

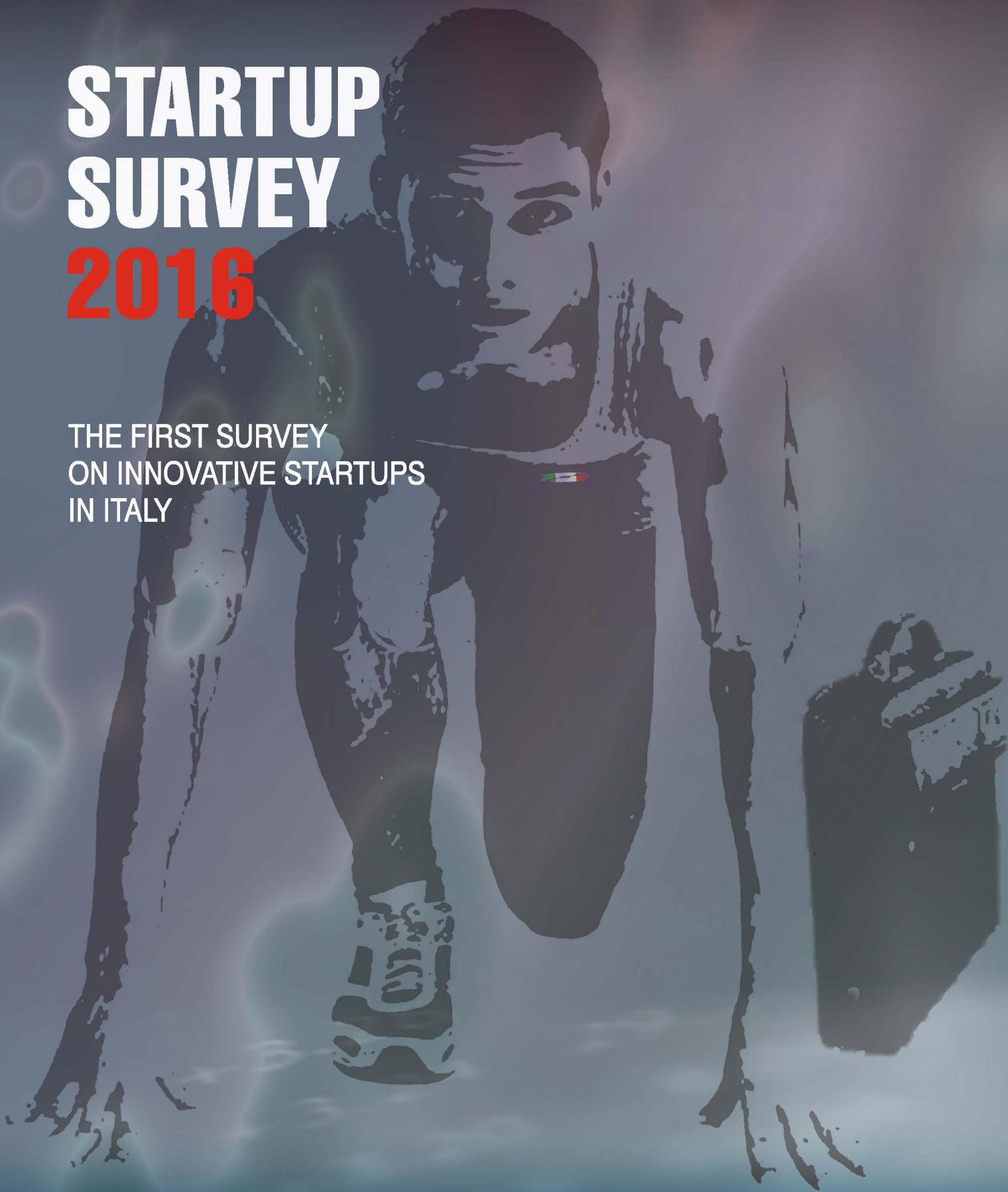


Ministero dello
Sviluppo Economico

Istat
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di Statistica

STARTUP SURVEY 2016

THE FIRST SURVEY
ON INNOVATIVE STARTUPS
IN ITALY



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The survey was ideated within the framework of the Technical Committee for the monitoring and evaluation of the national strategy in support of innovative startups, in accordance with Ministerial Decree 31 January 2014. The Committee is chaired by Stefano Firpo, Director General for Industrial Policy, Competitiveness and the SMEs of the Ministry of Economic Development. The questionnaire was designed by Mattia Corbetta (Ministry of Economic Development) and Luca Grilli (Polytechnic University of Milan).

The National Institute of Statistics (Istat) was responsible for the technical planning and the conduction of the survey, as well as for its disclosure, with the support of the Ministry of Economic Development and InfoCamere (Luigi Marangon, Project Manager). Istat also carried out the validation and processing of the collected data. Mattia Corbetta and Stefano Menghinello (Istat) coordinated and supervised the drafting of the present report. Barbara Gentili and Marinella Pepe contributed to the checks for data consistency and the overall editing of the text respectively. The authors are mentioned in a footnote on the first page of each chapter.

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FOREWORD

Innovative startups represent an important segment of the Italian production system and a fundamental asset for the country's future growth. This is particularly true in a competitive context that is increasingly global and shaped more than ever by knowledge, innovation and entrepreneurial spirit. This survey allowed us to explore some significant aspects of the profile of Italian startupper in terms of socio-economic characteristics, motivations and willingness to interact with the innovation ecosystem. The data collected through the survey is highly valuable, as it improves our understanding of this phenomenon: the *qualitative* information obtained from the actual voice of startupper – not otherwise available through administrative sources, e.g. the Business Register – will contribute to strengthening the national policy for innovative businesses. This report represents an example of authentic *evidence-based policy-making*, i.e. public action based on the continuous monitoring and evaluation of the data generated.

Stefano Firpo

Director General for Industrial Policy, Competitiveness and
SMEs at the Italian Ministry of Economic Development

The National Institute of Statistics pays close attention to the development of new statistics and analyses aimed at investigating the current most important economic phenomena. This is demonstrated by the recurring publication of thematic reports, such as the report on the competitiveness of the productive sectors and the more recent report on the labour market.

Innovative startups represent an emerging phenomenon of great interest for policy makers. For this reason, we found it natural to collaborate with the Ministry of Economic Development on this exercise. In particular, we contributed to the planning and conduction of the survey, in order to ensure full consistency with its subtending cognitive objectives and statistical accuracy. As a result, we acquired new, relevant information to be included in the Institute's registry system. Traditional statistical and administrative sources, in fact, provide poor information on the startup phenomenon. The survey was carried out with the full support of all the offices involved in the data collection and analysis, confirming that the Institute is fully capable of managing requests from external stakeholders in a flexible and effective fashion.

Roberto Monducci

Head of the Department for statistical production, Istat

STARTUP SURVEY 2016: SYNOPSIS

The objective of this research report is to present the key findings from the first census survey on innovative Italian startups, conducted in 2016 by the Ministry of Economic Development (MISE) and by the National Institute of Statistics (Istat), and known as Startup Survey. The survey has been designed by the technical committee in charge of the monitoring and the evaluation of the national legislation on innovative startups – the so-called “[Italian Startup Act](#)”, introduced by Decree-law 179/2012. Its main goal is to investigate various socio-economic aspects that are typical of the new generation of Italian innovative enterprises; it is also aimed at gathering opinions and suggestions by the voice of the entrepreneurs on the various measures of which the Italian Startup Act consists, in order to guide future regulatory development.

The survey stems from the need to enrich the wealth of information obtained from the system of periodic monitoring carried out by the MISE since the policy inception in 2012. A fundamental resource in this sense is represented by the website startup.registroimprese.it. This portal allows anyone interested to download – for commercial or research purposes – a free, weekly-updated database, available in an editable format, which contains a wide range of data on each of the thousands of enterprises that benefit from the Italian Startup Act. Moreover, the Ministry of Economic Development issues four quarterly monitoring reports. They concern the demographic trends and the economic-financial performance of the innovative startups, as well as the results of some of the main measures dedicated to this type of company, i.e. a new digital and free procedure for incorporation, a facilitated access to the Guarantee Fund for bank credit, and the Italia Startup Visa programme, whose goal is to attract innovative talents from all around the world. All of this is complemented by an Annual Report, which provides a more far-reaching and deeper analysis, and is presented by the Minister to the Italian Parliament for the sake of accountability.

