Which Entrepreneurs Are Financially Constrained?

Presenter: Marta C. Lopes (Universidad Carlos III de Madrid, IZA, GLO)

Co-authored with: Miguel A. Ferreira (Nova SBE, ECGI, CEPR), Francisco Queiró (NovaSBE), and Hugo J. Reis (BdP, IZA)

Abstract

We study what type of entrepreneurs are affected by financial constraints by exploiting age-based discontinuities in the amount of funding available through a public program for unemployed workers. Our sample links administrative data on 2.1 million eligible workers to the firms they create, spanning a wide range of skills, sectors and outcomes. We find that access to funding increases the rate of entrepreneurship by 11%. The effect is stronger for entrepreneurs who incorporate their business, especially for those who were in the top decile of the wage distribution before unemployment. Among incorporated entrepreneurs, the effect is strongest in the ITC sector, followed by manufacturing. In terms of ex-post outcomes, we find that the effect is more pronounced for businesses in the upper half of the size, growth and profitability distributions. Our findings suggest that financial constraints hamper growth-oriented entrepreneurship.

Motivation

- "Not enough financial resources" is the most important reason presented as barrier to self-employment in the last Flash Eurobarometer

Research Questions

▷ Are financial constraints a restriction to entrepreneurship?

▷ What type of entrepreneurs/new businesses are more affected?
→ ex-ante and ex-post heterogeneity

Contributions to the literature

- **Large lump-sum subsidy** - Román et al. (2013) and Caliendo (2016)
- **Empirical setting** - Abstraction from the correlation between personal wealth/collateral and entrepreneurship that might be driven by differences in ability, demand, preferences or risk aversion

⇒ Evans and Jovanovic (1989), Hurst and Lusardi (2004), Adelino et al. (2015), Kerr et al. (2019), Hombert et al. (2019)

- **Data on ex-post performance** - Limited empirical evidence on how financial constraints affect different types of entrepreneurs

⇒ La Porta and Shleifer (2008), Hurst and Pugsley (2011)

Empirical Setting - Single Amount Program

Def: Create own job with upfront total monthly unemployment benefits
Potential amount = f(age, job history, previous year's wages)
Enforcement: During 3 years, sustain the business and no other source of labor income, otherwise pay back the full amount

Portuguese Administrative Data (2005-2016):

- Social Security Records - universe of unemployed
- IES Balance Sheets - universe of non-financial corporations

Descriptive statistics

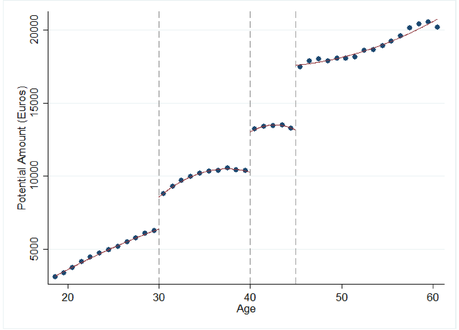
Individuals	Employed	Unemployed	Program
Age	38.94	37.18	40.28
Male	0.54	0.48	0.62
Monthly gross wage* (€)	813	716	1,168
Potential Amount (€)		10,822	17,504
N	16,919,433	2,134,261	23,530

*Wage for Unemployed and Program refers to the last wage before unemployment

Incorporated Firms	Entry		Age 4	
	All	Program	All	Program
High-tech Manuf.	0.08	0.17		
Medium-tech Manuf.	2.61	4.66		
Low-tech Manuf.	4.68	9.15		
High-tech KIS**	3.63	8.50		
Other Market KIS	11.73	8.30		
Other KIS	17.61	13.85		
Less KIS	52.80	54.55		
Revenues (€)	69,740	42,423	322,008	185,790
N	219,443	23,530	153,612	19,765

** KIS = Knowledge Intensive Services, Eurostat classification
Note: Incorporated firms represent only 32% of all businesses in Portugal account for 76% of employment and 96% of revenues

