level, with additional matches at broader industry classifications, for a total of 1.76 million matched pairs. As shown in Columns (5)–(6) of Table 7, the results are remarkably consistent with our main findings: cash transfer entrepreneurs are 4.6 percentage points less likely to survive and 0.6 percentage points less likely to transition to larger business forms. Similarly, Columns (5)–(6) of Table 8 confirm that these performance gaps vary with local economic conditions, with the survival disadvantage reduced by 2.1 percentage points in low-GDP municipalities.

These patterns suggest that while transfers may help cash transfer entrepreneurs overcome initial entry barriers, they do not fully address the challenges of building sustainable businesses. The substantial survival gaps, particularly in sectors requiring greater technical expertise, point to potential mismatches between cash transfer entrepreneurs capabilities and chosen industries. Moreover, the heterogeneous effects across local economic environments highlight how the value of guaranteed income streams varies with market conditions—in poorer areas where alternative opportunities are scarce, the insurance effect of transfers appears to partially offset other disadvantages faced by cash transfer entrepreneurs.

These findings raise an important question: do failed ventures nonetheless provide valuable entrepreneurial experience that could improve future outcomes? The next section examines whether and how cash transfer entrepreneurs learn from their initial attempts at business formation.

7 Learning from Entrepreneurial Experience

We next examine whether entrepreneurial experience leads to improved performance in subsequent ventures. Following Lafontaine and Shaw (2016), we measure entrepreneurial learning as the difference in performance between an entrepreneur's subsequent ventures and their first attempt, focusing on both survival and the ability to develop into larger business forms. This analysis helps assess whether the high failure rates documented in Section 6

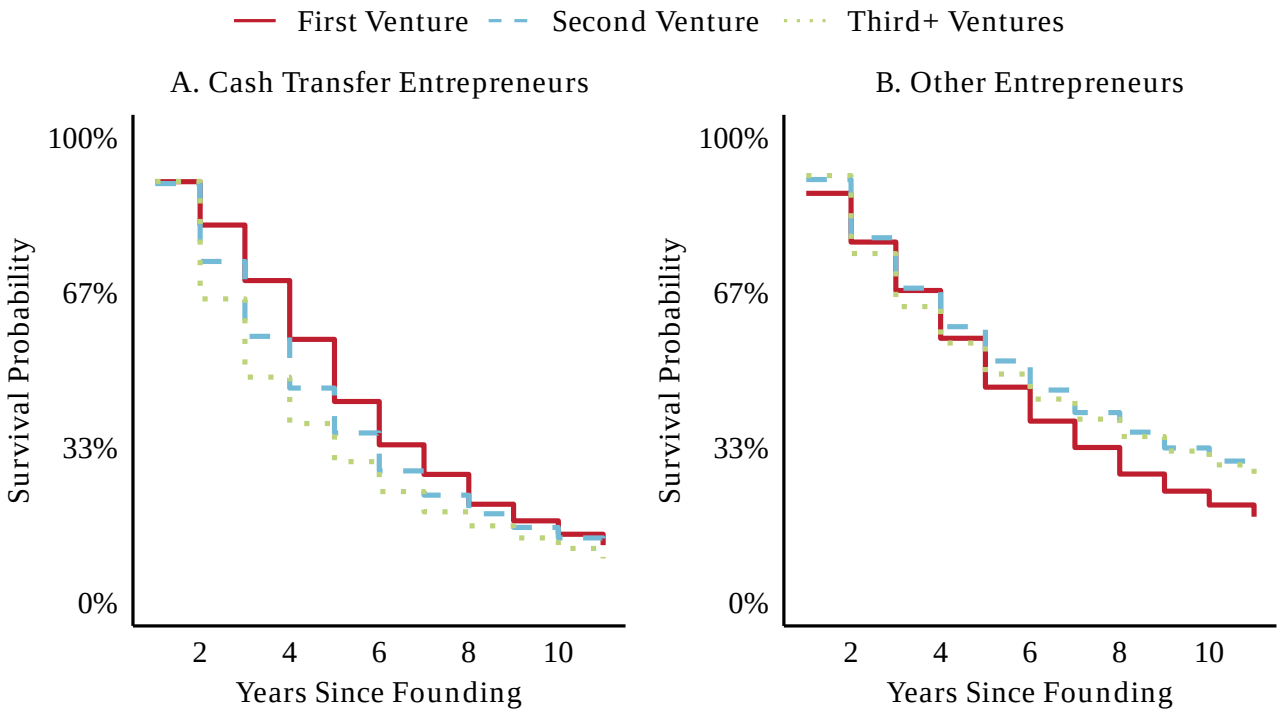
might be justified if they enable learning and better outcomes in future attempts. To isolate learning effects, we focus on serial entrepreneurs–individuals who launched multiple ventures during our sample period. Specifically, we construct a sample of entrepreneurs, both cash transfer entrepreneurs and other entrepreneurs, who: (i) registered their first venture as an individual entrepreneur, and (ii) started at least one additional venture during our sample period. While first ventures must be individual entrepreneurs to ensure comparability in entry conditions, we allow subsequent ventures to take any legal form to capture potential business development.

The data reveal that entrepreneurial experience has markedly different effects for cash transfer entrepreneurs and other entrepreneurs. As shown in Figure 9, other entrepreneurs' subsequent ventures achieve meaningfully higher survival rates than their first attempts–the five-year survival rate increases from 39% in first ventures to 52% in third or later ventures. In contrast, cash transfer entrepreneurs show not just limited progression but actual deterioration in performance–their subsequent ventures exhibit lower survival rates than first attempts throughout most of the observation period. Their five-year survival rate drops from 33% in first ventures to 29% in third or later ventures, suggesting that cash transfer entrepreneurs face substantial challenges in leveraging prior business experience.

To better understand these patterns, we estimate survival regressions with rich fixed effects that account for geographic, industry, and time-varying factors. In our main specification, which includes municipality $\times$ founding year and industry fixed effects while controlling for startup equity (Table 9, Column 3), subsequent ventures are 11.5 percentage points more likely to survive relative to first attempts. However, this learning benefit is substantially muted for cash transfer entrepreneurs, with a negative interaction of –4.1 percentage points, implying that cash transfer entrepreneurs capture only 64% of the typical survival improvement (11.5 – 4.1 = 7.4 percentage points). Moreover, cash transfer entrepreneurs face a baseline survival disadvantage of –5.5 percentage points. These effects are robust to controls for time-varying industry conditions, as evidenced by a specification with industry $\times$ founding year fixed effects (Column 4).