Although they provide a wealth of information, these reports draw merely from administrative sources and have a purely quantitative nature. Thus, there are significant constraints to the possibility of carrying out a more all-encompassing analysis, which includes, for example, elements of a sociological nature. Startup Survey aims to widen the analytical field, by investigating aspects of a predominantly qualitative nature, ranging from the family, educational and professional background of the startupper, to their entrepreneurial motivations, and the strategies followed for the acquisition of capital and knowledge.

The questionnaire consists mainly of multiple choice questions; in a few cases, the interviewee is asked to enter numerical values, and in only one case he or she is asked an open-ended question. The survey is divided into four sections concerning: i) the characteristics of innovative startups’ human capital, ii) access to finance, iii) innovation strategies, and iv) the level of knowledge of and satisfaction with the Startup Act. The first chapter of this report presents the methodology adopted by Istat in carrying out the survey and collecting data, whereas each of the chapters from 2 to 5 corresponds to a specific section of the survey.

As described in Chapter 1, the target population has been identified according to a census criterion, i.e. considering all 5,150 enterprises registered in the special section of the Business Register dedicated to innovative startups at 31 December 2015. The questionnaire was administered with the CAWI software (Computer Assisted Web

Interviewing) acquisition technique, and a soft verification mechanism was adopted to check the consistency of the answers.

The data collection lasted about two months. 2,250 innovative startups participated in the survey, a response rate of 43.7%. This result is very positive, bearing in mind that the participation in the survey was voluntary and the questionnaire was lengthy. Considering the distribution by productive sector, region and year of incorporation, the subset of respondents is very similar to the entire target population, and can thus be considered fully representative.

The results are presented as percentage distributions calculated on the total number of respondents who for each question have provided a valid response – almost the entirety in all the sections.

Chapter 2 presents the main findings on the section of the survey concerning the family, work and educational background of the startups' shareholders and employees. In addition, the motivations that drove the founders to undertake their entrepreneurial activity are investigated. Finally, this section attempts to bring to light any dynamics of social and territorial mobility enshrined in the phenomenon, and to detect the impact perceived by the entrepreneurs on their income as an effect of the establishment of their startup.

The responding enterprises reported 4,363 active shareholders. 82% of them are male, and their average age is 43 years. They have achieved an educational qualification equal to or higher than a Bachelor's degree in 72.8% of the cases, mostly in technical-engineering and economic-managerial areas, with a much higher concentration of shareholders with Master's degrees and PhDs among the startups classified as operating in the "Research and Development" (R&D) sector, according to the Ateco classification of economic activities. It is interesting to note that the majority of shareholders with university degrees (88%) declare that they carry out tasks consistent with the subjects of their studies, and that 50% of those who have previous professional experience (87.1% of the shareholders) carry out activities that are in line with their former employment. Almost all the shareholders (96%) also declare that they speak at least another language besides Italian (English in most cases, followed by French and Spanish), while half of the shareholders have had study or work experiences in other countries.

The shareholders appear to be very deeply rooted to their local environment: for 83% of them, the region where the legal office of the startup is located is the same where they had their main educational or work experiences. The family background is characterised by strong heterogeneity: less than half (40.5%) of the respondents indicated that their father was also an entrepreneur or self-employed professional, a percentage that drops to 16% for mothers.

As far as entrepreneurial motivations are concerned, the most frequent reason to start an enterprise is to develop an innovative product or service, followed by the ambition to start a successful and profitable business. Finally, half of the shareholders state that the launch of the startup has not yet resulted in significant effects on their income.

59.4% of the enterprises interviewed have at least one employee, recording a total of 5,704. About half of them are aged between 25 and 34 years, and approximately three out of four are men. It should be noted that almost 1,500 workers are employed through "atypical" forms of contract, i.e. for the most part project-based contracts, and that the incidence of women employees is significantly lower among managers than among general workers and trainees. The most common professional background is technology. As for shareholders, the feeling of territorial belonging is very pronounced, while the consistency between work duties and area of study increases alongside the educational level.

By analysing the territorial or sectorial variations according to gender and age, it emerges that there are proportionally more women shareholders in the startups of Central

and Southern Italy and in those operating in the “R&D” sector (especially for the age groups of 25-34 and 35-44 years) and in the “Management consulting” sector, while the prevalence of men is stronger in the “Software” (particularly for the age group 45-64 years) and “Machinery” sectors. The latter group, together with “Other consulting activities”, tends to present older shareholders (over 45 years old), while those under 35 years old are relatively more concentrated in the areas of “Data processing” and “Design”. The report presents a cluster analysis of the socio-economic characteristics of the shareholders. Its result is a profiling of shareholders under five groups, based on socio-demographic variables such as gender, age, educational qualification, knowledge of at least one foreign language, and experience abroad.

Chapter 3 analyses the issue of access to finance from multiple points of view: the composition of the company structures at the time of incorporation and at the time of the survey, so as to describe the variations in the course of time; the sources of financing, also described under a dynamic perspective; the level of satisfaction of startups with regard to their financial endowment.

At the time of the survey, three startups out of four presented the same shareholders as at their incorporation: this is also due to the low age of startups. In 43% of the cases the founders were 2, in 35.8% 3 or 4. As is predictable, the turnover of the shareholders increases as the enterprise becomes more mature.

With regard to the sources of financing, at the time of incorporation 73.2% of the startups had exclusively used founders’ own resources. Such a source was the only one used by approximately half of the startups also at the time of the survey, even though the ratio becomes lower along with the maturity of the companies. Only 10% of the responding startups did not use any personal resource for financing. Donations from family and friends play a marginal role, both at the incorporation and after it, most likely because these funders often become shareholders, and are not mere lenders or donors. A minority of enterprises started their activity thanks to public financing (in 3% of the cases from national programmes, in 7.7% from regional or local initiatives), especially in Southern regions. The use of public resources is more significant among more mature enterprises, especially if they are engaged in R&D activities. Only 8.2% of the innovative startups received equity financing by venture capital funds, business angels or other enterprises at the time of incorporation. The rate of VC-backed companies rises slightly (11.2%) if we consider startups at the time of incorporation. It is interesting to note that 7.2% of the respondents operate with resources coming mainly from external investors: they are mostly enterprises with high sales volumes, which have already been on the market for a few years. This trend seems to confirm that VC investors prefer this type of startup. Finally, almost none of the enterprises had received bank credit at the time of incorporation, but access to this financing instrument visibly increases along with the growth of the enterprise in terms of age, labour force employed and – even more significantly – sales volume (49.7% of the startups with production exceeding €500,000 have received bank loans, compared to 21% of those with sales volume below €100,000).

Many startupper declare that they are fully satisfied with the financial resources currently at their disposal (34.1%), with a higher percentage in the North (38.4%) and among the enterprises with a higher sales volume (56%). In contrast, 21.7% of the entrepreneurs consider their current financial availability inadequate to cover needs.

The questionnaire also investigates the preferences and approach of startupper to the various sources of financing. The objective is putting to the test an issue that is recurring in the media debate and in the scientific literature: the alleged dichotomy between debt and equity finance. The survey actually seems to contradict this contrast: no less than 65.7% of the enterprises surveyed declare that the ideal method of financing is a mix of equity and debt; only a quarter would like to get financing exclusively through equity and

less than 10% would prefer only debt financing. Among the latter group, the startups with higher turnovers prevail. The preferred types of investors are venture capital funds (42.9%) and other companies (42.8%). Only one sixth of the respondents would raise capital through equity crowdfunding, mostly enterprises with limited turnovers and incorporated after the issue of the dedicated regulations by Consob (the National Commission for Companies and the Stock Exchange) in 2013.

