

Graduates entrepreneurship

Executive Summary

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IN COLLABORATION WITH:



ALMA MATER STUDIORUM
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DEPARTMENT OF MANAGEMENT



UNIONCAMERE

The Report was realized by:

Maria Assunta Chiarello*, Riccardo Fini*, Silvia Ghiselli*, Claudia Girotti*, Azzurra Meoli*, Maurizio Sobrero*.

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* AlmaLaurea Interuniversity Consortium

♦ Department of Management of the University of Bologna

GRADUATES ENTREPRENEURSHIP

The role played by companies started by University students has gained considerable attention in recent years. The visibility of several iconic companies such as Dell, Yahoo!, Google and Dropbox and the personal stories of their founders have attracted great attention and universities have sought to increase their efforts to promote entrepreneurship. A few studies based on samples collected from specific universities have attempted to document the phenomenon more formally.



In this report we present the first study conducted at a national level using primary and secondary data over an extensive period of time. It documents Italian university students' entrepreneurial activities and impact matching the data of 2,891,980 individuals who graduated between 2004-2018 with the company data of 236,362 ventures founded in the same period.

The study is the result of a collaborative effort between AlmaLaurea Interuniversity Consortium, the Department of Management of the University of Bologna and Unioncamere.

7.1%
of graduates
are founders

Ventures
founded:
37.1%
before graduation

27.0%
within three years

35.9%
afterwards

EXECUTIVE SUMMARY

DATA SOURCES

We have compiled a rich, longitudinal dataset that captures the entrepreneurs and their ventures' characteristics. The dataset covers almost the whole spectrum of graduates' entrepreneurial engagement, ranging from new venture creation to venture management and acquisitions.

Information about the graduates comes from AlmaLaurea (covering almost 90% of graduates from Italian universities in 2018), whereas venture characteristics were retrieved from databases of Unioncamere and Aida Bureau van Dijk. In this report, we summarise the founders' demographics and the activities of their ventures.

FOUNDERS

This study focuses on founders. A founder is an individual who owns all or part of a company at the time of foundation and is formally identified by the Unioncamere Database in an operating role, holder, administrator or partner according to the classification used. From data emerges that:

- ✓ 7.1% of graduates are founders (i.e., 205,137 individuals).
- ✓ 61.3% of founders are holders, 22.1% are administrators, and 16.6% are partners.
- ✓ 37.1% founded their companies before graduation (i.e., 13.4% founded their companies before starting at the university and 23.7% during their studies), 27.0% within three years, and 35.9% founded their companies afterwards.

FOUNDERS' CHARACTERISTICS

Gender. The founding of a venture differs between males and females: the rate is 9.5% among males, and 5.5% among females.

Among founders, the percentage of males is 53.9%, higher than the percentage of males in the population of graduates (40.1%). The percentage of female founders is 46.1%, lower than the percentage of females in the population (i.e. 59.9%).

Family background. There is a strong correlation between the founding of a venture and the parents' professional positions. For graduates with at least one entrepreneur or self-employed parent, the percentage of founders is higher than the average. More specifically, if we consider the father's professional position, we find that among graduates with an entrepreneur father the rate of founders is 16.8%. For graduates with a self-employed father the rate is 8.9%. Among graduates with a manager or executive manager father, the rate of founders is 7.2% and 5.9%, respectively. For the other professional positions, the rate is lower than 5.0%. Similar patterns emerge when looking at the mothers' professional backgrounds. Founders with an entrepreneur father are more precocious in their venturing, with 45.0% starting a company before graduation (30.8% during their studies and 14.2% before), compared to 37.1% of the total population of founders (23.7% during their studies, 13.4% before).