Beyond survival, we examine whether entrepreneurs develop capabilities to grow

Figure 9: Serial Entrepreneurship Survival

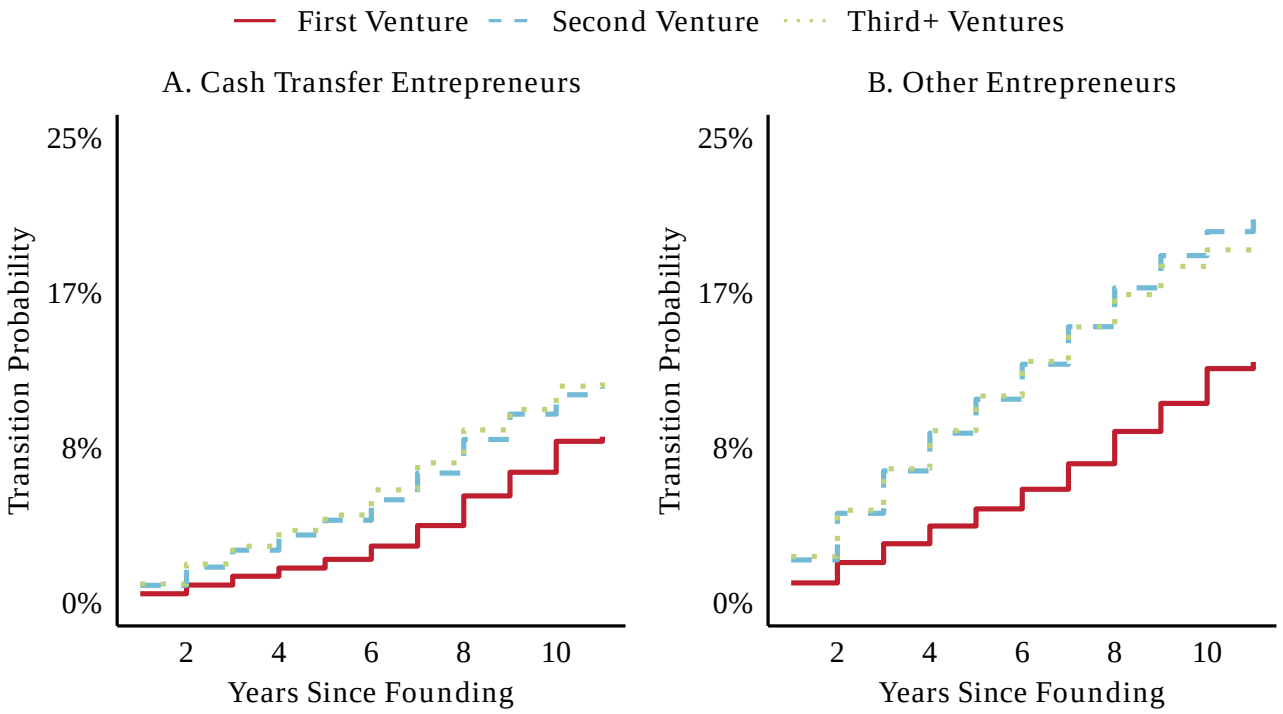


This figure presents Kaplan-Meier survival estimates by venture order and type of entrepreneur. The sample includes entrepreneurs whose first venture was registered as an individual entrepreneur (IE) between 2013–2024. Subsequent ventures (any venture after the first venture) can take any legal form. Cash Transfer Entrepreneurs (solid red line) are defined as entrepreneurs who received their first Bolsa Família program payment within one year of business founding. Other Entrepreneurs (dashed blue line) are all other Entrepreneurs).

their businesses over time through transitions to larger organizational forms. As shown in Figure 10, other entrepreneurs exhibit a clear pattern of progression–by year 5, the probability of transitioning to larger business forms reaches 15% for their third or later ventures compared to 8% for first attempts. Cash transfer entrepreneurs show a different pattern. While their subsequent ventures also display higher transition rates than first attempts, the magnitude of improvement is smaller. In our main specification, subsequent ventures are 2.6 percentage points more likely to transition to larger forms, but cash transfer entrepreneurs capture less of this progression benefit, with a negative interaction effect of –1.0 percentage points.

The relationship between transfers and entrepreneurial learning exhibits important heterogeneity across local economic environments. In Table 10, we interact our learning

Figure 10: Serial Entrepreneurship Transition to Larger Firm Formats



This figure presents Kaplan-Meier estimates of the probability of transitioning to larger business forms (e.g., from individual entrepreneur to LLC) by venture order and type of entrepreneur. Subsequent ventures (any venture after the first venture) can take any legal form. Cash Transfer Entrepreneurs (solid red line) are defined as entrepreneurs who received their first Bolsa Família program payment within one year of business founding. Other Entrepreneurs (dashed blue line) are all other Entrepreneurs).

measures with a low-income municipality indicator (defined as municipalities in the bottom quartile of GDP). In our main specification, the triple interaction between cash transfer entrepreneur status, subsequent venture, and low-GDP indicator reveals that cash transfer entrepreneurs in poorer areas achieve survival rates 2.9 percentage points higher and transition probabilities 1.8 percentage points higher than cash transfer entrepreneurs in wealthier regions. These effects substantially offset the baseline negative interactions of –5.1 and –0.6 percentage points respectively. The results are robust to industry $\times$ founding year fixed effects, suggesting that social transfers may be particularly valuable for entrepreneurial development in areas where market frictions are more severe and alternative financing sources are limited.

The limited entrepreneurial learning we document aligns with broader evidence about

financial decision-making among transfer recipients. A recent study by the Brazilian Central Bank (Banco Central do Brasil, 2024) finds that in August 2024 alone, 5 million Bolsa Família recipients directed R$3 billion to online betting platforms. These findings suggest that recipients face persistent challenges in channeling resources toward productive investments that could support business development and growth.

8 Conclusion

This paper examines how social programs shape the allocation of entrepreneurial talent and capital by studying Brazil's Bolsa Família, the world's largest conditional cash transfer program. Our analysis reveals systematic distortions in both entry decisions and subsequent performance. Exploiting a major program expansion in 2022, we first establish that increased transfer payments cause meaningful shifts in local business formation. We then document three key findings about how program design affects entrepreneurial choices and outcomes.

First, even within the category of individual entrepreneurs, cash transfer entrepreneurs systematically select into sectors with lower barriers to entry and capital requirements. While other entrepreneurs enter a broader range of activities, cash transfer entrepreneurs concentrate concentrate in basic retail and services, investing approximately 24% less initial capital than other entrepreneurs in similar ventures. This selection pattern suggests that transfers primarily enable entry into subsistence entrepreneurship rather than fostering more sophisticated ventures.

Second, recipient-founded businesses consistently underperform relative to other individual entrepreneurs. In our main specification, cash transfer entrepreneurs are 5.4 percentage points less likely to survive and 0.9 percentage points less likely to transition to larger business forms, even after controlling for differences in initial capital, geography, and industry selection. These performance gaps persist across industries but vary with local economic conditions, with cash transfer entrepreneurs in low-GDP municipalities showing survival rates 2.3 percentage points higher than those in wealthier regions.

Third, and perhaps most importantly, we find limited evidence that initial entrepreneurial

attempts build valuable human capital for cash transfer entrepreneurs. While subsequent ventures are on average 11.5 percentage points more likely to survive than first attempts, this learning benefit is substantially muted for cash transfer entrepreneurs, who capture only 64% of the typical survival improvement. However, this pattern reverses in low-GDP municipalities, where cash transfer entrepreneurs achieve survival rates 3.2 percentage points higher than in wealthier regions, suggesting that program effects depend crucially on local economic conditions.

These results contribute to a deeper understanding of how social transfers affect the allocation of entrepreneurial talent and the formation of business capabilities. While policymakers often hope that predictable income support will enable productive risk-taking and business growth, our findings suggest that program design features create important trade-offs. The means-tested structure of transfers appears to systematically influence not just who becomes an entrepreneur, but also their capacity to learn from experience and develop their ventures. Future research could explore whether alternative program designs might better align social insurance objectives with the development of transformational entrepreneurship.

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Table 1: Summary Statistics

Table 1 shows summary statistics for the main samples of our analysis. Panel A presents statistics at the municipality-year level for 2017-2024 period surrounding the Bolsa Familia program expansion. Panel B includes only individual entrepreneurs (IEs) founded between 2013–2022. Panel C includes both IEs and their subsequent ventures of any legal form, meaning the sample conditions on entrepreneurs who's first venture was an IE firm. Variables are $\mathbb{1}\{\text{Business Survival}\}$ for maintaining active registration status, $\mathbb{1}\{\text{Business Transition to Larger Form}\}$ for transitioning to a larger business form, and $\mathbb{1}\{\text{Bolsa Família Recipient}\}$ for receiving the first Bolsa Família payment within one year of business founding. Share of Population on BF and GDP Per Capita (Panel A) are averages from 2017–2020. Startup Equity (Panels B and C) is winsorized at the 1^{st} and 99^{th} percentiles.

	Mean	SD	10^{th} P.	25^{th} P.	50^{th} P.	75^{th} P.	90^{th} P.	99^{th} P.	N
Panel A. Municipality-Year Sample									
New Establishments (Business Stock)	596	5,158	20	39	89	246	775	8,615	44,560
Fraction IE	81.7 %	10.8 %	69.0 %	76.7 %	83.3 %	88.9 %	93.2 %	100.0 %	44,558
Fraction LLC	15.2 %	8.5 %	5.4 %	9.2 %	14.3 %	20.0 %	26.0 %	40.0 %	44,558
Fraction Other	3.1 %	8.9 %	0.0 %	0.0 %	0.4 %	1.6 %	5.9 %	49.1 %	44,558
Identified IEs	375	3,134	12	23	55	154	495	5,466	44,534
Fraction Bolsa Familia IEs	12.0 %	8.6 %	3.1 %	6.5 %	10.5 %	15.9 %	22.2 %	40.0 %	44,534
Bolsa Familia Recipients	3,364	14,531	206	482	1,242	3,088	6,538	30,280	44,560
1-Yr. Growth in BF Recipients	4.6 %	24.4 %	-14.8 %	-8.0 %	-1.2 %	7.7 %	33.0 %	100.0 %	44,560
Average Bolsa Familia Payment (R$)	2,762	1,418	1,444	1,744	2,330	3,382	5,569	6,591	44,560
Share of Population on BF	10.7 %	6.8 %	2.9 %	4.9 %	9.3 %	16.4 %	20.1 %	26.3 %	44,560
GDP Per Capita (R$)	22,127	18,403	7,948	10,131	16,922	27,902	41,356	89,945	41,344
Panel B. Individual Entrepreneurs Sample									
$\mathbb{1}\{\text{Business Survival}\}$	0.460	0.498	0.000	0.000	0.000	1.000	1.000	1.000	21,611,848
$\mathbb{1}\{\text{Business Transition to Larger Form}\}$	0.062	0.241	0.000	0.000	0.000	0.000	0.000	1.000	21,611,848
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\}$	0.083	0.275	0.000	0.000	0.000	0.000	0.000	1.000	21,611,848
Startup Equity	6,433	12,128	100	1,000	2,000	5,000	15,000	80,000	21,611,848
Panel C. Individual Entrepreneurs and Subsequent Ventures Sample									
$\mathbb{1}\{\text{Business Survival}\}$	0.496	0.500	0.000	0.000	0.000	1.000	1.000	1.000	8,321,177
$\mathbb{1}\{\text{Business Transition to Larger Form}\}$	0.091	0.288	0.000	0.000	0.000	0.000	0.000	1.000	8,321,177
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\}$	0.082	0.275	0.000	0.000	0.000	0.000	0.000	1.000	8,321,177
$\mathbb{1}\{\text{Subsequent Venture}\}$	0.664	0.472	0.000	0.000	1.000	1.000	1.000	1.000	8,321,177
Startup Equity	21,872	65,472	100	1,000	4,000	10,000	50,000	500,000	8,321,177