Although there is a general interest toward equity finance, paradoxically most of the startups (68.4%) did not look for financing from venture capital funds, business angels or through equity crowdfunding after their incorporation. This seems to suggest that such a solution is more wished than actually pursued. Furthermore, the search for this type of financing is much more widespread (53.8% of the enterprises) among startups that have been hosted by “certified incubators”, a category defined in Decree-law 179/2012 as those companies with a demonstrated track-record in business development services. Almost half of the enterprises that do not actively seek risk capital (43.9%) believe they have sufficient financial resources, while 14.9% do not consider their business suitable for receiving this type of financing. Additionally, almost one sixth of the startupper declare to have no interest or confidence in the market of venture capital, and another sixth – especially more mature enterprises – are reluctant to open the company structure to new shareholders, fearing a reduction of their decision-making autonomy. Finally, a non-negligible share of startups (12%) refused one or more investment offers: in 24.8% of the cases because the evaluation of the shares was considered too low, in 21.9% because of contractual clauses that were deemed disadvantageous for the shareholders, and in the remaining cases because the requested level of participation in the enterprise (17.8%) or the decision power requested (12.8%) were considered excessive.

As regards the relationship of startups with other players of the innovation ecosystem, in particular certified startup incubators, universities and mature enterprises, it appears that the vast majority of surveyed enterprises (72.6%) have never been supported by an incubator, while 21.6% of the startups were part of an incubation programme at the time of the survey, and the remaining part was in the past. Certified incubators, which amount to about 30, have offered their services to only one Italian innovative startup out of four. As is predictable, the percentage of enterprises supported by incubators decreases while the class of production grows. About half of the enterprises (45.6%), especially those characterised by product innovations and high R&D expenditure (more than 40% of the total sales volume), report to have collaborative relationships with other economic players besides startup incubators. Most partnerships have a focus on technology and they concern universities and research centres (47.8%, compared to 26.9% of trade agreements). Contrary to what one might conclude from the high rate of not yet deposited statement of accounts or very low turnovers, startups state that they began to sell their products or services quickly, often just after their incorporation (38%) and in any case within one (80%) or two years (94.5%) from it.

Chapter 4 investigates the innovation strategies adopted by startups, considering the type of innovation introduced, the sources of knowledge that underpin the innovative product or service brought to the market, and the measures taken to protect innovation.

Most of the enterprises (74%) have introduced product or service innovations, whereas process innovation, carried out by 37.1% of the startups, is more likely to be found among firms with higher sales volume. In the majority of the cases (65%) startups carry out forms of incremental innovation, i.e. improvements in already existing products or processes; 48.5% of the startups declare instead to have introduced entirely new products. The technical or scientific knowledge that enabled the introduction of

innovations derives for more than half of the startups (61.9%) from previous professional experiences in the same sector and only in 20% of the cases from university research.

The survey shows that a large part of startups (79%) incurs costs in R&D, often for a significant part of the business budget: on average, 47% of the total annual costs. This percentage is greatly above the minimum threshold of 15% that – together with the presence of highly qualified staff or the ownership of intellectual property rights – constitutes one of the indicators of innovation required by the legal definition of innovative startup. The marked propensity for investment, particularly in intangible assets, is substantiated by the rate of fixed assets on equity, which, as it can also be seen from the quarterly monitoring reporting system managed by MISE and the Chambers of Commerce, was above 30% at the survey's reference date (31 December 2015). This value is almost ten times higher than the average then recorded by all the Italian limited companies. Startups that have a higher incidence of R&D costs tend to have an annual sales volume lower than €100,000. Finally, most innovative startups (82.6%) have invested in intra-mural R&D, while 54.1% have partially or exclusively outsourced such activity, mostly relying on other enterprises or, to a much lesser extent, universities and research centres.

The target markets for the products and services of the startups are mostly represented by other Italian enterprises (71.8% of the cases), followed by, in descending order, Italian direct consumers (49.5%), foreign enterprises (41.5%), consumers in other countries (31.2%), and at a certain distance, the Italian public administration (28%) and the public administration of other countries (11.1%).

As regards the strategies for the protection of innovation, the survey shows that 17.8% of the startups are the owner of an intellectual property (IP) right, 12.8% have deposited one, and 9.2% have bought a license on its use. On the other hand, more than half of the enterprises (58%) do not adopt any formal mechanism of protection of intellectual property (for example, patenting), and approximately a quarter does not even pursue any informal protection strategy. The most widespread informal protection mechanism is industrial secret (46.8% of the cases), followed by lead time strategies (21.2%). The enterprises that have not adopted any informal mechanisms of protection motivate their choice for the most part (47.9%) stating that their innovation could not be appropriated by third parties; instead, a quarter of the enterprises declare that they do not have innovations that would be eligible for protection and another quarter does not know any useful strategy.

Chapter 5 regards the fourth and last section of the survey, which concerns the perception of the Italian Startup Act among startupper. The first questions are aimed at investigating whether the entrepreneurs are actually aware of the various legal benefits available (the survey mentions 20 different ones), and how to use them. In addition, the respondent could indicate if he or she had already used the measures under examination, or intended to do so in the future.

The most widely known measures are the reduction of the costs for the setup of the enterprise – i.e. exemption from fees paid to the Chamber of Commerce and stamp duties applied by default to all other companies upon registration in the Business Register – and the simplified and free-of-charge access to the Guarantee Fund for the SMEs: these measures are known to almost 9 out of 10 startups – even if almost 1 out of 5 declares that it does not know how to use it. Other measures that met particular success among the startupper are the tax credit for research and development (CIR&S), tax breaks for equity investments and the greater flexibility on fixed-term contracts. Many entrepreneurs declare little interest in or only superficial knowledge of equity crowdfunding.

As the participation in the Italian Startup Act is voluntary, the respondents were asked how they got to know about it. Over two thirds (67.4%) indicated their accountant

as their source of information. Following at a great distance are online media (41.8%) and the Chambers of Commerce (25%). On the contrary, two sources of information whose potential is not yet fully unleashed are employer associations – which are popular only among the most mature startups – and universities. In the light of this, it is not surprising that the founders of the most research-intensive startups also report the lowest rate of knowledge of the facilitation measures, especially those concerning fiscal matters and labour law.

Moreover, this section of the survey proposes a measurement exercise on the level of satisfaction with the policy among its beneficiaries. Startuppers were asked to assess the impact of the measures they were using at the time of the survey or had used in the past on a scale from 0 to 5. The measures that have obtained the most positive reviews are, once again, the Guarantee Fund for SMEs (average score 4.33) and the CIR&S (4.02), as well as the incentives for equity investments.

The survey ends with an open-ended question: *“In your opinion, how can the government strengthen the regulatory framework in which innovative startups operate? In which aspects of the life of the enterprise should it intervene?”*. The goal is to promote a participatory process between administration and citizens, getting suggestions for action from the actual voice of the target group. At the same time, it represents an opportunity for entrepreneurs to become fully aware of the potential – and the limits – of the measures offered, and of the obstacles to their full utilisation.

The approximately 1,000 enterprises who have filled in this field (44.2% of the respondents) have submitted suggestions that are very diverse, in terms of both exhaustiveness and aspects covered. However, most of them can be classified in few main categories: the most common ones are access to credit finance (21.4% of the respondents), taxes and tax incentives (24.8%), and reduction of red tape (27.9%).

While some of the responses were generic, many startups provided detailed feedback on their practical experience, or submitted structured proposals. Among the most common ones, worth mentioning are: the introduction of temporary exemptions from taxes and social security contributions in the first years of activity; the request to introduce non-repayable grants; the suggestion to avoid the so-called “cash-negative” tenders – i.e. those public competitions in which financing is provided as a reimbursement of expenditure already incurred by the entrepreneur, who may not have enough own resources for this purpose.

CHAPTER 1

RESEARCH OBJECTIVES AND STATISTICAL METHODOLOGY¹

Abstract

This research aims at expanding the stock of data available to policy-makers, the scientific community and other innovation stakeholders on “innovative startups”, a category of enterprises codified by Italian law in 2012 and since then supported by a number of targeted policy measures. Embracing an evidence-based approach to policy making, the Italian Ministry of Economic Development set up a thorough monitoring system to track data on the development of Italian startups and on the performance of the related measures. Nevertheless, data resulting from such a monitoring system is predominantly of an administrative nature, and does not cover important qualitative aspects such as the socio-economic background of startupperes and their entrepreneurial motivations. This knowledge gap led the Ministry to designing an ad hoc survey in order to enrich and diversify the information available on Italian startups. The survey was conducted by Istat in the Spring of 2016. This chapter describes the goals pursued and the main areas investigated by the Ministry, as well as the technical and methodological approaches adopted by Istat to ensure quality and representativeness of the data collected.

