Student and graduate entrepreneurship in Italy

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Abstract

The article enriches the discussion on entrepreneurial attitudes. Main objective of the study is presenting the state of the art of entrepreneurial behaviour in Italy among graduates. Conclusions were formulated, based on extensive research, conducted at national level, of the entrepreneurship of graduates in Italy. The article involves description of the entrepreneurial activities of university students in Italy and their economic impact. For this purpose, the data, at individual level, of 2 891 980 graduates in an Italian university between 2004-2018 and the data, at company level, of the 236 362 companies founded by them, have been considered. The study was prepared owing to the collaboration between the Consortium Interuniversitario Almalaurea, the Department of Business Sciences of the University of Bologna and Unioncamere. Information about graduates comes from Almalaurea database (which collects about 90% of graduated in Italy in 2018), while the characteristics of enterprises derive from the Unioncamere database and AIDA Bureau van Dijk. Information on graduates includes, in particular, demographic characteristics, the family of origin and university course concluded. Information on business activities cover a broad spectrum of the entrepreneurship of graduates, from the creation of new businesses to management and acquisition of undertakings. The main conclusion from the report is that education is an important positive determinant of entrepreneurial performance and according to some studies, the poor economic performance of the Italian economy in the past 15 years or so can be partly ascribed to entrepreneurial strategies determined by a poor endowment of human capital.
Key words
entrepreneurship, universities, graduates in Italy

Introduction

In recent years, a number of articles have been published in area of research identifying various factors that precede entrepreneurial intentions, both individual and contextual. Earlier studies in this context analysed the role of students’ personal and environmental factors in shaping their entrepreneurial intentions, but the results of these studies remain contradictory [Kobylińska, 2021].

One area in which much research is being undertaken is higher education. It is now generally accepted that education is essential to the creation of an entrepreneurial individual and therefore an entrepreneurial community. Universities are pillars of knowledge that provide students with the skills needed to develop entrepreneurial tendencies [Volkman et al., 2019]. Research on the sources, conditions and effects of entrepreneurship has been conducting continuously for several centuries. There are many achievements in this subject in the form of various approaches, theoretical models and the results of countless research conducted in the field of psychology, sociology, economics and management sciences [Hébert and Lin, 2010]. Universities are the key institutions for creating, preserving, and disseminating knowledge. The university environment offers central mechanisms through which it raises awareness and strengthens attitudes and entrepreneurial skills of students. With increasing importance of science and technology in the world, universities can encourage a propensity for innovation, instilling awareness of the opportunities to become an entrepreneur and generating a fertile ground to create entrepreneurial attitudes and skills [Oftedal, Iakovleva and Foss, 2018].

The objective of this study is the analysis of the entrepreneurial behaviour among students and graduates in Italy. Based on the existing published works, authors provide a detailed and complete analysis of entrepreneurial attitudes this group in Italy over a period of more than twenty years, using established longitudinal databases both for individuals and for the companies founded and/or invested in by graduates.

1. Theoretical background

The first study on entrepreneurship among graduates dates back to 2003, when Edward Roberts and Charles Eesley of the Massachusetts Institute of Technology
(MIT) analysed companies founded by MIT alumni and measured their impact. In particular, the results of the study showed that over 20% of MIT alumni had founded one or more companies, significantly contributing to regional innovation ecosystems and the global economy [Roberts and Eesley, 2011]. Similar studies conducted at Stanford University [Eesley and Miller, 2012] and Tsinghua University [Eesley, 2009] show that 29% and 24% of alumni, respectively, became entrepreneurs.

The GUESS project, launched in 2003 by the Swiss Institute for Small Business and Entrepreneurship at the University of St. Gallen, monitors the entrepreneurial plans and endeavours of students in 34 different countries, including Italy. The GUESS project is based on sample interviews of students about to graduate. It is one of the first studies that allowed scholars to compare the entrepreneurial behaviour of students from different countries [Sieger et al., 2014]. In the studies developed by other researchers and in the reports and documents prepared periodically by the GEM [Global Entrepreneurship Monitor], it is confirmed that these factors are eminently contextual and personal [Busenitz et al., 2014]. The contextual approach assumes that environmental factors (e.g., education, culture, access to financial resources) are the most influential in the process of creating a company. Entrepreneurs cannot innovate in isolation, they are influenced by, and dependent on, the institutional context in which they operate [Audretsch et al., 2017].