Founders

53.9%
males

46.1%
females

Population of graduates

40.1%
males

59.9%
females

Entrepreneur father

Founders

11.5%

Population
of graduates

4.7%

University location: South

Founders

35.2%

Population
of graduates

33.2%

Focusing on the population of founders, we observe that almost 11.5% of founders have an entrepreneur father (this percentage is 4.7% for the overall graduate population), and 39.0% have a self-employed father (30.2% for the graduate population). 7.4% of founders have a manager father, and 7.2% have an executive manager father (for the graduate population, 7.0% and 8.4%, respectively). 21.2% of graduates have a father with a white-collar job and 13.2% a blue-collar father (for the graduate population, 29.9% and 19.2%, respectively). For mothers there is a different distribution: 3.9% of mothers are entrepreneurs (for the population the percentage is 1.5%), 20.7% self-employed (13.8% in the population), 2.0% managers and 3.4% executive managers (for the population 1.9% and 3.5% respectively). 35.5% of mothers have white-collar jobs and 8.7% blue-collar jobs (for the population the percentage is 41.8% and 11.1%, respectively). Finally, 25.8% of mothers are homemakers (26.5% for the population overall).

Graduation year. The rate of founders decreases as the graduation year increases: from 10.2% for 2004 graduates to 2.6% for 2018. This result reflects the nature of the data and is consistent with the large percentage of founders starting their companies after graduation (i.e., 62.9%).

In particular, among founders 58.5% have earned their degree in the last ten years (i.e., 2009-2018), 41.5% after more than ten years (i.e., 2004 to 2008). In our population of graduates the distribution of graduates is 68.8% and 31.2%, respectively.

University location. Among graduates coming from universities located in the North, the rate of founders is 6.7%, which is lower than the average (i.e., 7.1%). This rate is higher for universities located in the Centre 7.3% and the South 7.5%.

39.5% of founders graduated from universities located in the North, 25.3% from the Centre and 35.2% from the South. Observing the population of graduates, 42.0% of graduates come from a university located in the North, 24.8% from the Centre and 33.2% from the South.

75.0% of founders have launched their ventures in the same region they graduated in; 8.1% of founders have launched their venture in another region but in the same geographical area. The remaining founders (i.e. 16.9%) launched a venture in another geographical area.

Public and private universities. 7.0% of graduates from public universities are founders; this percentage rises to 9.4% for private universities.

For the founders, we observe that 96.4% graduated from public universities and 3.6% from private universities. As for the population, 97.3% graduated from public universities and 2.7% from private universities.

Type of degree. The percentage of founders is higher among graduates with a master's degree (18.1%) and among graduates holding a Bologna pre-process degree (11.0%). As for bachelors and single-cycle graduates, the percentage is 5.6% and 5.3%, respectively.

Field of study. 13.5% of graduates from agriculture and veterinary have started a venture, 10.1% in economic-statistics, 9.8% in chemistry and pharmaceutical, and 9.1% in architecture. For the field of medicine, the percentage is 4.3%, for languages 4.4% and for education 4.8%.

Looking at the founders, 18.1% of them have a degree in economic-statistics (vs 12.7% of the total population of graduates), 14.2% have a degree in political and social sciences (vs 11.8%), 9.4% in law (vs 8.5%), 8.6% in humanities (vs 8.6%), 8.6% in engineering (vs 10.3%) and 7.8% in medicine (vs 13.2%). The other groups are less represented.

Launched
a venture
in the same
region
of studies
75.0%

Private
universities:

Founders
3.6%
Population
of graduates
2.7%

Legal form

60.2%
individual
companies

24.8%
corporations

15.0%
partnerships

Corporations' growth

+65.2%
over the last
10 years

VENTURE CHARACTERISTICS

The 205,137 founders started 236,362 ventures, which represent 3.9% of the total Italian ventures in September 2019.

Legal form. About 60.2% are individual companies, 24.8% are corporations, 15.0% are partnerships and 0.01% classified as other legal forms. This classification seems consistent with the national distribution over the same period, with 52.1% of individual companies, 28.1% of corporations, 16.3% of partnerships and 3.5% for other legal forms. It is worth noting, however, that in the last ten years in our population the percentage of corporations has increased by 65.2%, which is two times the growth rate for corporations at a national level.

Industry categories. 11.6% of the ventures operate in agriculture, 9.4% in the secondary economic sector and 79.0% of ventures operate in the services sector. In particular, 29.1% of graduates' ventures are in wholesale, retail and trade; 9.8% in professional, scientific and technical activities, and 8.9% in financial and insurance activities; 7.5% in accommodation and food service activities; 6.9% in information and communication - the remaining part in other type of services. As for ventures in Italy, the percentage of agricultural ventures is 12.2%, 22.7% in the secondary sector and 65.1% in the services sector. Specifically, 24.9% operate in wholesale, retail and trade, 3.5% in professional, scientific, and technical activities, 2.1% in financial and insurance activities, 7.4% in accommodation and food service activities, and 2.2% in information and communication - the remaining part in other type of services.