¹ The authors of this chapter are Mattia Corbetta (paragraph 1.1), Alessandro Faramondi and Stefania Macchia (paragraph 1.2), Barbara Gentili (paragraph 1.3), Caterina Viviano and Patrizia Cella (paragraph 1.4).

1.1 Content of the survey and relevance for policy-making

With the launch of Decree-law no. 179 of 18 October 2012, converted by Law no. 221 of 17 December 2012,² the Italian government initiated an intense regulatory action in favour of new innovative enterprises with high technological value. Called “innovative startup”, this type of firm has been the subject of a wide range of interventions, covering a variety of matters, such as administrative simplification, access to credit and to venture capital, corporate, labour and bankruptcy law.

The legal definition associated with this economic policy initiative stipulates that enterprises can obtain the status of innovative startup if they meet certain requirements: they have been incorporated in the form of a limited company, are not listed, are of new or recent incorporation - less than five years - and with a turnover under 5 million euros. In order to qualify as startups (from the word “start”), it is necessary that the beneficiary enterprises do not distribute profits, and that they are not generated by a merger or split-up process of a corporation.

The adjective “innovative” that accompanies the term startup involves two further types of requirements: in the first place, the company object of the enterprise should relate to the production, development and commercialisation of an innovative product or service; secondly, the enterprise must possess at least one of the three parameters concerning i) the share of expenditure on research and development, ii) the share of highly qualified personnel out of the total labour force and iii) the possession of a form of protection of their intellectual property (i.e. registered patent or software).³

In order for enterprises to gain access to the benefits related to the innovative startup status, they must send to the competent Chamber of Commerce, in electronic format, a self-certification declaring that they possess the above-mentioned requirements. From that moment, the enterprises are admitted in the special section of the Business Register dedicated to innovative startups, and as long as they have the mentioned requirements, they can benefit from a number of advantages, such as the exemption from the payment of the annual fee of the Secretariat usually due to the Chambers of Commerce, the inapplicability of the discipline for dummy companies, easy and free access to the public guarantees for obtaining bank loans and a greater flexibility in the use of fixed-term contracts.

The data of the enterprises registered in the special section of the Business Register dedicated to innovative startups are accessible free of charge and in an open format, and

² Full text of the law available on: [http://www.normattiva.it/urires/N2Ls?urn:nir:stato:decreto.legge:2012-10-18;179!vig=Executive summary of the policy on innovative startups, with a thorough description of the legal requirements and all the policy measures:](http://www.normattiva.it/urires/N2Ls?urn:nir:stato:decreto.legge:2012-10-18;179!vig=Executive%20summary%20of%20the%20policy%20on%20innovative%20startups,%20with%20a%20thorough%20description%20of%20the%20legal%20requirements%20and%20all%20the%20policy%20measures) http://www.mise.gov.it/images/stories/documenti/Scheda-di-sintesi-policy-startup-innovative-23_02_2017.pdf

³ In detail, the definition pursuant to Art. 25, paragraph 2 of Decree-law 179/2012 provides that the benefit measures provided for the innovative startups can be accessed by the enterprises which meet the following requirements: a) they are incorporated in the form of a limited company, including the cooperative form; b) the stakes or shares representing the capital are not listed on a regulated market or on multilateral trading facilities; c) they have their legal office in Italy or in another member country of the European Union or in the States which are part of the European Economic Area, as long as they have a manufacturing site or a branch in Italy; d) they have an annual turnover under 5 million euros; e) they do not distribute and have not distributed profits; f) they have as their exclusive or predominant company object the development, production and commercialization of innovative products or services of high technological value; g) they are not generated as the result of a corporate merger, split or as a result of transfer of a company or of a branch of a company; h) finally, the innovative content of the enterprise is identified with the possession of at least one of the three following criteria: a share equal to 15% of the greater value between sales volume and annual costs must be ascribable to research and development activities; or at least one third of the total labour force must be PhD students, Research doctors or researchers, or at least two thirds of the shareholders or collaborators of any kind must have a Master's degree; or the enterprise must be the owner, the depositary or licensee of a registered patent (industrial patent) or the owner of an originally registered computer programme. Subsequently, among the enabling requirements a new one has been included, i.e. startup enterprises must be of new incorporation or they must have been incorporated for less than 5 years.

are updated weekly on the website <http://startup.registroimprese.it/>. The user can thus obtain and reprocess a broad range of demographic data, which include the geographical area, the year of incorporation, the annual turnover of the last statement of accounts filed, the number of employees and the sector the company belongs to. In addition, every three months the Ministry of Economic Development publishes four types of reports. They concern the demographic, employment and financial performance of the startups as well as the impact of three relevant policy measures: the already mentioned Guarantee Fund, the “Italia Startup Visa” programme for the attraction of foreign innovators, and the new digital and free procedure for incorporation.⁴

Though articulated in a variety of tools and products, the described monitoring system is based on a single type of statistical source: administrative data, obtained from the special section of the Business Register. The need has therefore arisen to broaden the perspective of analysis, combining the administrative data with further information collected by directly contacting the startups.

On 31 March 2016, a little more than three years from the entry into force of Decree-law 179/2012 (the “Italian Startup Act”), the National Institute of Statistics and the Ministry of Economic Development (MISE) launched *#StartupSurvey*, the first fact-finding survey on the Italian innovative startups. An important characteristic of this survey is the attention it dedicates to the sociological component of the business activity, which is considered to be inextricably linked with the economic and financial aspects.

The list of enterprises registered in the special section of the Business Register dedicated to innovative startups at 31 December 2015 was used to identify the target population to be surveyed.

In other words, as the data in the Register have an eminently documentary and objective nature, many of the questions proposed by the survey integrate technical and economic-financial evaluations together with very different aspects. Questions involving aspects that are more strictly cultural and psychological were proposed, since, as it is well-known, these factors are at the core of the decision-making processes of entrepreneurs in terms of their motivations, expectations and behaviours. The founders are, in fact, asked to express their opinion on the widely debated issues surrounding startups, such as which sources they consider as the most suitable for financing an innovative enterprise, or – exercise attempted here for the first time – on the perceived impact of the measures that make up the Italian Startup Act.

By referring directly to the startupper, the Ministry of Economic Development has therefore aimed at bringing the logic of evidence-based policy-making, adopted since the launch of the legislation, to a higher level, gathering new information on the yet unknown aspects of the phenomenon of Italian startups.

Starting from this approach, the “Technical Committee for the monitoring and evaluation of the policies on innovative startups”⁵ has designed the questionnaire of the survey, which is divided into the four thematic sections summarised below.

The first topic, regarding “Human capital and social mobility”, includes questions investigating the work and family background as well as the educational level of the founders and employees of the startups. The intention is to learn more about the founders of innovative enterprises: we investigate, for example, the background and motivation related to doing business, also focusing on how the type of education (academic and

⁴ The reports are available on the site: <http://www.mise.gov.it/index.php/it/impresa/competitivita-e-nuove-imprese/start-up-innovative/relazione-annuale-e-rapporti-periodici>

⁵ The Ministerial decree of 31 January 2014 constitutes at the Ministry of Economic Development (Directorate General for the Industrial Policy, Competitiveness and the SMEs) the “Technical Committee for the monitoring and evaluation of policies in favour of the innovative startups’ ecosystem” (http://www.sviluppoeconomico.gov.it/images/stories/normativa/DM_31_01_2014.pdf)

linguistic) and past professional experiences have influenced the exercise of the entrepreneurial activity.

The second topic, relative to “Financing sources”, further investigates the composition of the company structure, its evolution over time and the strategies to obtain financing. The central concept for this section concerns the financial necessities of the startup; a significant part of the questions indeed aim at understanding the relative importance of various sources of financing: the shareholders’ own funds, public tenders on a national and local level, risk capital investments by funds, enterprises and individuals, as well as the traditional - but always relevant - bank credit. The entrepreneur is then asked to make an assessment of the degree of coverage of the financial necessities of the enterprise - i.e., if the resources available are sufficient - and what they consider to be the most adequate sources of financing. Particular attention is given to exploring the actual interest of the innovative startups in funding channels that offer an alternative to debt, strongly encouraged by the Italian Startup Act.