Although the contextual factors of entrepreneurship are important, the human capital approach predominates in the literature, according to which the entrepreneur is the key to success in the process of creating a new company [Fuller et al., 2018]. It is the entrepreneur who must apply his enthusiasm and effort to create a new company, thereby obtaining intrinsic benefits (such as autonomy, personal satisfaction) and extrinsic benefits (economic benefit) [Werthes et al., 2018; Moczylowska et al., 2020].

Special interest exists in the literature to improve the degree of knowledge of the variables that favour entrepreneurship in a regional context. The phenomenon of globalization and the development of ICT have accentuated it, as they make entrepreneurship an international phenomenon, questioning the influence of regional and national frameworks [Martinez Gonzalez and Kobylińska, 2019]. The latest report released by the GUESS project reflects data from 2018. According to that data, 7.2% of respondents in Italy are currently managing a company, a higher percentage than in 2016 (4.9%) but lower than average among the 34 countries surveyed (11.2%) [Hahn et al., 2018].

In recent years, many universities have begun to monitor and evaluate their graduates in order to measure their impact. In 2014, the Department of Management at the University of Bologna, in collaboration with Alma Laurea, developed a specific
study to collect information relating to student entrepreneurs. The study focused on a population of 65,115 students from 64 Italian universities who graduated between September and December 2014 [Chiarello et al., 2020]. The latest study in field of graduate entrepreneurship in Italy was held in 2020 and represents the most comprehensive survey of this population [Chiarello et al., 2020].

2. Methodology

This article adopts the method of existing data analysis involved in report. Existing data was obtained from the latest study done in 2020 – Student and Graduate Entrepreneurship in Italy. The project investigates the phenomenon of new venture creation by Italian graduates in order to understand their characteristics and measure their economic impact. In the report the authors 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. These business endeavours were not necessarily begun after graduation, but also during university studies, or even before. For this reason, the phenomenon of graduate entrepreneurship analysed herein also includes, in a broad sense, that of university students. The study provides a detailed and complete analysis of entrepreneurial behaviour among graduates in Italy over a period of more than twenty years, using established longitudinal databases both for individuals and for the companies founded and/or invested in by graduates. The information used for the preparation report comes from the integration of three different sources:

- AlmaLaurea database: graduates’ characteristics concerning, in particular, demographic information, family background as well as characteristics of the completed degree course;
- data stored in Unioncamere Italian business register databases include: characteristics of the companies and of their members;
- AIDA Bureau van Dijk database: historical information on corporations operating in Italy, dating back up to ten years, the integration of these different databases made it possible to create a single database as well as an innovative and unique study of its kind as pertains to Italy [Chiarello et al., 2020].
3. Results

3.1. General information about graduates and entrepreneurial career

From the study it emerges that the proportion of graduates who so far have ventured as an entrepreneur is only 7.1% for a total of 205,000 graduates (Fig. 1).

![Founders vs Joiners vs Population](image)

**Fig. 1.** Distribution of graduates from 2004 to 2018

Source: [Chiarello et al., 2020, p. 5].

Cross-referencing the data relating to the Italian entrepreneurial fabric and those of about 2 million and 900,000 graduates between 2004 and 2018, the companies founded by graduates were 236,000, of which almost all, 96%, micro-enterprises with a turnover of less than EUR 2 million per year. Companies founded by graduates account for 3.9% of the total number of companies present in Italy in September 2019. On the basis of the presented data, it can be concluded that Italian graduates have a significant entrepreneurial spirit. It is not also by chance that graduates do business later (the study highlights that more than half has achieved the title in the last ten years, 41.5% for more than ten years, because they prefer to enter large corporate groups to pursue career opportunities. Once there they establish themselves in the most technical sectors, they see little of the market and do not notice the gap between supply and demand, which is what makes the idea for a company arise.

Another sore note, which reiterates the static nature of the Italian social elevator, the data on the families of origin of graduates entrepreneurs. It reveals the study that 11.5% have an entrepreneur father, when the share falls to 4.7% in the general population of graduates. There is 39% with a freelance father, while the employees and workers parents represent in this group of graduates respectively 21% and 13%. In
this field too, as in that of orientation, the socio-economic context of the family plays a decisive role.

The good news, however, is that companies founded by workers have the wind in the stern. Those who decide to start a business, if they have a degree, are more successful and manage to succeed in the long term on the market. Among 9821 companies founded in 2009, results show that after ten years, 54.8% are still active. At the national level, however, it is worse, because among 312 000 activities launched in 2009, less than half of them survive (40.6%). And it is a pity, therefore, considering their brilliant results, that the wealthy entrepreneurs constitute such a small circle.