Table 2: Entrepreneurial Activity Around the 2022 Bolsa Família Expansion

Table 2 shows OLS estimates for municipality-level entrepreneurial activity around the 2022 Bolsa Família expansion. The sample is at the municipality-year level and covers 5,570 municipalities from 2017 to 2024. Columns (1)–(2) is based on all new establishments while Column (3) is restricted to individual entrepreneurs (IEs) that are identified by personal identifiers. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Dependent Variable:	Share of LLCs	Share of IEs	Share of Cash Transfer IEs
	(1)	(2)	(3)
$\mathbb{1}\{\text{Post–2022}\} \times$ 2017–2020 Share of Population on BF	0.082***	–0.122***	0.075***
	(6.31)	(–8.78)	(4.84)
Ln(Municipality Business Stock)	–0.033***	0.033***	0.011***
	(–14.45)	(13.82)	(4.06)
Ln(Municipality Bolsa Familia Recipients)	–0.007**	0.006*	0.024***
	(–2.56)	(1.92)	(8.58)
Ln(Municipality Average Bolsa Familia Payment)	0.008**	–0.006	–0.005
	(2.14)	(–1.53)	(–1.29)
Observations	44,558	44,558	44,534
Adjusted R^2	0.549	0.684	0.354
Municipality FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 3: Bolsa Familia Entrepreneurs Around the Program Expansion by Municipality GDP

Table 3 shows OLS estimates for municipality-level share of new individual entrepreneurs (IEs) that are Bolsa Familia recipient entrepreneurs, which are defined as entrepreneurs who received their first Bolsa Familia payment within one year of business founding. Low GDP municipalities are classified as those in the bottom quartile based on average GDP during 2017-2020 (pre-period) as sourced by IBGE. The sample is at the municipality-year level, covers 5,570 municipalities from 2017 to 2024 and is based on all individual entrepreneurs (IEs) that are identified by personal identifiers. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Dependent Variable:	Share of Bolsa Familia IEs				
Sample (2017–2024):	All Years			2020 Excluded	
	(1)	(2)	(3)	(4)	(5)
$\mathbb{1}\{\text{Post–2022}\}$	-0.002*				
	(-1.677)				
$\mathbb{1}\{\text{Post–2022}\} \times \mathbb{1}\{\text{Low GDP}\}$		0.011***		0.008***	
		(4.285)		(3.214)	
$\mathbb{1}\{2017\} \times \mathbb{1}\{\text{Low GDP}\}$			0.005		0.006*
			(1.516)		(1.686)
$\mathbb{1}\{2018\} \times \mathbb{1}\{\text{Low GDP}\}$			–0.002		–0.001
			(–0.532)		(–0.392)
$\mathbb{1}\{2019\} \times \mathbb{1}\{\text{Low GDP}\}$			0.002		0.002
			(0.441)		(0.545)
$\mathbb{1}\{2020\} \times \mathbb{1}\{\text{Low GDP}\}$			—0.014***		
			(–4.510)		
$\mathbb{1}\{2022\} \times \mathbb{1}\{\text{Low GDP}\}$			0.007**		0.007**
			(2.085)		(2.131)
$\mathbb{1}\{2023\} \times \mathbb{1}\{\text{Low GDP}\}$			0.008**		0.009**
			(1.982)		(2.219)
$\mathbb{1}\{2024\} \times \mathbb{1}\{\text{Low GDP}\}$			0.012***		0.013***
			(2.632)		(2.845)
Ln(Municipality Business Stock)	0.021***	0.010***	0.010***	0.011***	0.011***
	(10.660)	(3.923)	(3.896)	(3.919)	(3.935)
Ln(Municipality Bolsa Familia Recipients)	0.004*	0.022***	0.023***	0.027***	0.028***
	(1.821)	(6.746)	(7.214)	(8.110)	(8.209)
Growth in Municipality Bolsa Familia Recipients	0.013***	–0.002	–0.003	–0.006**	–0.007***
	(9.419)	(–0.794)	(–1.501)	(–2.446)	(–2.989)
Observations	44,534	41,318	41,318	36,151	36,151
Adjusted R^2	0.345	0.337	0.338	0.340	0.340
Municipality FE	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes

Table 4: Industries of Bolsa Família and Non-Bolsa Família Entrepreneurs

Table 4 presents the distribution of Brazilian individual entrepreneurs (IEs) founded between 2013–2024 across industries. Cash Transfer Entrepreneurs are defined as those receiving their first Bolsa Família payment within one year of business registration. Industries are classified following the Brazilian CNAE classification system and aggregated following Dix-Carneiro (2014). For each sector, we report both the number of firms and their share within the respective group (Cash Transfer Entrepreneurs and Other Entrepreneurs).

	Cash Transfer Entrepreneurs		Other Entrepreneurs	
Industry	Number of Firms (1)	Share (%) (2)	Number of Firms (3)	Share (%) (4)
Services	**908,685**	**50.9**	**8,578,536**	**43.3**
Food and beverage service	302,272	33.3	2,037,649	23.8
Beauty and personal service	243,713	26.8	1,570,595	18.3
Advertising and market research	70,428	7.8	996,636	11.6
Office administration	45,811	5.0	983,800	11.5
Education	31,126	3.4	905,959	10.6
Other	215,335	23.7	2,083,897	24.2
Trade	**539,581**	**30.2**	**5,587,732**	**28.2**
Retail trade of clothing and accessories	161,540	29.9	1,290,036	23.1
Vehicle sales and repair	37,647	7.0	836,894	15.0
Retail trade in minimarkets	54,626	10.1	362,420	6.5
Retail trade of beverages	40,422	7.5	361,725	6.5
Retail trade of cosmetics and perfumes	39,523	7.3	260,012	4.7
Other	205,823	38.2	2,476,645	44.2
Transportation/Utilities/Communications	**84,148**	**4.7**	**1,880,191**	**9.5**
Land transport	40,693	48.4	992,423	52.8
Postal and courier	19,292	22.9	460,209	24.5
Warehousing and support activities	12,458	14.8	295,423	15.7
Waste collection and treatment	8,859	10.5	50,382	2.7
Telecommunications	1,073	1.3	46,287	2.5
Other	1,773	2.1	35,467	1.8
Construction	**72,957**	**4.1**	**1,772,638**	**8.9**
Masonry works	29,773	48.9	823,692	46.1
Electrical installation and maintenance	9,677	15.9	357,584	20.0
Building painting services	9,622	15.8	244,101	13.7
AC installation and maintenance	3,218	5.3	96,680	5.4
Plaster and stucco finishing works	1,677	2.8	52,714	3.0
Other	18,990	11.3	197,867	11.8
Low-Tech Manufacturing	**136,531**	**7.6**	**1,385,688**	**7.0**
Food products manufacturing	48,230	35.3	374,444	27.0
Clothing manufacturing	55,979	41.0	352,779	25.5
Metal products	9,507	7.0	241,784	17.4
Furniture	4,980	3.6	133,169	9.6
Printing	3,056	2.2	86,899	6.3
Other	14,779	10.9	196,613	14.2
High-Tech Manufacturing	**27,748**	**1.6**	**423,445**	**2.1**
Repair of machinery	7,159	25.8	227,452	53.7
Production of costume jewelry	4,768	17.2	35,420	8.4
Chemical products	479	1.7	4,973	1.2
Motor vehicles	171	0.6	4,286	1.0
Electrical machinery	35	0.1	1,250	0.3
Other	15,136	54.6	150,064	35.4
Agriculture/Mining	**16,398**	**0.9**	**197,570**	**1.0**

Table 5: Startup Equity of All Individual Entrepreneurs (IEs)

Table 5 shows summary statistics for the sample of individual entrepreneurs (IEs) in Brazil (2013–2024) for which we observe personal identifiers, allowing us to identify Bolsa Família entrepreneurs among IEs. Panel A shows data for Bolsa Família entrepreneurs; Panel B shows data for non-recipients. Startup Equity is winsorized at the 1^{st} and 99^{th} percentiles.