Figure 1: Age Discontinuities in UI Potential Amount



Note: Initial median funding in Portugal to open a business €5,000

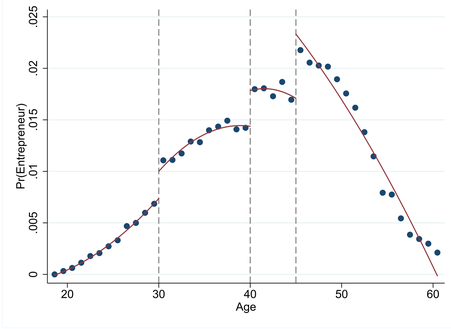
IV-RDD

1st Stg: $Potential\ Amount_i = \alpha_0 + \sum_{k=1}^{3} \phi_k \times \mathbb{1}(Age_i \geq T_k) + \sum_{j=1}^{2} \alpha_j \times Age_i^j + \sum_{k=1}^{3}\sum_{j=1}^{2} \gamma_{1j} \times (Age_i - T_k)^j \times \mathbb{1}(Age_i \geq T_k) + \epsilon_i$

2nd Stg: $\mathbb{1}Entrepreneur_i = \beta_0 + \beta_1 \times \widehat{Potential\ Amount}_i + f(Age_i) + \omega_i$

Main Results

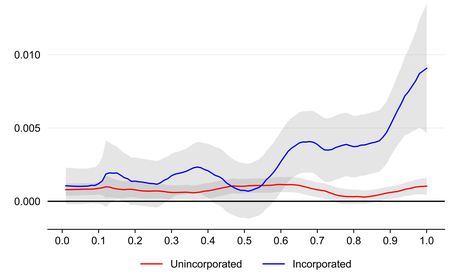
Figure 2: Effect on Entrepreneurship Probability, by Age



$\hat{\beta}_1$: 1,000€→ 0.12p.p. (11% ↑)

Ex-ante Heterogeneous effects

Figure 3: Probability of Becoming an Entrepreneur by Wage Percentile

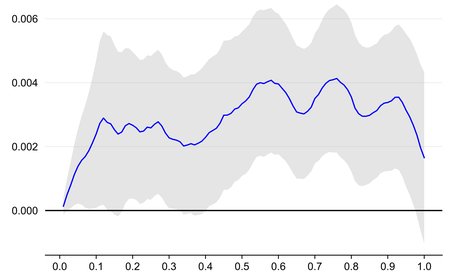


Heterogeneous effects for Incorporated firms

By Industry:	Coefficient (p.p)	S.E.
High-tech Manuf.	-0.0001	(0.0010)
Medium-tech Manuf.	0.0028	(0.0053)
Low-tech Manuf.	0.0214**	(0.0098)
High-tech KIS**	0.0228**	(0.0078)
Other Market KIS	0.0350**	(0.0166)
Other KIS	0.1586***	(0.0308)
Less KIS	0.1721***	(0.0318)

Eurostat High-tech Aggregation:
`https://ec.europa.eu/eurostat/cache/metadata/Annexes/htec_esms_an3.pdf`

Figure 4: Prob. of Becoming an Inc. Entrepreneur by Revenues Quintile



Robustness checks

Densities around thresholds: no evidence for manipulation/selection ✓ ✓
Donut RDD: $\hat{\beta}_1 \in [0.10, 0.12]$ ✓

Take-away Messages:

- An extra 1000€ of funding increases the probability of becoming an entrepreneur by 0.12p.p., which corresponds to a 11% increase.
- The effect is more pronounced for:
  - ▷ male and younger (around age 30) entrepreneurs
  - ▷ among incorporated entrepreneurs:
    - → industry: Less Knowledge Intensive Services
      Low-tech Manufacturing
    - → ex-post outcomes: upper half of the size, growth and profitability distributions

Date: 03-Jan-2021 Local: ASSA 2021