The growth rate of companies founded by persons with academic studies has been increasing in the last ten years, from 2.2% in 2009 to 3.7% in 2018. At national level, however, it decreases from 1.2 to 0.5. Companies created by graduates are more vital and active. And this is also demonstrated by the particularity that they assume more complex juridical forms.

The report also illustrates that among the companies founded by graduates the percentage of companies with share capital increased by 65%, double than on the national level.

In addition, these companies contribute to creating job opportunities even in the areas of Italy in difficulty: the largest number of companies signed by a graduate is in fact in the south (more than four out of ten), while 37% are located in the north and 21% in the centre. The distribution is uneven with dominance of north (45%) comparing to the rest of the national holdings, located in the north for.

This study focuses on the "founders of enterprise", those who, at the time of the creation of an enterprise, have a share in the capital and covers an entrepreneurial position (as an administrator, owner or member). From the data it emerges that:

- 7.1% of graduates are business founder;
- 61.3% of the founders hold a titular position, 22.1% as an administrator and 16.6% as a shareholder;
- 37.1% of founders created their own company before graduation (13.4% before enrolling in university, 23.7% during studies university), while 27.0% within the third year from degree. The remaining part (35.9%) created its own business after the third year after graduation.

The share of founders observed in the target population of analysis (overall equal to 7.1%) varies depending on some characteristics of the population. Among men the share of founders is higher on average and equal to 9.5%, while among women falls to 5.5%. Among the founders, men represent 53.9% while women 46.1% (in the population of graduates 40.1% and 59.9% respectively).
The start of entrepreneurial activities is related to the characteristics of the family of origin, especially of the profession of parents. Among graduates who have at least one parent entrepreneur or free professional, in fact, the share of founders is higher of the media. In detail, considering the profession of the father, among all of entrepreneurs the quota of founders is equal to 16.8%; while among graduates with free professional father, the start of business entrepreneurial is equal to 8.9%. Among the graduate children of managers. The share of founders is equal, respectively, at 7.2% and 5.9%. For others the percentages are less than 5,0%. The trend is noticeable if we consider the mother's profession. The data also shows that the family of origin is related with the time of creation of a business: among the children of entrepreneurs, in fact, the share of those who created their own enterprise before obtaining the degree goes to 45,0% (30.8% during university studies; 14.2% still before enrolling in university), compared to 37.1% observed for total number of founders (23.7% during university studies; 13.4% even before enrolling at university).

Among the founders, there is a greater presence of graduates with parents in higher-level professions: 11.5% have a father – entrepreneur (this share is of 4.7% in the graduate population), 39% have a free professional father (30.2% in population), the 7.4% have an executive father and 7.2% a father manager (in population the percentages are, 7.0% and 8.4% respectively). Among the founders, 21.2% of the respondents have a father who was employed full-time, 13.2% have a father - a worker. If we take into account the profession of mothers of enterprises founders, the distribution is different: 3.9% are mothers – entrepreneurs, 20.7% are mothers working in free professions, 2% are mothers in managerial positions, 35.5% are mothers working full-time and 8.7% are mothers in blue-collar occupations. Finally, 25.8% do not work (compared to 26.5% observed in the graduate population).

![Fig. 2. Graduates in 2004 to 2018: profession of father and mother](image)

Source: [Chiarello et al., 2020, p. 5].
The share of founders decreases as the graduation year increases, from 10.2% of those who have title in 2004 to 2.6% among those graduated in 2018. Such result reflects the nature of the data and is consistent with the percentage of founders that have started a business after graduation (62.9%). Among the founders, 58.5% achieved the title in the last 10 years (period 2009-2018), 41.5% from more than 10 years (period 2004-2008) in the population of the graduates shares are, 68.8% and 31.2% respectively.

Among the graduates of universities in the north the share of founders is less than the average (the already mentioned 7.1%) and equal to 6.7%; it is instead higher among graduates of the universities of the centre (7.3%) and south (7.5%). Among the founders, 38.4% achieved a degree in a university of the north, 22.1% in a university of the centre and the 39.5% in a university in the south (Fig. 3).

![Fig. 3. Graduates from 2004 to 2018: geographical area of residence (percentage values)](image)

Source: [Chiarello et al., p. 7].

75.0% of the founders created a business in the same region as the university, 11.3% in a different region but in the same territorial distribution of the university. The remaining 13.6% has created an enterprise in a territorial division different from that of university studies.
Among university graduates, the share of founders is in line with the average in total and equal to 7.0%, while it rises to 9.4% among graduates of non-state universities. Among the founders of enterprises, 96.4% finished a public university and 3.6% a private university. For the total of graduates shares are, respectively, 97.3% and 2.7%. The share of founders reaches the highest level among the biennial graduates (18.1%) and among the pre-reform graduates (11.0%). For post-reform graduates of first level and master single cycle, instead, it falls to 5.6% and 5.3% respectively.