			Startup Equity								
Year	N	% of IEs	Mean	SD	10^{th} P.	25^{th} P.	50^{th} P.	75^{th} P.	90^{th} P.	95^{th} P.	99^{th} P.
Panel A. Cash Transfer Entrepreneurs											
2013	61,863	5.8%	5,253	10,642	1	500	2,000	5,000	10,000	20,000	60,000
2014	73,417	6.4%	5,198	10,319	1	500	2,000	5,000	10,000	20,000	60,000
2015	94,798	7.2%	5,124	10,646	1	500	2,000	5,000	10,000	20,000	60,000
2016	96,974	7.0%	5,316	10,959	1	880	2,000	5,000	10,000	20,000	60,000
2017	118,840	7.6%	5,284	11,002	10	1,000	2,000	5,000	10,000	20,000	60,000
2018	157,599	8.4%	5,314	11,623	10	1,000	2,000	5,000	10,000	20,000	60,000
2019	203,050	8.7%	5,118	11,184	100	1,000	1,600	5,000	10,000	20,000	60,000
2020	194,970	7.7%	5,449	11,962	100	1,000	2,000	5,000	10,000	20,000	80,000
2021	305,520	10.0%	5,704	11,940	100	1,000	2,000	5,000	10,000	20,000	75,000
2022	257,360	9.9%	5,873	12,179	100	1,000	2,000	5,000	12,000	24,000	80,000
2023	114,676	8.2%	6,600	13,740	100	1,000	2,000	5,000	15,000	30,000	81,000
2024	106,755	8.1%	6,702	14,085	100	1,000	2,000	5,000	15,000	30,000	81,000
Panel B. Other Entrepreneurs											
2013	1,004,600	94.2%	6,933	13,078	1	1,000	3,000	5,400	15,000	30,000	70,000
2014	1,068,866	93.6%	6,885	12,972	1	1,000	3,000	5,000	15,000	30,000	70,000
2015	1,230,299	92.8%	6,727	12,870	1	1,000	3,000	5,000	15,000	30,000	70,000
2016	1,279,887	93.0%	6,646	12,818	50	1,000	3,000	5,000	15,000	30,000	69,869
2017	1,445,231	92.4%	6,657	12,897	100	1,000	3,000	5,000	15,000	30,000	70,000
2018	1,717,074	91.6%	6,579	13,090	100	1,000	2,000	5,000	15,000	30,000	80,000
2019	2,141,430	91.3%	6,403	12,822	100	1,000	2,000	5,000	15,000	30,000	80,000
2020	2,342,475	92.3%	6,019	12,371	216	1,000	2,000	5,000	10,500	25,000	80,000
2021	2,748,384	90.0%	6,352	12,760	400	1,000	2,000	5,000	15,000	25,000	80,000
2022	2,342,895	90.1%	6,836	13,403	300	1,000	2,000	5,000	15,000	30,000	80,000
2023	1,290,361	91.8%	7,442	14,479	500	1,000	2,500	6,750	20,000	30,000	89,000
2024	1,204,675	91.9%	7,275	14,356	200	1,000	2,500	6,000	15,000	30,000	85,000

Table 6: Startup Equity of Cash Transfer Entrepreneurs

Table 6 shows OLS estimates where the dependent variable is Ln(Startup Equity). The sample covers Brazilian individual entrepreneurs (founded between 2013–2024). Cash Transfer Entrepreneurs are defined as entrepreneurs who received their first Bolsa Família payment within one year of business founding. Columns (1)–(3) include all entrepreneurs with varying fixed effects. Columns (4)–(6) condition on recipients who had received payments prior to firm founding, using additional combinations of fixed effects. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Dependent Variable:	Ln(Startup Equity)					
Sample:	All Entrepreneurs			Cash Transfer Entrepreneurs		
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}$\{Cash Transfer Entrepreneur\}	–0.280***	–0.242***	–0.277***			
	(–35.04)	(–25.43)	(–36.32)			
Ln (Days since first BF payment)				0.023***	0.036***	0.024***
				(7.79)	(9.67)	(8.91)
Ln (Cumulative BF payment amount)				–0.053***	–0.045***	–0.050***
				(–10.67)	(–6.75)	(–10.62)
Observations	21,611,125	21,609,810	21,609,810	1,580,083	1,579,234	1,579,218
Adjusted R-squared	0.111	0.065	0.116	0.147	0.087	0.161
Founding Year FE	Yes	Yes	No	Yes	No	No
Municipality FE	Yes	No	Yes	Yes	No	Yes
Industry FE	Yes	Yes	No	Yes	Yes	No
Municipality×Founding Year FE	No	Yes	No	No	Yes	No
Industry×Founding Year FE	No	No	Yes	No	No	Yes

Table 7: Business Development of Cash Transfer Entrepreneurs

Table 7 shows estimates of startup development outcomes for Brazilian individual entrepreneurs (founded between 2013–2022). Cash Transfer Entrepreneurs are defined as entrepreneurs who received their first Bolsa Família payment within one year of business founding. Dependent variables are $\mathbb{1}\{\text{Business Survival}\}$ for maintaining active registration status and $\mathbb{1}\{\text{Business Transition to Larger Form}\}$ for transitioning to a larger business form. Columns (1)–(4) show OLS estimates with various fixed effects. Columns (5)–(6) use a nearest-neighbor matched sample that pairs each cash transfer entrepreneur with another entrepreneur based on exact matches on municipality and industry, and closest matches on firm equity and founding year (using Mahalanobis distance with a 0.2 standard deviation caliper). The data is at the individual entrepreneur level. Industries are defined at the CNAE level. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Panel A. Dependent Variable:	$\mathbb{1}\{\text{Business Survival}\}$					
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\}$	–0.062***	–0.055***	–0.054***	–0.054***	–0.046***	–0.046***
	(–33.51)	(–36.94)	(–36.44)	(–37.05)	(–33.30)	(–33.46)
Ln(Startup Equity)		0.009***	0.009***	0.008***		0.014***
		(13.48)	(13.50)	(12.84)		(17.15)
Observations	21,611,848	21,611,125	21,610,971	21,609,810	2,865,738	2,865,698
Adjusted R^2	0.196	0.212	0.214	0.217	0.448	0.449
Sample	Full	Full	Full	Full	Matched	Matched
Municipality FE	Yes	Yes	No	Yes	No	No
Industry FE	Yes	Yes	Yes	Yes	No	No
Founding Year FE	Yes	Yes	No	No	No	No
Municipality × Founding Year FE	No	No	Yes	No	No	No
Industry × Founding Year FE	No	No	No	Yes	No	No
Matched-Pair FE	No	No	No	No	Yes	Yes
Panel B. Dependent Variable:	$\mathbb{1}\{\text{Business Transition to Larger Forms}\}$					
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\}$	–0.020***	–0.009***	–0.009***	–0.009***	–0.006***	–0.006***
	(–31.02)	(–23.23)	(–23.32)	(–22.62)	(–12.29)	(–12.43)
Ln(Startup Equity)		0.006***	0.006***	0.006***		0.006***
		(20.21)	(19.65)	(19.97)		(19.73)
Observations	21,611,848	21,611,125	21,610,971	21,609,810	2,865,738	2,865,698
Adjusted R^2	0.022	0.065	0.069	0.071	0.302	0.303
Sample	Full	Full	Full	Full	Matched	Matched
Municipality FE	Yes	Yes	No	Yes	No	No
Industry FE	Yes	Yes	Yes	Yes	No	No
Founding Year FE	Yes	Yes	No	No	No	No
Municipality × Founding Year FE	No	No	Yes	No	No	No
Industry × Founding Year FE	No	No	No	Yes	No	No
Matched-Pair FE	No	No	No	No	Yes	Yes