The third topic addressed in the questionnaire is concentrated on the relevant theme of “Innovation”. The questions in this section seek to better understand what the innovation companies introduced consists of, how the degree of innovativeness of the startup is expressed, as well as to find out what mechanisms are used by entrepreneurs to bring their innovative product or service to the market. The startup is asked to define the characteristics of its innovation in greater detail, for example if it is a product or process innovation, and where the enabling skills came from, for example if skills were acquired through university studies or from past professional experiences. The weight of the technological innovation within the business activity is then described, surveying the percentage of research and development expenditure incurred on the total costs of the enterprise. This takes into account also the expenditures carried out within the framework of open innovation, i.e. on behalf of other enterprises or commissioned to third parties such as universities and research centres. In addition to the technical aspects connected with the organisational, process and product innovation, this section of the survey also touches on the market for these products and services: just like the other small and medium-sized enterprises, innovative startups differ for type of target customers and geographical areas. Then there is an evaluation of the popularity among startupper of the typical instruments used to protect their innovation and bring it to the market, whether they are formal in nature, such as the various forms of intellectual property protection, or strategic, such as the industrial secrets.

Finally, the fourth topic of the questionnaire covers the important theme of “Level of information on the policy and satisfaction with it”. This section seeks to build a participatory process between the administration and the beneficiaries: the entrepreneur is in fact asked to express his or her level of satisfaction regarding the measures which make up the policy. In addition, a part of the questionnaire provides a specific open-ended response field that gives an opportunity to make suggestions and proposals for improvement. This final part of the survey also aimed at raising awareness of the opportunities offered by the legislation, checking on the actual level of knowledge concerning the benefit measures and investigating which channels are most widely used for obtaining such information.

1.2 Planning of the survey

As mentioned, the planning of the survey on innovative startups was carried out starting from the definition given in the regulatory framework of the economic policy measures for startups; then, the administrative data were used in order to individuate the

whole reference population, submitting the survey to them in a timely, complete and consistent way.

The methodological approach chosen was the census survey, i.e. the survey was submitted to all the startups registered in the special section of the Business Register dedicated to innovative startups at 31 December 2015, for a total of 5,150 enterprises.

The choice of creating a census survey reflects numerous methodological considerations in particular, the relatively small size of the target population, the planning of multiple domains for the analysis of the results, such as the sector of economic activity, the region of localisation and other classification variables contained in the questionnaire, the expected response rate – probably very low given the voluntary nature of the compilation of the questionnaire –, and the large number of questions asked, 42 in all.

Then, as regards the other purely technical and organisational choices, defined at the planning level prior to the launch of the survey and relating primarily to the conduction of the survey, the following aspects were primarily taken into consideration: the definition of the data collection technique, the acquisition system and the methodical design, the computerised implementation of the questionnaire. In particular, in the choices made, two aspects were taken into account: the characteristics of the respondents and the information architecture of the Business Register Portal (Fazio, Murgia, Nunnari: 2013). From the sources already available, it was in fact known that the respondent target was on average comprised of young, dynamic individuals who were familiar with the use of new technologies.

These characteristics have confirmed the feasibility of the acquisition technique using CAWI (Computer Assisted Web Interviewing) software, already adopted for a wide variety of surveys on enterprises conducted in Istat.

The questionnaire in electronic format, moreover, was planned in view of enhancing the fluidity of the interview, the pleasantness of the layout and the lack of rigidity in the flow of information, and the consistency checks on the information entered.

With regard to the compilation flow, the questionnaire was structured in four sections, corresponding to the four topics summarised in paragraph 1.1, which did not necessarily have to be compiled in sequence. It was therefore possible to browse between one section and the other using the appropriate function keys. Furthermore, the compilation did not necessarily have to be carried out in a single session: The respondent could interrupt the insertion of data and resume later, finding all the data entered up to that moment saved.

Regarding the consistency checks for the data entered, the potential of the technique that would allow one to rigidly prevent the insertion of inconsistent data, through compatibility checks managed “in hard mode”, has not been exploited to the fullest (Eurostat: 2006). It was preferred to manage most of the checks in a soft mode, i.e. as simple error messages that, whilst giving the respondent the possibility of correcting the inconsistency, do not make it mandatory to carry out this operation in order to complete the interview. This choice was made on the basis of two considerations: firstly, it was considered that the respondent would be familiar with the use of the technique and competent on the asked data, and for this reason, not inclined to provide inconsistent information; then, it was considered that while managing many checks in the hard mode would have given greater assurances on the quality of the data, it would also have burdened the interview, thus running the risk of jeopardising its completion.

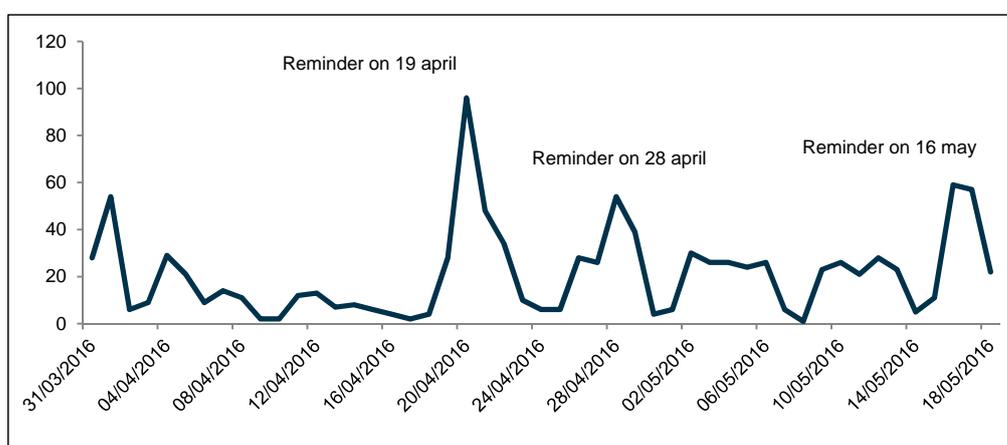
The survey has also been inserted in the architecture of the Business Register Portal, which constitutes a single point of access for the enterprises that collaborate in the Istat

surveys, providing a series of support functions for the respondent in an integrated environment (Macchia, Papa: 2014).⁶

1.3 Conduction of the survey and statistical representativeness of the collected data

#StartupSurvey began on 31 March 2016 and ended, as planned in the first notice sent to the enterprises, on 27 May 2016. The data collection period thus lasted about two months, during which three reminders were sent: on 19 April via certified email (PEC), on 28 April via ordinary email, on 16 May via telephone, by means of an external call centre. These actions allowed the increasing of the response rate, as is also evident from Figure 1.1.

Figure 1.1 - Trend of the respondent units in the period of March to May 2016



Support to the respondents has been constantly provided by Istat. This aspect, accompanied by a communication campaign of the Ministry of Economic Development supported by the specialised press, and by the interest the enterprises have shown in responding to the questionnaire, has contributed to the success of the survey, intercepting an information basin involving no less than 2,250 innovative startups. In fact, the response rate of 43.7% is considered to be an excellent result, taking into account that participation in the survey was voluntary and its structure was rather demanding, given the complexity of the questionnaire.

⁶ One important function managed within the Portal's framework, aimed at limiting the response burden of the respondents, is represented, for example, by the management of the demographics of the enterprise, customised for each individual enterprise and integrated among the various surveys which he or she is asked to participate in. In other words, the enterprise is not asked to provide its demographic information (tax code, name, address, etc.) *ex novo*; on the contrary, it is only required to update any information that is different from what is present in the Business Register archives. In addition, the Portal, from a technological viewpoint, uses a system for the implementation of questionnaires in electronic format (GX - Generalised Italian Data Collection System XML), which satisfies all the requirements for a generalised system for managing complex questionnaires in electronic format (Fazio, Murgia, Nunnari: 2013). This is a generalised system, designed and developed entirely by Istat's internal resources that, based on XML technology, that looks ahead to ensuring the compatibility with standards such as SDMX and DDI. This system has favoured the adoption of recommended practices for the design of the survey questionnaires on the enterprises (Macchia *et al.*: 2014), aimed at facilitating the compilation, guiding the respondent also through a pleasant layout and clear and uniform graphics.

Following the statistical analysis of the data, it was found that the near totality of the respondents provided valid answers to the survey, with some limited differentiation in the specific sections of the questionnaire. It was therefore decided to take advantage of the information gathered in the widest possible sense, representing the results exclusively as a valid percentage distribution of the respondents in regard to the individual sections of the questionnaire, thus indirectly re-proportioning any missing partial responses on the basis of the valid answers.

