Understanding Fast-Growing Firms: Management Practices and Learning

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Motivations

- It is widely recognized that the employment growth within the economy is due to a relatively small number of fast-growing firms (**high-growth** firms, **gazelles**)
- In the aftermath of the **economic crisis** of the late 2000s the study of these businesses has regained popularity
- Moreover, they have become a **target** of economic policies
- However, they are, to a great extent, still a **black box** in terms of the factors which contributed most to the growth process

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- Moreover, they have become a **target** of economic policies
- However, they are, to a great extent, still a **black box** in terms of the factors which contributed most to the growth process $\rightarrow$ little is known about **how they are managed** (lack of data)

Two strands of literature

1. **High-growth firms**
   - businesses that show the **highest growth**, in absolute or relative terms, over a **variously defined time interval** (generally 3-5 years) with respect to one (or a combination of) **output** variable (variables)
   - in most sectors; relatively young; relatively small; one-hit wonders? etc.

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2. **Management practices & dynamic capabilities**
   - recruitment; leadership style; monitoring; incentives; learning processes; training etc.
   - hard to make the concepts **operational**; **Bloom & Van Reenen** approach (corporation management) and the TFP

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- Dealing with the lack of information: need of a survey within a **nested case-control design**
- Coping with attrition: **inverse-probability weighting** so as to achieve 'adjusted' estimates that are (as much as possible) free from the potential bias due to non response

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6. Some surveyed firms **do not respond**

Methodology

- We identify a set of high-growth firms (SMEs; manufacturing and business services) and, among them, gazelles, according to the ▸ definition of Eurostat-OECD
- We select a vast set of interviewable potential controls throughout **matched sampling**
- We **survey** both high growth firms and potential controls about several dimensions concerning managerial practices as well as other relevant aspects
- We are interested in estimating differences **all the rest being equal**
- Exploiting **matching** techniques, we sistematically check the ▸ adjusted differences between high-growth vs. ▸ similar non high-growth firms as well as between persistent high-growth vs. non persistent high-growth firms

Our high-growth firms

- **2.808** Tuscan high-growth companies between 2004 and 2010
- of which **343** gazelles
- relatively **young**; in **all sectors**; mostly **small** and **medium**-sized; there are **large** firms
- we focus on manufacturing and on business services (**824** high-growth firms)

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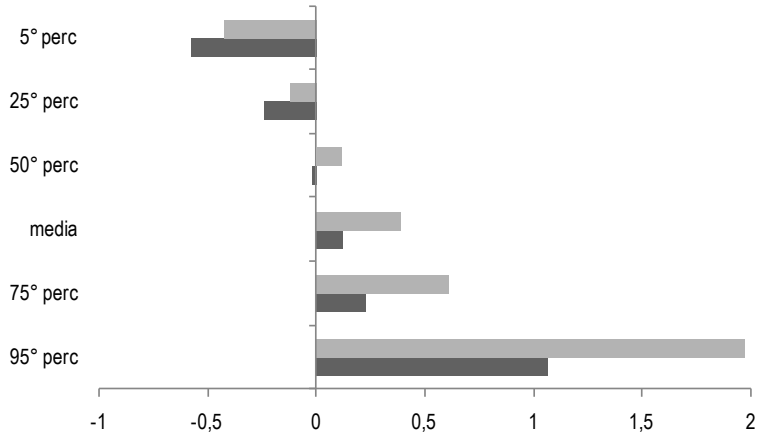
Figure: TFP à la Levinsohn & Petrin: HG (bright grey) vs. non HG firms (dark grey)



Results in a nutshell

1. **358** surveyed firms (**181** high-growth businesses; ▸ non response)
2. high-growth firms as **typical SMEs**
3. several interesting **differences** along many dimensions with respect to controls
4. **higher** management practices
5. **mature** HG vs. **gazelles**

Selection & recruitment

	Whole sample		Mature HG firms	
	Cases (prop.)	Adj diff (p-value)	Cases (prop.)	Adj diff (p-value)
Recruitment (multiple choice)				
insertions in national press/internet	0.12	0.067 (0.084)	0.11	0.054 (0.177)
unsolicited applications	0.46	0.102 (0.135)	0.47	0.125 (0.073)
head hunters	0.09	0.052 (0.119)	0.10	0.062 (0.091)
temporary work agencies	0.29	-0.058 (0.358)	0.28	-0.051 (0.434)
friendship/family network	0.40	-0.086 (0.214)	0.41	-0.093 (0.204)
university placement	0.11	0.026 (0.514)	0.11	0.015 (0.727)
The labor market				
recruits only in local labor market	0.85	-0.129 (0.001)	0.84	-0.136 (0.001)
also nationwide/international	0.15	0.129 (0.001)	0.16	0.136 (0.001)
Candidates attitude vs. past experience				
attitude	0.44	0.169 (0.006)	0.45	0.150 (0.021)
past experience	0.51	-0.146 (0.026)	0.50	-0.121 (0.081)