Table 8: Income Heterogeneity in Business Development

Table 8 shows estimates of startup development outcomes by municipality income level for Brazilian individual entrepreneurs (founded between 2013–2022). Cash Transfer Entrepreneurs are defined as entrepreneurs who received their first Bolsa Família payment within one year of business founding. Dependent variables are 𝟙{Business Survival} for maintaining active registration status and 𝟙{Business Transition to Larger Forms} for transitioning to a larger business form. 𝟙{Low GDP} equals one for municipalities in the bottom quartile of GDP (averaged over 2013-2021). Columns (1)–(4) show OLS estimates with various fixed effects. Columns (5)–(6) use a nearest-neighbor matched sample that pairs each cash transfer entrepreneur with another entrepreneur based on exact matches on municipality and industry, and closest matches on firm equity and founding year (using Mahalanobis distance with a 0.2 standard deviation caliper). The data is at the individual entrepreneur level. Industries are defined at the CNAE level. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Panel A. Dependent Variable:	𝟙{Business Survival}					
	(1)	(2)	(3)	(4)	(5)	(6)
𝟙{Low GDP} × 𝟙{Cash Transfer Entrepreneur}	0.025***	0.023***	0.023***	0.023***	0.020***	0.021***
	(9.35)	(9.64)	(9.82)	(9.50)	(5.79)	(6.04)
𝟙{Cash Transfer Entrepreneur}	–0.063***	–0.056***	–0.055***	–0.055***	–0.048***	–0.048***
	(–33.99)	(–37.61)	(–37.19)	(–37.67)	(–33.37)	(–33.59)
𝟙{Low GDP}	–0.024***	–0.022***	–0.021***	–0.021***	–0.015	–0.019
	(–8.45)	(–8.12)	(–8.01)	(–8.11)	(–1.17)	(–1.55)
Ln(Startup Equity)		0.009***	0.009***	0.008***		0.014***
		(13.48)	(13.50)	(12.84)		(18.10)
Observations	21,611,848	21,611,125	21,610,971	21,609,810	2,865,738	2,865,698
Adjusted R^2	0.196	0.212	0.214	0.217	0.448	0.449
Sample	Full	Full	Full	Full	Matched	Matched
Municipality FE	Yes	Yes	No	Yes	No	No
Industry FE	Yes	Yes	Yes	Yes	No	No
Founding Year FE	Yes	Yes	No	No	No	No
Municipality×Founding Year FE	No	No	Yes	No	No	No
Industry×Founding Year FE	No	No	No	Yes	No	No
Matched-Pair FE	No	No	No	No	Yes	Yes
Panel B. Dependent Variable:	𝟙{Business Transition to Larger Forms}					
	(1)	(2)	(3)	(4)	(5)	(6)
𝟙{Low GDP} × 𝟙{Cash Transfer Entrepreneur}	–0.003***	–0.004***	–0.004***	–0.004***	–0.002	–0.002
	(–2.96)	(–3.92)	(–3.95)	(–3.87)	(–1.20)	(–0.99)
𝟙{Cash Transfer Entrepreneur}	–0.020***	–0.009***	–0.009***	–0.009***	–0.006***	–0.006***
	(–28.95)	(–21.23)	(–21.36)	(–20.65)	(–11.55)	(–11.71)
𝟙{Low GDP}	0.001	0.001	0.002	0.002	0.014***	0.012***
	(0.84)	(0.92)	(1.15)	(1.12)	(5.28)	(4.43)
Ln(Startup Equity)		0.006***	0.006***	0.006***		0.006***
		(20.21)	(19.65)	(19.97)		(19.71)
Observations	21,611,848	21,611,125	21,610,971	21,609,810	2,865,738	2,865,698
Adjusted R^2	0.022	0.065	0.069	0.071	0.302	0.303
Sample	Full	Full	Full	Full	Matched	Matched
Municipality FE	Yes	Yes	No	Yes	No	No
Industry FE	Yes	Yes	Yes	Yes	No	No
Founding Year FE	Yes	Yes	No	No	No	No
Municipality×Founding Year FE	No	No	Yes	No	No	No
Industry×Founding Year FE	No	No	No	Yes	No	No
Matched-Pair FE	No	No	No	No	Yes	Yes

Table 9: Business Development of Serial Entrepreneurs

Table 9 shows OLS estimates of startup development outcomes for Brazilian entrepreneurs whose first venture was an individual entrepreneur (founded between 2013–2022), with subsequent ventures being of any legal form. Cash Transfer Entrepreneurs are defined as entrepreneurs who received their first Bolsa Família payment within one year of business founding. Dependent variables are $\mathbb{1}\{\text{Business Survival}\}$ for maintaining active registration status and $\mathbb{1}\{\text{Business Transition to Larger Form}\}$ for transitioning to a larger business form. The data is at the entrepreneur-firm level, tracking entrepreneurs across multiple ventures. Industries are defined at the CNAE level. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Panel A. Dependent Variable:	$\mathbb{1}\{\text{Business Survival}\}$			
	(1)	(2)	(3)	(4)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\} \times \mathbb{1}\{\text{Subsequent Venture}\}$	–0.053***	–0.051***	–0.041***	–0.042***
	(–23.23)	(–21.70)	(–17.73)	(–18.49)
$\mathbb{1}\{\text{Subsequent Venture}\}$	0.137***	0.128***	0.115***	0.115***
	(43.69)	(41.27)	(43.51)	(43.78)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\}$	–0.055***	–0.049***	–0.055***	–0.051***
	(–23.23)	(–21.70)	(–17.73)	(–18.49)
Ln(Startup Equity)		0.016***	0.015***	0.015***
		(24.68)	(24.60)	(22.24)
Observations	8,321,509	8,226,964	8,225,911	8,225,911
Adjusted R^2	0.255	0.258	0.270	0.274
Municipality FE	Yes	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	No	No
Municipality×Founding Year FE	No	No	Yes	No
Industry×Founding Year FE	No	No	No	Yes
Panel B. Dependent Variable:	$\mathbb{1}\{\text{Business Transition to Larger Form}\}$			
	(1)	(2)	(3)	(4)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\} \times \mathbb{1}\{\text{Subsequent Venture}\}$	–0.008***	–0.006***	–0.010***	–0.010***
	(–4.49)	(–3.60)	(–7.71)	(–7.88)
$\mathbb{1}\{\text{Subsequent Venture}\}$	0.035***	0.030***	0.026***	0.026***
	(22.30)	(20.97)	(20.55)	(20.56)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\}$	–0.024***	–0.019***	–0.017***	–0.015***
	(–4.49)	(–3.60)	(–7.71)	(–7.88)
Ln(Startup Equity)		0.012***	0.012***	0.012***
		(22.27)	(21.13)	(21.41)
Observations	8,321,509	8,226,964	8,225,911	8,225,911
Adjusted R^2	0.048	0.057	0.065	0.070
Municipality FE	Yes	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	No	No
Municipality×Founding Year FE	No	No	Yes	No
Industry×Founding Year FE	No	No	No	Yes