The analysis of the degree of representativeness of the data produced must take account of the three following aspects:

1. consistency of the defining framework envisaged by the regulations in regard to the statistical measurement of the phenomenon;
2. potential under or over-coverage of the survey list compared to the target population;
3. consistency of the characteristics of the sample of respondents compared to that of the enterprises included in the initial list.

As regards the first aspect, in the absence of a defining framework by the official statistics for the measurement of the innovative startups, the definition given by Decree-law 179/2012 is, at the moment, the only reference framework for the measurement of the phenomenon. Obviously, the enterprises that have not considered it appropriate to register in the special section of the Business Register have been excluded, as have, other entrepreneurial initiatives still in too embryonic of a state to fall under the parameters delineated by the Ministry of Economic Development.

In relation to the second aspect, the use of an administrative source for the identification of the target population has presented some relevant advantages, but also some potential limitations. Among the advantages, its census form and its being based on exact information available in the Register has made it possible to accurately and comprehensively identify all the Italian startups that have chosen to register in the special section.

As regards the third element, in the absence of further information, a comparative analysis was made between the main structural characteristics of the respondent enterprises and those of the wider set of enterprises present in the initial list of the survey (i.e. the target population, given that it was a census survey). Various dimensions of analysis were considered: sector of economic activity, region of localisation, year of incorporation and joint analysis of sector and territorial distribution.

Finally, for the distribution of the startups by sector of economic activity (Table 1.1) There are no appreciable differences between the sectoral composition of the respondents to the survey compared to all the enterprises included in the initial list.

In particular, the greatest deviation is found in the sector of “Research and development” (16.4% is the weight of the sector by respondents, with an absolute difference of +1.1 percentage points compared to the share found for the initial list) and in “Other services” (10.6% is the weight of the sector by respondents, with an absolute difference of -1.3 percentage points compared to the target population).

Also as regards the distribution of the startups by territory, no significant differences were found at the macro-distribution level (Table 1.2).

Table 1.1 - Distribution of the sample of respondents and of the initial sample by sector of economic activity

SECTOR	Responding sample		Initial sample	
	No.	%	No.	%
Agriculture	2	0.1	12	0.2
Other Industry and Construction	378	16.8	837	16.3
Machinery	79	3.5	160	3.1
Trade, transport, accommodation and restoration services	120	5.3	312	6.1
Software	669	29.7	1,514	29.4
Data processing	155	6.9	403	7.8
Management consulting	68	3.0	156	3.0
Architects and engineers	62	2.8	138	2.7
Research and development	370	16.4	788	15.3
Specialised design services	26	1.2	73	1.4
Other consulting activities	83	3.7	147	2.9
Other services	238	10.6	610	11.8
Total	2,250	100.0	5,150	100.0

Table 1.2 - Territorial distribution of the sample of respondents and of the initial sample

DISTRIBUTION	Responding sample		Initial sample	
	No.	%	No.	%
North West	703	31.2	1,580	30.7
North East	603	26.8	1,266	24.6
Central Italy	450	20.0	1,127	21.9
Southern Italy	494	22.0	1,177	22.9
Total	2,250	100.0	5,150	100.0

In particular, there is a significant deviation in terms of absolute values, in the North East (26.8% is the weight of the sector by respondents, with an absolute difference of +2.2 percentage points compared to the share found for the initial list) and in Central Italy (20.0% is the weight of the sector by respondents, with an absolute difference of -1.9 percentage points compared to the target population). Even smaller differences are found at the regional level (Table 1.3).

At the regional level, the greatest deviation is found in terms of percentage values for Trentino Alto Adige (4.4% is the weight of the sector by respondents, with a difference of +1.0 percentage points compared to the measurement for the initial list) and Lazio (8.8% is the weight of the sector by respondents, with a difference of -1.1 percentage points compared to the target population).

Table 1.3 - Distribution of the sample of respondents and the initial sample by region

REGION	Responding sample		Initial sample	
	No.	%	No.	%
Abruzzo	47	2.1	117	2.3
Basilicata	15	0.7	35	0.7
Calabria	56	2.5	121	2.3
Campania	129	5.7	309	6.0
Emilia-Romagna	257	11.4	573	11.1
Friuli-Venezia Giulia	65	2.9	130	2.5
Lazio	199	8.8	512	9.9
Liguria	32	1.4	83	1.6
Lombardia	499	22.2	1,139	22.1
Marche	90	4.0	247	4.8
Molise	8	0.4	20	0.4
Piedmont	165	7.3	347	6.7
Apulia	83	3.7	198	3.8
Sardinia	62	2.8	136	2.6
Sicily	94	4.2	241	4.7
Tuscany	129	5.7	292	5.7
Trentino Alto Adige	99	4.4	175	3.4
Umbria	32	1.4	76	1.5
Valle d'Aosta	7	0.3	11	0.2
Veneto	182	8.1	388	7.5
Total	2,250	100.0	5,150	100.0

As regards the comparison carried out jointly by sector and macro-distribution, there is limited variability in the deviations of the distribution percentages of the startups between respondents and initial list. In particular, the widest deviations in absolute value are found in the “Other industry and construction” sector for the North East (share of the respondents equal to 6.8% with a deviation of +1.6% compared to the initial list) and for Central Italy (share compared to the respondents equal to 2.5% with a deviation of -1.0% compared to the initial list).

As regards the comparison by year of incorporation, realised in regard to the individual years within the period 2000-2015 (Table 1.4), absolute differences of the greatest magnitude are to be found in the last two years that concentrate, as expected, the greatest number of enterprises: the enterprises in the sample of respondents incorporated in 2014 represent 33.1% of the total respondents, with a difference of +3.3 percentage points compared to the enterprises incorporated in the same year and present in the initial list; the respondent enterprises incorporated in 2015 represent a share of 29.7% of the respondents with a difference of -3.5 percentage points compared to the initial list.

Overall, the sub-set of respondents, despite presenting a relatively low response rate compared to other official surveys by Istat, reflects the sectoral and territorial structure, as well as that of year of incorporation, of the enterprises without particular and evident deviations from the target population of the survey. Therefore the information provided by the respondents can be considered representative of the reference population and suitable to be analysed, from an analytical viewpoint, in the subsequent chapters as the wider set of the target population of the survey.

Table 1.4 - Distribution of the sample of respondents and the initial sample by year of incorporation of the startup, years 2000-2015

Year of incorporation	Responding sample		Initial sample	
	No.	%	No.	%
<=2009	0	0	4	0.1
2010	27	1.2	50	1.0
2011	147	6.5	309	6.0
2012	232	10.3	529	10.3
2013	432	19.2	1013	19.7
2014	744	33.1	1536	29.8
2015	668	29.7	1709	33.2
Total	2250	100	5150	100

1.4 A glance at the official statistical framework: novelty and limits of the survey

Istat has long been actively involved in technical and research projects at the national and international level aimed at developing more suitable methodologies as well as producing, also in experimental terms, new statistical indicators for the measurement and analysis of the structure and behaviour of the new enterprises.

In particular, indicators on entrepreneurship are produced on the basis of the European regulatory framework concerning the Demography of enterprises and entrepreneurship (SBS-EU Regulation no. 295/2008 - Annex IX) and of the National Statistics Programme. These indicators are realised taking into account the OECD-Eurostat guidelines of the Entrepreneurship indicators programme (EIP). The EIP is the conceptual framework for the identification of the figure of the entrepreneur and his or her characteristics. This programme considers three main dimensions:

- entrepreneurial activity: it is the activity performed in order to generate value through the creation or expansion of an economic activity, by identifying and testing new products, processes or markets;
- entrepreneurship: it is the phenomenon associated with the entrepreneurial activity;
- entrepreneur: it is he or she who controls the productive factors in terms of capital, means of production, labour force and raw materials, in the form of enterprises, through which he or she contributes to the creation of new wealth and value in the form of goods and services useful to the community.

In order to individuate the entrepreneur, the statistical production carried out by Istat in this area is based on a methodology that takes advantage, in an integrated manner, of the information from administrative and statistical sources. It therefore expands upon the available information in a substantial way, well beyond the minimum requirements defined by the European Community regulations.