As for the ventures operating in professional, scientific and technical activities, the percentage has increased over the last ten years: 10.1% in 2009 and 13.2% in 2018. If we look at the national distribution of industry categories, the percentage of Italian ventures operating in professional, scientific and technical activities increases from 3.1% to 3.5%. As for ventures operating in agriculture the percentage in our population has increased over the last ten years. We observe the opposite trend at a national level.

Dimensions and economic impact. Due to the nature of the data, we have financial information only for the corporations. Data are referred to the last year available in the dataset (i.e., 2018 or before). Using the EU classification, 96.1% of the ventures are micro-ventures with revenues below 2MI€, 3.9% are small and medium companies with revenues between 2 and 50MI€, and only 0.03% are large companies with revenues above 50MI€. Micro companies account for 49.2% of total revenues, small and medium companies account for 43.5% of the total revenues, and large companies account for 7.3% of total revenues.

At the national level, 95.3% of the active companies are micro companies, which account for 29.7% of total revenues. 4.6% are small and medium companies and account for 38.8% of the total revenues generated. Finally, 0.4% are large companies that contribute to 31.5% of total revenues.

Geographic distribution. 37.4% of graduates' companies are located in the North, 21.7% in the Centre, and 40.8% in the South. This distribution differs at the national level: 45% of all companies are located in the North, 21% in the Centre, and 34% in the South.

Survival. Of the 9,821 companies that started ten years ago, 54.8% (i.e., 5,400) are still active. Observing the national trend, over the same period the percentage of ventures still active is 40.6% (about 127,000).

96.1%
micro-venture

49.2%
total revenues

0.03%
large venture

7.3%
total revenues

2018 rate of growth

Graduates'
ventures

+3.7%

Italian
ventures

+0.5%

Female ventures

Graduates'
ventures

38.0%

Italian
ventures

22.0%

Rate of growth. For each year in our period of observation, we calculated the rate of growth as the ratio between the balance (i.e., the difference between new ventures created and those that closed) and the population of ventures (i.e., 236,362). The rate of growth increased in the last ten years, from 2.2% in 2009 to 3.7% in 2018. In contrast, at the national level the rate of growth (i.e., calculated as the ratio between the balance of ventures created and those that closed, and the total stock of Italian ventures) decreased from 1.2% in 2009 to 0.5% in 2018.

Female ventures¹. Female ventures account for 38.0% (i.e., 89,917) of the total ventures founded by graduates (higher than the national value, which is 22.0%). 12.8% of the female ventures operate in agriculture, 7.4% in the secondary sector and 79.8% in services sector (in particular, 33.0% operate in wholesale and retail trade). As for the ventures operating in professional, scientific and technical activities the percentage is 7.7%, which is lower if compared to the percentage in our population (9.8%), but higher compared to the national percentage of female ventures operating in this economic sector (3.8%).

Innovative Start-ups². University graduates have established 2,127 innovative start-ups, which represent 20.2% of the total Italian innovative start-ups (i.e. 10,546). 24.3% of innovative start-ups operate in professional, scientific and technical activities.

¹ Female ventures are defined as ventures whose ownership and control is predominantly held by females.

² An innovative start-up meets at least one of the following conditions:

- ✓ 15% or more of annual expenses invested in R&D.
- ✓ 1/3 or more of the total workforce are PhD students, hold a PhD or are researchers.
- ✓ 2/3 or more of the total workforce hold a Master's degree.
- ✓ The company is the holder, depositary or licensee of a registered patent (industrial property).
- ✓ The company is the owner and author of a registered software.

All the documentation is available at:
www.almalaurea.it/universita/altro/2019/laurea-imprenditorialita



AlmaLaurea Interuniversity Consortium

Viale Masini, 36 - 40126 Bologna - Italy
Tel. +39 051 6088919
fax +39 051 6088988

www.almalaurea.it/en