Table 10: Income Heterogeneity in Serial Entrepreneurship

Table 10 shows OLS estimates of startup development outcomes for Brazilian entrepreneurs whose first venture was an individual entrepreneur (founded between 2013–2024), with subsequent ventures being of any legal form. Cash Transfer Entrepreneurs are defined as entrepreneurs who received their first Bolsa Família payment within one year of business founding. Dependent variables are $\mathbb{1}\{\text{Business Survival}\}$ for maintaining active registration status and $\mathbb{1}\{\text{Business Transition to Larger Form}\}$ for transitioning to a larger business form. $\mathbb{1}\{\text{Low GDP}\}$ equals one for municipalities in the bottom quartile of GDP (averaged over 2013-2021) according to IBGE data. The data is at the entrepreneur-firm level, tracking entrepreneurs across multiple ventures. Industries are defined at the CNAE level. Additional double interaction terms between Low GDP, Subsequent Venture, and Bolsa Família Recipient indicators are included in all specifications but omitted for brevity (see Table IA3 for complete results). Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Panel A. Dependent Variable:	$\mathbb{1}\{\text{Business Survival}\}$			
	(1)	(2)	(3)	(4)
$\mathbb{1}\{\text{Low GDP}\} \times \mathbb{1}\{\text{Cash Transfer Entrepreneur}\} \times \mathbb{1}\{\text{Subsequent Venture}\}$	0.036***	0.032***	0.029***	0.030***
	(6.39)	(5.76)	(5.13)	(5.48)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\} \times \mathbb{1}\{\text{Subsequent Venture}\}$	–0.054***	–0.052***	–0.051***	–0.042***
	(–23.19)	(–21.60)	(–22.71)	(–18.43)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\}$	–0.056***	–0.049***	–0.048***	–0.052***
	(–32.14)	(–28.79)	(–29.19)	(–33.00)
$\mathbb{1}\{\text{Subsequent Venture}\}$	0.138***	0.128***	0.128***	0.116***
	(44.27)	(41.70)	(41.23)	(44.32)
Ln(Startup Equity)		0.016***	0.016***	0.015***
		(24.77)	(24.32)	(22.30)
Observations	8,321,168	8,226,622	8,224,906	8,225,569
Adjusted R^2	0.255	0.259	0.261	0.274
Municipality FE	Yes	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	No	No
Municipality×Founding Year FE	No	No	Yes	No
Industry×Founding Year FE	No	No	No	Yes
Panel B. Dependent Variable:	$\mathbb{1}\{\text{Business Transition to Larger Forms}\}$			
	(1)	(2)	(3)	(4)
$\mathbb{1}\{\text{Low GDP}\} \times \mathbb{1}\{\text{Cash Transfer Entrepreneur}\} \times \mathbb{1}\{\text{Subsequent Venture}\}$	0.024***	0.021***	0.018***	0.023***
	(7.27)	(6.44)	(5.44)	(7.29)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\} \times \mathbb{1}\{\text{Subsequent Venture}\}$	–0.008***	–0.006***	–0.006***	–0.011***
	(–4.49)	(–3.62)	(–3.97)	(–7.78)
$\mathbb{1}\{\text{Cash Transfer Entrepreneur}\}$	–0.024***	–0.018***	–0.018***	–0.014***
	(–18.92)	(–13.66)	(–14.18)	(–12.60)
$\mathbb{1}\{\text{Subsequent Venture}\}$	0.036***	0.030***	0.030***	0.026***
	(22.08)	(20.67)	(20.43)	(20.40)
Ln(Startup Equity)		0.012***	0.013***	0.012***
		(22.25)	(21.38)	(21.40)
Observations	8,321,168	8,226,622	8,224,906	8,225,569
Adjusted R^2	0.048	0.058	0.060	0.070
Municipality FE	Yes	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	No	No
Municipality×Founding Year FE	No	No	Yes	No
Industry×Founding Year FE	No	No	No	Yes

Internet Appendix to
"Cash Transfer Entrepreneurs"

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Internet Appendix

A.1 Detailed Data Description and Sample Construction

A.1.1 Business Registry Data

The Brazilian Business Registry (Receita Federal's CNPJ dataset) contains comprehensive information for all formal businesses in Brazil. From the initial 59.6 million businesses, we apply the following filters to construct our analysis sample:

1. Retain establishments started between 2013–2024 (39.3 million establishments)
2. Keep only firm types representing commercial motives, specifically:
    - Individual Entrepreneur
    - Limited Liability Company
    - Rural Producer (Individual)
    - Individual Limited Liability Company (Business & Simple Nature)
    - Privately Held Corporation
    - Sole Proprietorship Advocacy
    - Simple Innovation Company
    - Publicly Traded Corporation
    - Public Company

This filtering process yields 36.2 million establishments, with Individual Entrepreneurs (IEs) constituting 79.1% and Limited Liability Companies representing 18.6%. The registry provides detailed information including:

- Establishment dates
- Legal structure
- Industry classifications (CNAE codes)

- Geographic locations
- Initial equity
- Tax regime participation
- Registration status changes

A.1.2 Personal Identification and Matching Procedure

We implement a multi-step procedure to identify individual entrepreneurs and shareholders:

Individual Entrepreneurs (IEs):

- Obtain entrepreneur identification through authorized Serasa Experian data for 16.9 million firms
- Extract additional shareholder information from legal name descriptions for 4.7 million IEs
- Total coverage: 21.6 million (79.2%) of 27.3 million IE establishments

Partner Structures:

- Monthly shareholder records available from November 2021 to November 2024
- Coverage: 27.4 million unique shareholders
- Track partner entry/exit dates (2.5 million observed exits during sample period)
- Identification through name and partial (middle-six-digit) CPF number

A.1.3 Bolsa Família Program Data

The Ministry of Social Development and Fight Against Hunger (MDS) data provides:

- Coverage: 37.9 million recipients (January 2013 to June 2024)

- Individual-level information:
  - Payment amounts
  - Payment frequency
  - Personal identifiers (name, NIS, partial CPF)
  - Geographic location

  Matching with business data yields:

- 1.8 million recipients (5%) become IEs within one year of payment initiation
- 403,947 recipients (1%) identified as shareholders in other business forms

A.1.4 Matching Methodology

We employ the following hierarchical matching procedure:

1. **For Individual Entrepreneurs:**
   - Primary match: NIS information (available for 9.8 million IEs)
   - Secondary match: Combination of person name, middle six digits of CPF, and municipality
2. **For Other Shareholders:**
   - Match using name-CPF-municipality combination
   - Verify matches against available registration records

A.2 Variable Definitions and Additional Summary Statistics

A.2.1 Key Variable Definitions

- $\mathbb{1}\{\text{Business Survival}\}$: Equals one if the establishment maintains active registration status with the Federal Revenue Service as of September 2024

- $\mathbb{1}\{$Business Transition to Larger Form$\}$: Equals one if an IE transitions to any larger business form during our sample period
- $\mathbb{1}\{$Bolsa Família Recipient$\}$: Equals one for entrepreneurs who received their first Bolsa Família payment within one year of business founding
- $\mathbb{1}\{$Subsequent Venture$\}$: Equals one for any establishment that is not the entrepreneur's first venture (conditional on first venture being an IE)
- Startup Equity: Declared initial capital of the firm at registration, winsorized at the 1^{st} and 99^{th} percentiles (except when used as a control in regressions; in this case we do not winsorize and instead use the natural logarithm of startup equity)
- Low-GDP Municipality: Equals one for municipalities in the bottom quartile of the GDP per capita distribution

Table IA1: Entrepreneurial Activity By Industry Around the 2022 Bolsa Família Expansion

Table IA1 shows OLS estimates for municipality-level entrepreneurial activity by industry around the 2022 Bolsa Família expansion. The sample covers 5,570 Brazilian municipalities (2017-2022). Recipients are defined as entrepreneurs who received their first payment within one year of business founding. Controls refers to the full set of control variables shown in Table 2. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

	Services	Trade	Transp., Utilities & Comms.	Construction	Low-Tech Manuf.	High-Tech Manuf.
Panel A. Dependent Variable:			Industry Share of New Firms			
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}\{\text{Post-2022}\}\times$	0.124***	–0.236***	–0.008	0.090***	0.008	–0.006*
2017-2020 Share of Population on BF	(7.89)	(–14.01)	(–0.70)	(10.33)	(1.02)	(–1.71)
Observations	44,558	44,558	44,558	44,558	44,558	44,558
Adjusted R^2	0.538	0.746	0.321	0.388	0.432	0.246
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Panel B. Dependent Variable:			Share of New Individual Entrepreneurs Firms			
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}\{\text{Post-2022}\}\times$	–0.025	–0.057***	–0.287***	0.222***	–0.117***	–0.075
2017-2020 Share of Population on BF	(–1.11)	(–3.06)	(–6.17)	(5.75)	(–3.13)	(–1.13)
Observations	44,317	44,509	39,463	40,576	40,665	27,857
Adjusted R^2	0.289	0.382	0.232	0.223	0.157	0.157
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Panel C. Dependent Variable:			Share of New Non-Individual Entrepreneur Firms			
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}\{\text{Post-2022}\}\times$	0.031	0.056***	0.271***	–0.222***	0.117***	0.080
2017-2020 Share of Population on BF	(1.38)	(3.01)	(5.87)	(–5.76)	(3.12)	(1.20)
Observations	44,317	44,509	39,463	40,576	40,665	27,857
Adjusted R^2	0.290	0.380	0.231	0.223	0.157	0.157
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Panel D. Dependent Variable:			Share of New Bolsa Família Individual Entrepreneur Firms			
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}\{\text{Post-2022}\}\times$	0.028	0.058***	0.130***	0.210***	0.102**	0.100
2017-2020 Share of Population on BF	(1.04)	(2.68)	(3.52)	(5.55)	(2.20)	(1.42)
Observations	43,834	44,266	35,266	37,696	38,158	24,159
Adjusted R^2	0.181	0.201	0.109	0.125	0.084	0.132
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Table IA2: Bolsa Familia Entrepreneurs Around the Program Expansion by Municipality GDP (Alternative Low-GDP Thresholds)

Table IA2 shows OLS estimates for municipality-level share of new individual entrepreneurs (IEs) that are Bolsa Familia recipient entrepreneurs, which are defined as entrepreneurs who received their first Bolsa Familia payment within one year of business founding. The sample is at the municipality-year level, covers 5,570 municipalities from 2017 to 2024 and is based on all individual entrepreneurs (IEs) that are identified by personal identifiers. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