In particular, the basic information structure is represented by the integrated system of administrative archives on employment of the LEED type (Linked Employer Employees Database), which allows one to connect each individual, potentially worker, with the enterprise where he or she performs an activity in various forms.

This information structure, at the basis of the identification process of the independent employment in the Register of Active Businesses (Asia), is here enriched with demographic information on the enterprises.

The identification of the entrepreneur within an enterprise takes place through the application of appropriate deterministic rules, differing in part from one another depending on the legal form of the enterprises:

1. in the case of sole proprietorships, the entrepreneur corresponds to the figure of the owner;
2. in the companies not limited by shares the entrepreneur (or entrepreneurs) is/are identified through the shareholders who hold a position of administrator (for example in unlimited partnerships) or general partnerships (in limited partnerships). A case apart are the associated studios; for this type of legal form, each associate is defined as an entrepreneur;
3. in the limited companies and in cooperative enterprises the entrepreneur (or entrepreneurs) is/are identified among the shareholders, using information both on the company positions and on the fact of holding shareholdings or otherwise, and to what extent shareholdings are held.

In addition, both for the companies not limited by shares and for capital companies, the application of a record linkage procedure, which compares the name of the enterprise with the name and surname of each shareholder, has allowed either to validate the results obtained with the previous rules, or to identify the entrepreneur wherever not previously identified.

Finally, for large enterprises, individuating the figure of the entrepreneur(s) is very complex. In these cases one runs the risk of confusing and/or overlapping the figure of the entrepreneur with that of the manager: in fact, though entrepreneurs are essentially managers, not all managers are entrepreneurs.

Overall, despite the fact that the official statistics are already able to provide a consistent and articulated framework on the phenomenon of the new entrepreneurs, classifying them also according to the technological intensity of their activities, it is necessary to recognise some of the limitations of the current methodological system that does not allow one to respond accurately and consistently with the information needs of the policy makers.⁷

In particular, the transversal sectoral profile, and the increasingly complex economic profiles that characterise innovative startups, make it difficult to completely and accurately identify these businesses starting from statistical sources alone. It is precisely in the light of this consideration that the need has emerged to carry out a survey on the field, starting from information supplied by the special section of the Business Register, that consistently reflects the defining criteria provided in the legislation (Italian Startup Act).

⁷ A concrete example of the indicators produced by Istat in the context of harmonised statistics at the European level on the new entrepreneurs is provided within the High-Growth framework report on the profile of the new entrepreneurs and enterprises disseminated in November 2017 (<http://www4.istat.it/it/archivio/206615>). In this product the distribution of new entrepreneurs was analysed according to the intensity of technology and knowledge of the sectors in which they operate, with reference to the Eurostat-OECD classification that considers both the manufacturing and services sectors.

CHAPTER 2

WHO ARE THE STARTUPPERS: HUMAN CAPITAL AND SOCIAL MOBILITY¹

Abstract

This chapter focuses on the human capital of Italian startups and tries to identify the social and geographical mobility dynamics connected to this phenomenon. The profiles of the startup founders are classified under various perspectives, such as demographics, professional and educational background as well as the family and social environment. This section also features an investigation on the psychological factors driving startup founders to start their enterprise and the perceived impact on their income. The target population is represented by both startup founders and their employees: data concerning these two categories are presented separately in this chapter.

¹ The authors of this chapter are Alessandro Faramondi (paragraphs 2.1 and 2.2), Barbara Gentili (paragraph 2.3 and In-depth Analysis) and Patrizia Cella (Further Analysis).

For the purposes of an understanding of what is illustrated in this chapter, it is important to define the roles played by the various actors operating within the startups, distinguishing between i) operating shareholders, ii) employed personnel² and iii) individuals whose sole contribution is economic resources.³

2.1 Socio-economic background and motivations of the startup founders

2.1.1 Demographic characteristics of the operating shareholders

The total number of shareholders declared by the respondent startups amounts to 9,356 units (1,631 are women), of which 4,845 are operating shareholders (858 women). The innovative startups have on average 4 shareholders each, of which 2.2 are operating shareholders. 95% of the startups have less than 10 total shareholders, 99.5% have less than 10 operating shareholders.

The socio-economic information on the shareholders shown below refers to the main shareholders for a total of 4,363 units.⁴

Women represent only 18% of the operating shareholders and are distinguished from the men by being proportionally younger: 29% of them are younger than 34, compared to 25.9% of their male counterparts. Looking at the average values, it can be seen that the typical operating shareholder is a man, aged 43; the modal value observed is 34 years of age (Table 2.1).

Table 2.1 – Operating shareholders by age group and gender - Year 2015 (absolute and percentage values)

Age groups	Women		Men		Total	
under 25	15	1.9	55	1.5	70	1.6
25-34	216	27.1	870	24.4	1,086	24.9
35-44	304	38.2	1,249	35.0	1,553	35.6
45-64	244	30.7	1,218	34.1	1,462	33.5
65 and older	17	2.1	175	4.9	192	4.4
Total	796	100.0	3,567	100.0	4,363	100.0

The innovative startups that operate in the “Data processing software” sector have on average more shareholders (4.6 shareholders) than the others, while those with the lowest number are found in the “Specialised design” sector (3.2 shareholders on average). Differences in the average number of shareholders are also found at the territorial level with the startups located in the regions of Central Italy being relatively larger (4.7

²Among the employed personnel, two types are distinguished: employees and interim staff. In the questionnaire, in particular, the information contained in section 1A provides a synthetic framework on the composition of the shareholders (operational and non-operational) by gender and by the individual types of employees and interim staff; section 1B is divided into two parts: in the first there is further analysis of the demographic and social characteristics of the operating shareholders and employees and in the second part there is further analysis of the skills of the operating shareholders in regard to their linguistic training and any academic or professional experiences they have pursued abroad, as well as their family background; the founders are then asked to indicate their motivations for becoming entrepreneurs and to assess any impact the launch of the startup has had on their income.

³ A distinction is made between two types of shareholders: operating and non-operating. The first hold shares in the enterprise and also play an active role in the enterprise. In contrast, the non-operating shareholders participate in the life of the enterprise exclusively with the conferment of economic resources, through the holding of company shares.

⁴ The structure of the questionnaire provides for the indication of the total number of shareholders in the introductory section while the detailed information shown in the subsequent sections has been asked for the first 10 shareholders.

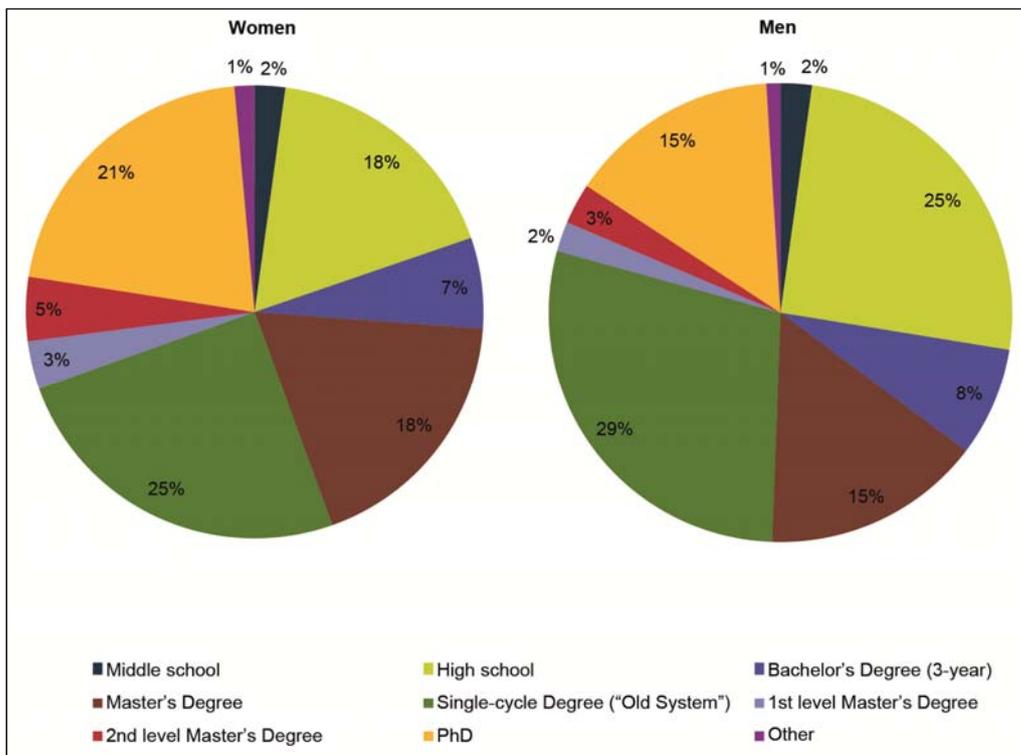
shareholders on average), and those of the North East being smaller (3.5 shareholders on average).