Over two-thirds of graduates obtained a bachelor’s degree (68.3%), while the remaining 31.7% obtained a Master’s degree or single-cycle second-level degree. 23.5% of graduates obtained a STEM (Science, Technology, Engineering, and Mathematics) degree, while the remaining 76.5% received a non-STEM degree. Most graduates completed courses that fell into the field of study of economic-statistical (12.7%), politics, social sciences (11.8%), and engineering (10.3%). On the other hand, less represented, are graduates in the health professions (9.9%) or in humanities (8.6%), law (8.5%), foreign languages (6.0%), and education programmes (5.3%). Still fewer graduated in eleven other fields of study, each of which represents less than 5% of graduates: architecture (4.6%), geo-biological (4.3%), psychological (4.1%), medicine and dentistry (3.3%), mathematics, physics, natural sciences (2.9%), agriculture (1.9%), pharmaceutical (1.8%), physical education (1.7%), chemistry (1.6%), veterinary (0.4%), and defence, security, military studies (0.2%).
### Tab. 1. Graduates from 2004 to 2018: degree characteristics (absolute and percentage values)

<table>
<thead>
<tr>
<th>Degree type</th>
<th>Total graduates (n= 2,891,980)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>First - level</td>
<td>1,976,253</td>
</tr>
<tr>
<td>Second - level</td>
<td>915,727</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEM/non-STEM</th>
<th>Total graduates (n= 2,891,980)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>STEM</td>
<td>680,664</td>
</tr>
<tr>
<td>non-STEM</td>
<td>2,211,316</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fields of study</th>
<th>Total graduates (n= 2,891,980)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>economic-statistical</td>
<td>366,283</td>
</tr>
<tr>
<td>politics, social sciences</td>
<td>342,351</td>
</tr>
<tr>
<td>engineering</td>
<td>297,861</td>
</tr>
<tr>
<td>humanities</td>
<td>249,564</td>
</tr>
<tr>
<td>law</td>
<td>244,613</td>
</tr>
<tr>
<td>foreign languages</td>
<td>174,851</td>
</tr>
<tr>
<td>education</td>
<td>154,103</td>
</tr>
<tr>
<td>architecture</td>
<td>134,057</td>
</tr>
<tr>
<td>geo-biological</td>
<td>124,411</td>
</tr>
<tr>
<td>psychological</td>
<td>118,655</td>
</tr>
<tr>
<td>medicine and dentistry</td>
<td>95,048</td>
</tr>
<tr>
<td>mathematics, physics, natural sciences</td>
<td>83,204</td>
</tr>
<tr>
<td>agriculture</td>
<td>56,142</td>
</tr>
<tr>
<td>pharmaceutical</td>
<td>53,473</td>
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<tr>
<td>physical education</td>
<td>48,811</td>
</tr>
<tr>
<td>chemistry</td>
<td>44,917</td>
</tr>
<tr>
<td>veterinary</td>
<td>12,019</td>
</tr>
<tr>
<td>defence, security, military studies</td>
<td>4,932</td>
</tr>
</tbody>
</table>

Source: [Chiarello et al., p. 23].

### 3.2. Characteristics of entrepreneurs

The enterprises founded by graduates represents 3.9% of total number of enterprises present in Italy in September 2019. 60.2% are sole proprietorships; 24.8% are capital companies, 15% are partnerships while the remaining 0.04% takes other forms legal (Fig. 6). This distribution is consistent with the national one, in the same period, characterized by 52.1% by sole proprietorships, 28.1% by joint-stock companies, 16.3% by partnerships and 3.5% by other legal forms. In the last ten years, in the population of companies, the percentage of capital companies has grown to 65.2%, which is twice higher than the growth rate of companies of capital at national level.
11.6% of enterprises operate in agriculture, 9.4% in industry sector and 79.0% in services. In services, the most represented undertakings (29.1%) are active in the field of commerce; 9.8% in professional, scientific and technical activities; 8.9% in financial and insurance activities; 7.5% in assets of accommodation and catering services; 6.9% in services of information and communication. At national level, 12.2% of enterprises operate in the agricultural sector, while 22.7% in industry sector and 65.1% in services. Specifically, 24.9% operate in the commerce, 3.5% are active in professional activities, scientific and technical; 2.1% in financial activities and insurance; 7.4% in accommodation services activities and catering; 2.2% in information services and communication.