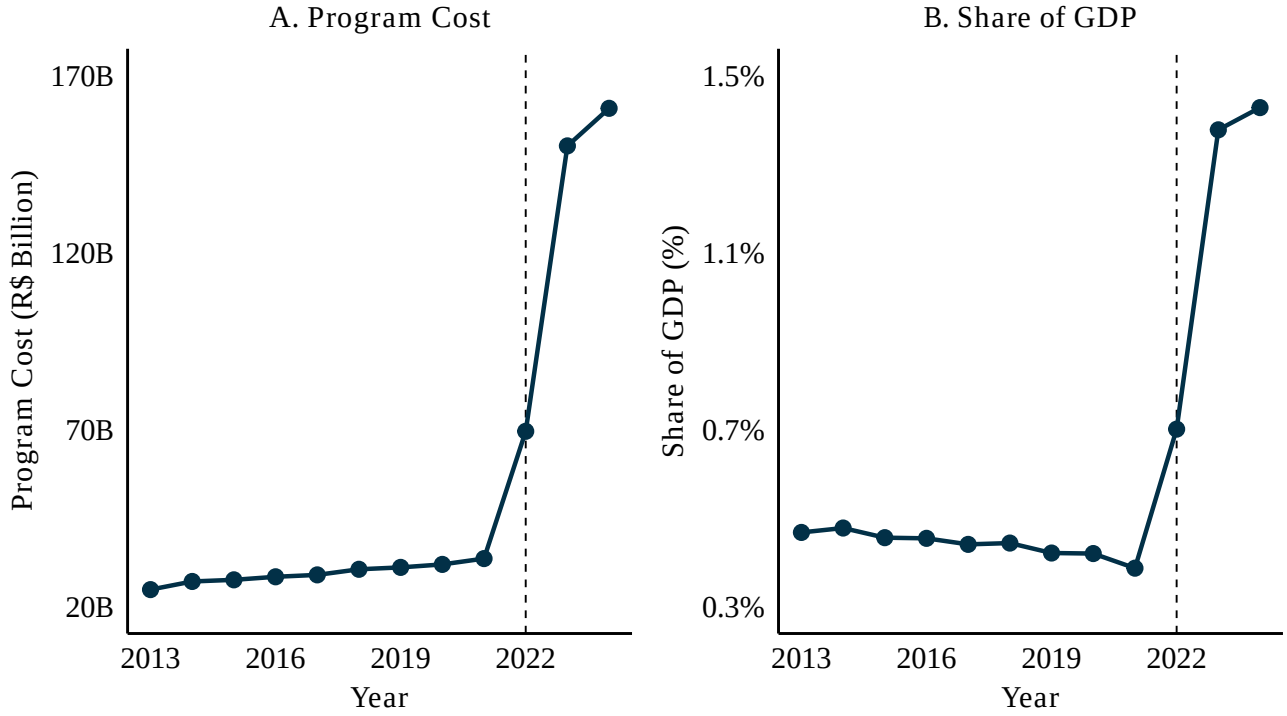
Dependent Variable:	Share of Bolsa Familia IEs					
Sample (2017-2024)	All Years			2020 excluded		
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}\{\text{Post-2022}\} \times \mathbb{1}\{\text{Below Median GDP}\}$	0.006***			0.003**		
	(3.76)			(2.03)		
$\mathbb{1}\{\text{Post-2022}\} \times \mathbb{1}\{\text{Bottom Tercile GDP}\}$		0.009***			0.006***	
		(4.17)			(2.80)	
$\mathbb{1}\{\text{Post-2022}\} \times \mathbb{1}\{\text{Bottom Quintile GDP}\}$			0.009***			0.007**
			(3.23)			(2.37)
Ln(Municipality Business Stock)	0.010***	0.010***	0.010***	0.011***	0.011***	0.011***
	(3.91)	(3.93)	(3.85)	(3.88)	(3.91)	(3.86)
Ln(Municipality Bolsa Familia Recipients)	0.021***	0.022***	0.021***	0.026***	0.027***	0.027***
	(6.55)	(6.87)	(6.41)	(7.84)	(8.15)	(7.88)
Growth in Municipality Bolsa Familia Recipients	–0.002	–0.002	–0.002	–0.006**	–0.006**	–0.006**
	(–0.82)	(–0.80)	(–0.86)	(–2.53)	(–2.47)	(–2.51)
Observations	41,318	41,318	41,318	36,151	36,151	36,151
Adjusted R-squared	0.337	0.337	0.337	0.339	0.339	0.339
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Table IA3: Income Heterogeneity in Serial Entrepreneurship – Full Output

Table IA3 shows OLS estimates of startup development outcomes for Brazilian entrepreneurs whose first venture was an individual entrepreneur (founded between 2013–2024), with subsequent ventures being of any legal form. Recipients are defined as entrepreneurs who received their first Bolsa Família payment within one year of business founding. Dependent variables are 𝟙{Business Survival} for maintaining active registration status and 𝟙{Business Transition to Larger Form} for transitioning to a larger business form. 𝟙{Low GDP} equals one for municipalities in the bottom quartile of GDP (averaged over 2013-2021) according to IBGE data. The data is at the entrepreneur-firm level, tracking entrepreneurs across multiple ventures. Industries are defined at the CNAE level. Standard errors are clustered at the municipality level with t-statistics in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels.

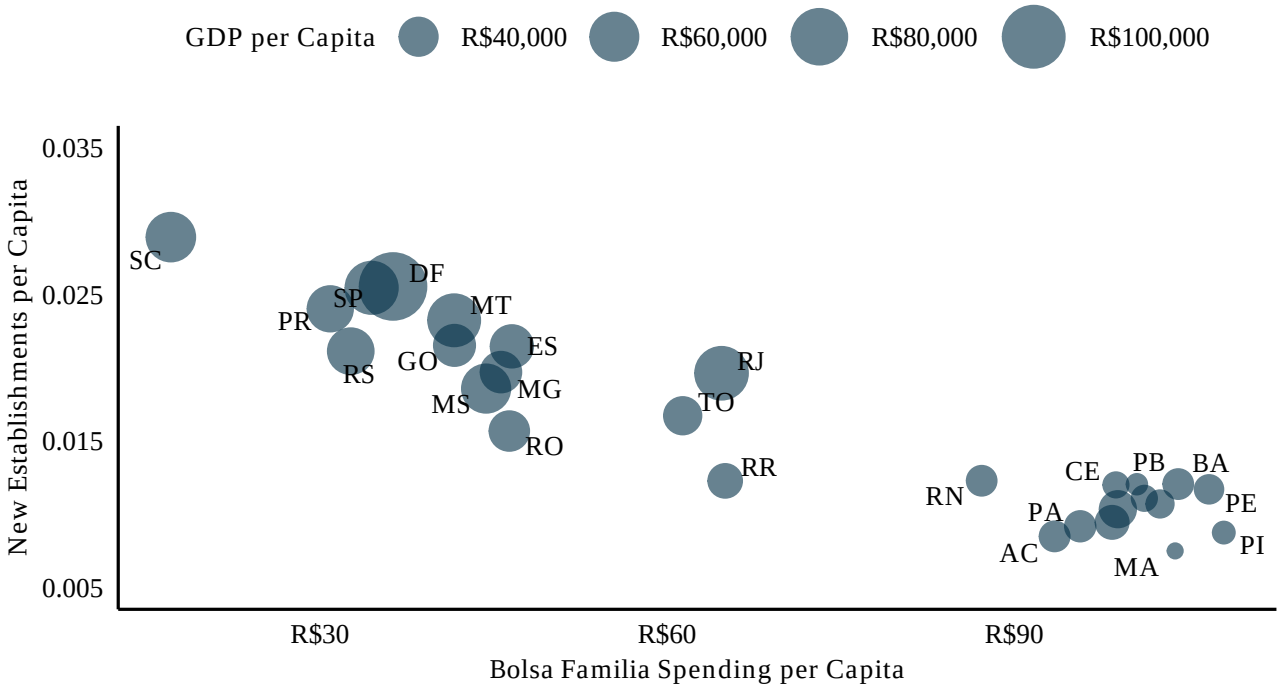
Panel A. Dependent Variable:	𝟙{Business Survival}			
	(1)	(2)	(3)	(4)
𝟙{Low GDP} × 𝟙{Bolsa Família Recipient} × 𝟙{Subsequent Venture}	0.036***	0.032***	0.029***	0.030***
	(6.39)	(5.76)	(5.13)	(5.48)
𝟙{Bolsa Família Recipient} × 𝟙{Subsequent Venture}	–0.054***	–0.052***	–0.051***	–0.042***
	(–23.19)	(–21.60)	(–22.71)	(–18.43)
𝟙{Low GDP} × 𝟙{Bolsa Família Recipient}	0.004	0.003	0.006	0.003
	(0.95)	(0.66)	(1.37)	(0.76)
𝟙{Low GDP} × 𝟙{Subsequent Venture}	–0.049***	–0.040***	–0.048***	–0.041***
	(–14.65)	(–12.34)	(–11.18)	(–12.89)
𝟙{Bolsa Família Recipient}	–0.056***	–0.049***	–0.048***	–0.052***
	(–32.14)	(–28.79)	(–29.19)	(–33.00)
𝟙{Subsequent Venture}	0.138***	0.128***	0.128***	0.116***
	(44.27)	(41.70)	(41.23)	(44.32)
𝟙{Low GDP}	–0.077***	–0.073***	–0.067***	–0.071***
	(–16.12)	(–15.47)	(–13.02)	(–15.59)
Ln(Startup Equity)		0.016***	0.016***	0.015***
		(24.77)	(24.32)	(22.30)
Observations	8,321,168	8,226,622	8,224,906	8,225,569
Adjusted R^2	0.255	0.259	0.261	0.274
Municipality FE	Yes	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	No	No
Municipality×Founding Year FE	No	No	Yes	No
Industry×Founding Year FE	No	No	No	Yes
Panel B. Dependent Variable:	𝟙{Business Transition to Larger Forms}			
	(1)	(2)	(3)	(4)
𝟙{Low GDP} × 𝟙{Bolsa Família Recipient} × 𝟙{Subsequent Venture}	0.024***	0.021***	0.018***	0.023***
	(7.27)	(6.44)	(5.44)	(7.29)
𝟙{Bolsa Família Recipient} × 𝟙{Subsequent Venture}	–0.008***	–0.006***	–0.006***	–0.011***
	(–4.49)	(–3.62)	(–3.97)	(–7.78)
𝟙{Low GDP} × 𝟙{Bolsa Família Recipient}	–0.012***	–0.013***	–0.011***	–0.013***
	(–4.41)	(–4.78)	(–3.91)	(–5.02)
𝟙{Low GDP} × 𝟙{Subsequent Venture}	–0.036***	–0.030***	–0.038***	–0.032***
	(–15.80)	(–13.53)	(–16.02)	(–15.95)
𝟙{Bolsa Família Recipient}	–0.024***	–0.018***	–0.018***	–0.014***
	(–18.92)	(–13.66)	(–14.18)	(–12.60)
𝟙{Subsequent Venture}	0.036***	0.030***	0.030***	0.026***
	(22.08)	(20.67)	(20.43)	(20.40)
𝟙{Low GDP}	–0.058***	–0.057***	–0.053***	–0.067***
	(–12.33)	(–10.96)	(–9.67)	(–13.88)
Ln(Startup Equity)		0.012***	0.013***	0.012***
		(22.25)	(21.38)	(21.40)
Observations	8,321,168	8,226,622	8,224,906	8,225,569
Adjusted R^2	0.048	0.058	0.060	0.070
Municipality FE	Yes	Yes	No	Yes
Industry FE	Yes	Yes	Yes	Yes
Founding Year FE	Yes	Yes	No	No
Municipality×Founding Year FE	No	No	Yes	No
Industry×Founding Year FE	No	No	No	Yes