Incentives & monitoring

	Whole sample		Mature HG firms	
	Cases (prop.)	Adj diff (p-value)	Cases (prop.)	Adj diff (p-value)
Talent in career advancements				
is more important than seniority	0.66	0.126 (0.052)	0.68	0.129 (0.055)
Monetary incentives				
not present	0.51	-0.232 (0.000)	0.50	-0.230 (0.000)
for those who reach their goals	0.41	0.180 (0.003)	0.44	0.181 (0.005)
only for managers	0.07	0.052 (0.078)	0.06	0.048 (0.086)
Performance evalutation				
no	0.40	0.105 (0.110)	0.41	0.084 (0.229)
only informal	0.29	-0.303 (0.000)	0.28	-0.293 (0.000)
yes, for managers	0.05	0.023 (0.384)	0.05	0.029 (0.263)
yes, for all	0.26	0.175 (0.000)	0.27	0.180 (0.000)

Training

	Whole sample		Gazelles	
	Cases (prop.)	Adj diff (p-value)	Cases (prop.)	Adj diff (p-value)
external	0.12	0.028 (0.513)	0.30	0.255 (0.058)
internal	0.34	0.061 (0.330)	0.30	0.251 (0.127)
both	0.31	0.117 (0.043)	0.25	0.247 (0.063)
no	0.22	-0.206 (0.001)	0.15	-0.754 (0.000)

Interactive learning processes

	Whole sample		Mature HG firms	
	Cases (prop.)	Adj diff (p-value)	Cases (prop.)	Adj diff (p-value)
suppliers	0.87	0.042 (0.377)	0.87	0.033 (0.504)
clients	0.87	-0.064 (0.105)	0.86	-0.078 (0.050)
benchmark competitors	0.57	0.153 (0.014)	0.57	0.125 (0.057)
university	0.14	0.090 (0.022)	0.14	0.083 (0.046)
within stable relations	0.13	0.107 (0.004)	0.14	0.104 (0.268)
advanced services				
design/innovation	0.32	0.155 (0.004)	0.31	0.128 (0.026)
marketing	0.16	0.021 (0.653)	0.16	0.016 (0.743)
strategy consultants	0.16	0.074 (0.076)	0.15	0.062 (0.153)
ordinary business services	0.65	-0.130 (0.032)	0.64	-0.121 (0.058)

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- Of our 181 high-growth firms, we now have **52** persistent HG and **129** non persistent HG
- Are our new cases **better managed** compared to our new controls?
- To a great extent, more persistent firms are **not different** with respect to the controls
- Nevertheless, they display a higher propensity to:
  1. foster **internal training**
  2. activate **learning processes** within relations established with **advanced services providers**

Conclusions & future research

What have we done?

- We have opened the **black box** of high-growth firms in terms of their **management practices**
- **matched sampling**, **matching**, **inverse-probability weighting**
- High-growth firms are typical **SMEs**
- Nevertheless, they show **higher management practices**, as far as several different dimensions are taken into account

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Are there any implications in terms of **economic policy**?

- beyond the usual channels (e.g., finance), helping in fostering **management practices**
- facilitating the interactions between firms and **advanced services providers**, as they are likely to make the growth process more persistent

Definition

Eurostat-OECD (2007)

1. at least **10 employees** in the starting year
2. an average annual growth rate of employees and/or sales greater than or equal to **20%**
3. over a **3-years** time span
4. gazelles as the **young** businesses

back on track

The Xs and the Ys

administrative data
(e.g., employees, sales, exports,
age, sector, etc.)

survey data
(e.g., education, history, etc.)

} **matched sampling**

} **matching**

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outcomes

back on track

The inverse probability weighting

- We assume that, **conditionally on all the available observed covariates**, non response is **random** (*missing at random*)
- We estimate the probability of responding conditional on the **information available for all**
- We construct a **weight** that is equal to the **inverse of this probability**. This weight allows to emphasize the information provided by the respondent units that, based on a set of background characteristics, are similar to non respondents
- We insert weights in the matching-based estimation procedure

back on track

Respondents vs. Non respondents

358 respondents vs. **1.453** non respondents back on track

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	Respondents	Non respondents	SMD
Sector (prop.)			
low tech manufacturing	0.341	0.400	-0.122
low to medium tech manufacturing	0.204	0.206	-0.005
medium to high tech manufacturing	0.204	0.164	0.104
high tech manufacturing	0.017	0.019	-0.019
high tech services	0.036	0.017	0.118
high knowledge services	0.098	0.096	0.007
low knowledge services	0.101	0.098	0.007
Growth (prop.)			
high-growth firms	0.506	0.443	0.126
Size & age (avg.)			
number of employees	23.61	23.43	0.007
age	20.91	19.61	0.110