At national level, micro enterprises represent 95.3% of active enterprises and create 29.7% of added value. Small and medium-sized enterprises are 4.6% and 38.8% contribute to added value creation. Finally, large enterprises are 0.4% and contribute to 31.5% of the value added achieved. Among 9,821 enterprises founded in 2009, after ten years, 54.8% are still active. At national level, after 10 years, 40.6% are still active the (about 127 thousand). The growth rate is given by the ratio between the balance of registrations and withdrawals, for each year of observation, and stock of enterprises of graduates. Growth rate has increased in recent ten years, from 2.2% in 2009 to 3.7% in 2018.

Female enterprises account for 38% of the total number of enterprises created by graduates. The percentage is greater than the national one, which is 22%, 12.8%
of them work in the agricultural sector, 7.4% in the secondary sector and 79.8% work in the services sector (specifically, 33% in commerce). The percentage of enterprises founded by women in the professional, technical and scientific sector is 7.7%; a smaller percentage than that observed in total population of enterprises (9.8%), but higher than the national percentage of enterprises founded by women operating in the same sector (3.8%)

In the group of analysed companies, the total number of innovative start-ups founded by graduates, representing 5.6% of the total number of corporations founded by graduates in the period between 2013 and 2019 and 20.2% of the total number of innovative start-ups founded in Italy registered by September 2019. The innovative start-ups were founded by graduates in the period between 2013 and 2019 (last year of study). In 2018, 26.0% of innovative start-ups were founded by graduates, and 24.0% in 2017. This trend is consistent with the national one: 26.5% of innovative start-ups were founded in 2018 and 24.0% were created in 2017 (Fig. 7).

![Fig. 3. Innovative start-ups founded by graduates (2013-2019): distribution by foundation year (percentage values)](image)

Source: [Chiarello et al., p. 88].

**Conclusions**

In the article, authors tried to explore, the entrepreneurial behaviour of graduates in Italy, basing on existing comprehensive data. The goal was to provide a rigorous
assessment of the phenomenon, which could be a good starting point for university administrators, teachers, managers and entrepreneurs. The challenge for each researcher is to understand how to effectively support entrepreneurship among young people. Entrepreneurship could mitigate the inefficiency of the regional labour market.

This study presented the original discussion on the fundamental contribution of graduate entrepreneurs to the Italian economy. Even if the results obtained in Italy are considered as an incentive to university study, but the Italian percentage of graduated entrepreneurs (25%) is lower than in the rest of Europe (57%). The words of Giuseppe Tripoli, Secretary General of Unioncamere, clarify any doubts about the importance of direct relationship between the graduation of university studies and the professional entrepreneurship: "To find a company you certainly need a brilliant and innovative idea, but you also need knowledge for the realization of the business plan and managerial skills on the financial aspects of doing business" [Chiarello et al., 2020]. The research results proved that knowledge and training are fundamental levers to give equal opportunities and reduce gaps of all kinds. These are also factors, which in the current situation, make companies stronger and more competitive.

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**References**


Głównym celem niniejszego artykułu jest przedstawienie stanu wiedzy w temacie przedsiębiorczości studentów i absolwentów uczelni we Włoszech. Artykuł zawiera najciekawsze wnioski z raportu, przygotowanego na podstawie badań przeprowadzonych w latach 2004–2018 wśród prawie 3 milionów absolwentów włoskich uniwersytetów oraz danych na poziomie 236 362 założonych przez nich firm przedsiębiorstw. Informacje o losach absolwentów pochodzą z bazy danych Almalaurea (która gromadzi około 90% danych na temat absolwentów we Włoszech). Natomiast charakterystyka przedsiębiorstw pochodzi z baz danych Unioncamere i AIDA Bureau van Dijk. Informacje o absolwentach i ich karierach w obszarze biznesu obejmują w szczególności cechy demograficzne, informacje na temat ukończonego kierunku studiów czy czynniki kontekstualne. Informacje o działalności gospodarczej obejmują szerokie spektrum danych o przedsiębiorczości absolwentów, od tworzenia nowych firm, po zarządzanie i nabywanie przedsiębiorstw. Główny wniosek z raportu potwierdza, iż edukacja w zakresie przedsiębiorczości jest ważnym, pozytywnym wyznacznikiem wyników przedsiębiorczości we Włoszech, a według niektórych badań słabe wyniki gospodarcze włoskiej gospodarki w ciągu ostatnich 15 lat można częściowo przypisać nieodpowiednim strategiom edukacyjnym w zakresie popularyzacji przedsiębiorczości.

Słowa kluczowe

przedsiębiorstwo, studenci i absolwenci, uczelnie we Włoszech