Figure IA1: Fiscal Impact of Bolsa Familia



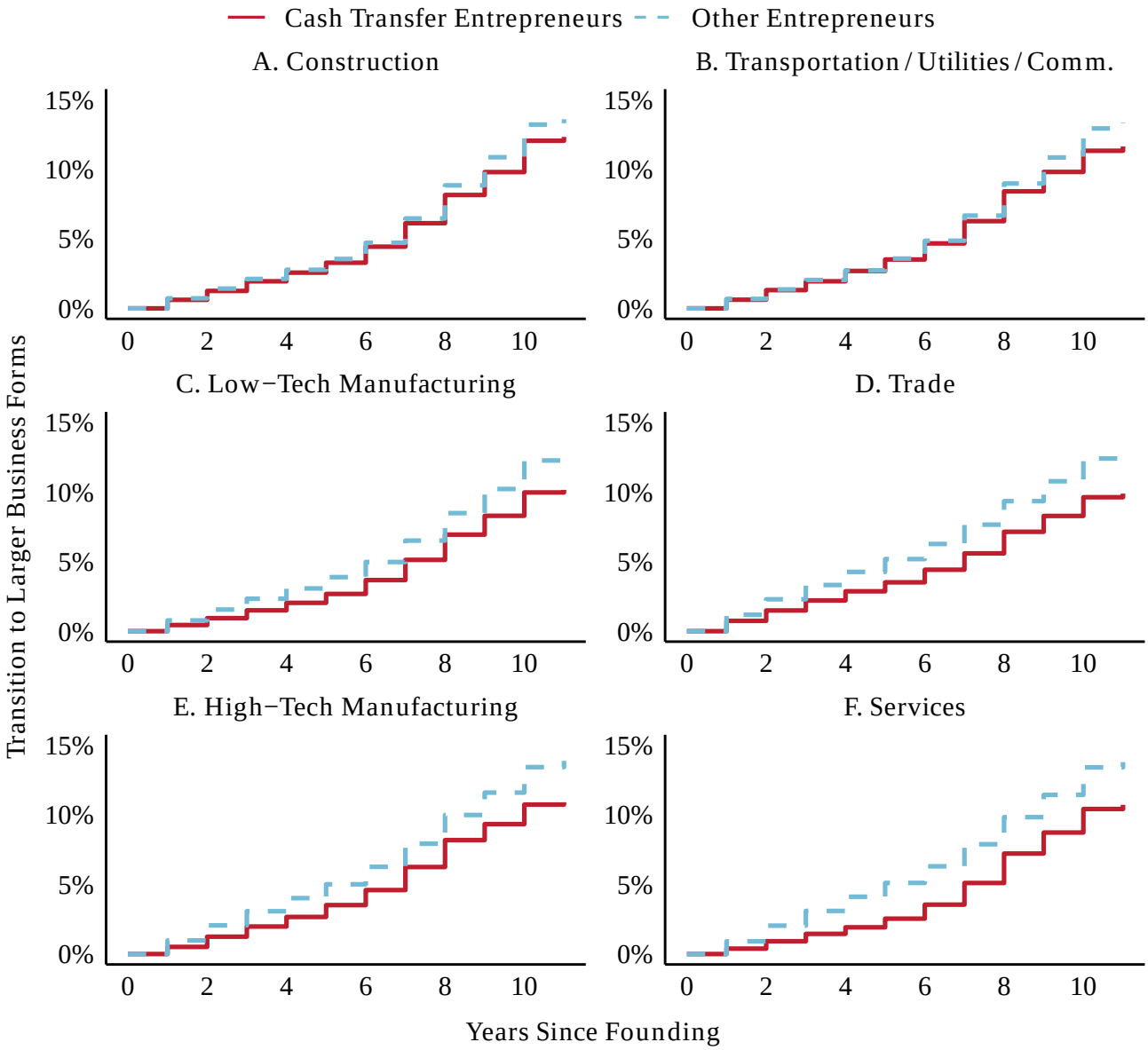
This figure shows the fiscal impact of Brazil's Bolsa Familia program from 2013 to 2024. Panel A plots the total annual program cost in billions of Brazilian Reais. Panel B shows program cost as a percentage of Brazilian GDP. The 2024 cost is annualized based on data through June 2024. The vertical line in 2022 marks the temporary replacement of Bolsa Familia with Auxílio Brasil. GDP data are from the Brazilian Ministry of Finance and IBGE.

Figure IA2: Bolsa Familia and New Establishments



This figure shows the relationship between Bolsa Familia participation, GDP per capita, and new establishment creation across Brazilian states in 2023. The x-axis shows monthly Bolsa Familia spending per capita. The y-axis shows the number of new establishments per capita. Circle size represents state GDP per capita (2022 figures from IBGE). State labels use standard two-letter abbreviations.

Figure IA3: Business Development Across Industries



This figure presents Kaplan-Meier estimates for transitions to larger business forms by Bolsa Família recipient status across industries. Cash Transfer Entrepreneurs (solid red lines) are defined as entrepreneurs who received their first Bolsa Família program payment before or up to one year after founding their business. Other Entrepreneurs (dashed blue lines) are all other entrepreneurs. Transitions are defined as changes to larger business forms (e.g., from individual entrepreneur to LLC). The sample includes individual entrepreneurs founded between 2013-2024. Industry classifications follow Dix-Carneiro (2014).