2.1.2 Startupper’s educational background

As regards the educational level of the startupper, it is found that 72.8% of them have earned at least a university degree and approximately 16% have earned a PhD.

On average, women have higher educational qualifications: 78.9% have earned at least a university degree and 21% have earned a PhD, six percentage points higher than the findings among men (Figure 2.1).

Figure 2.1 – Educational qualification and gender of the operating shareholders – Year 2015 (percentage value)



The highest percentage of women with university degrees is found among the startups located in the regions of Central Italy, where 83% have earned at least a Bachelor’s degree. For men, the greatest concentration of startupper with university degrees is in the regions of Southern Italy, where it reaches 75%.

The majority of the operating shareholders have an educational qualification in technical-engineering subjects (42.1%), followed by the economic-managerial area (20.7%) and the scientific area (20.0%). The distribution of the educational qualification varies significantly, according to the sectors (Figure 2.2).

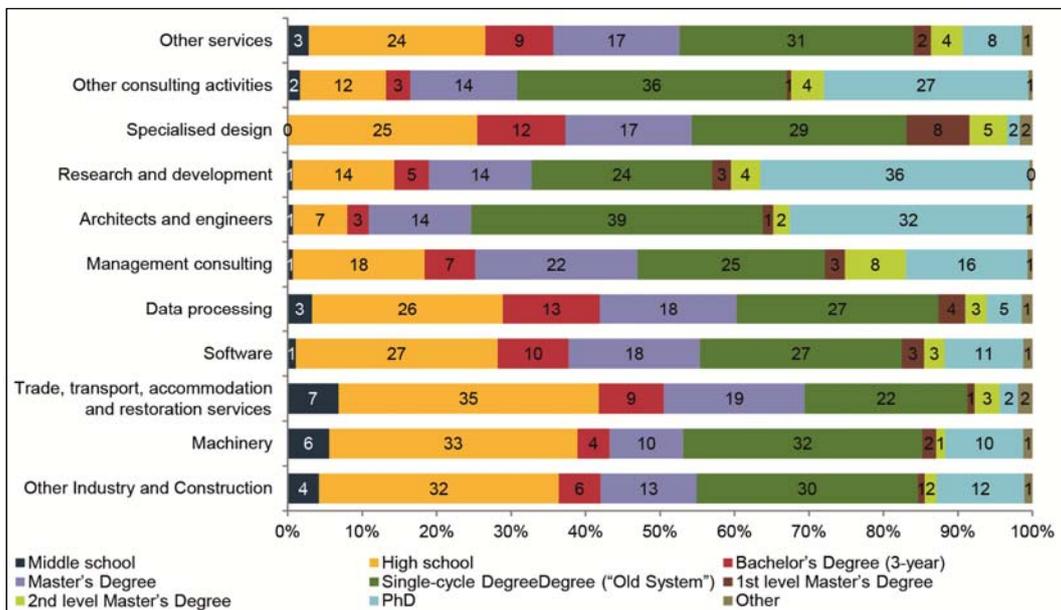
The shareholders with the highest educational qualifications (i.e. Master and/or PhD) are present to a greater extent in the startups that carry out activities of “Research and development”, while in the sectors of “Industry” and “Trade” there is a greater percentage of shareholders with a shorter course of study.

Over 88% of the shareholders who have earned a Bachelor’s degree considers that they are carrying out an activity consistent with their course of study; this percentage

drastically decreases among those who have a lower educational qualification (37% of those with a middle school diploma and 67% of those with a high school diploma).

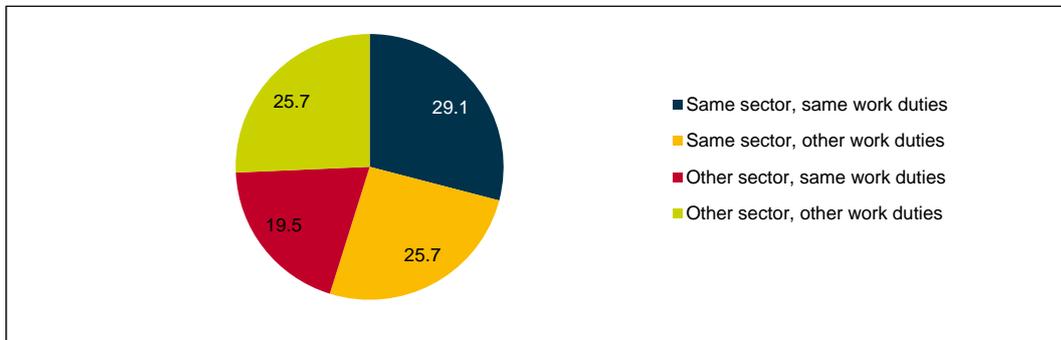
Most of the founders (87.1%) have had a professional experience prior to the launch of the startup. Noteworthy is how 36.3% of them have previously been employees (11.6% in enterprises operating in a different sector from that of the startup founded), 27.4% have been self-employed or freelance professionals and 23.3% have been shareholders of other enterprises. The percentage of those employed prior to the launch of the startup is greater among the men (89.2%, compared to 77.8% of the women). Women with professional experience prior to the launch of the startup worked mostly as employees without managerial tasks, and only 16.6% had been a shareholder of other enterprises.

Figure 2.2 – Educational qualification of the operating shareholders and sector of activity of the startup – Year 2015 (percentage values)



Finally, more than 50% of the shareholders consider that they are carrying out an activity consistent with their previous professional experience (Figure 2.3). The professional category that has changed both sector and work duties compared to the previous employment is that of the former employees (approximately 32%). Conversely, only 23.5% of the self-employed professionals and 14% of the shareholders of other enterprises have changed both sector and work duties.

Figure 2.3 - Consistency of the current employment compared to the previous professional condition – Year 2015 (percentage values)



The majority of shareholders show strong territorial roots: over 83% work in startups with the legal office in the same region in which he or she has carried out the main training and/or working experiences.

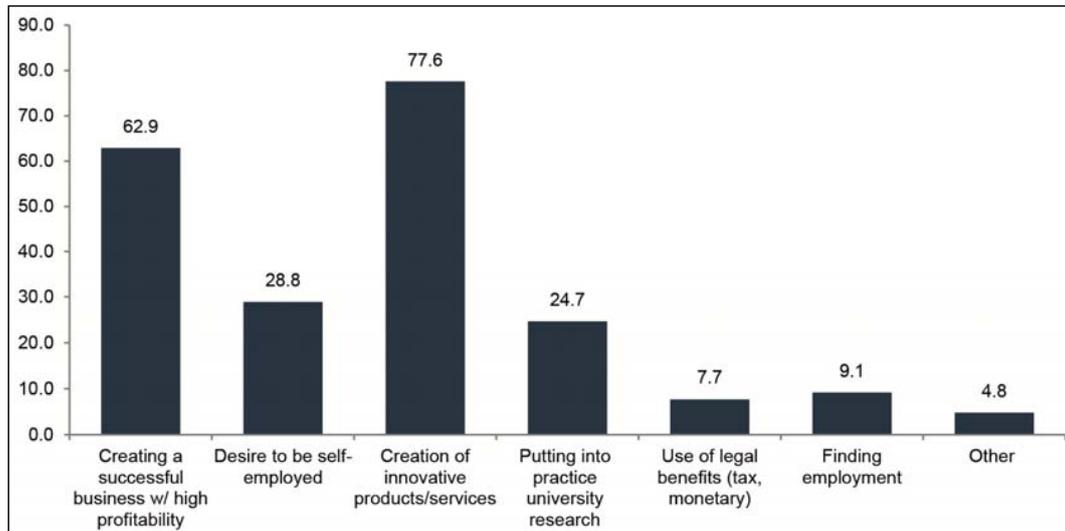
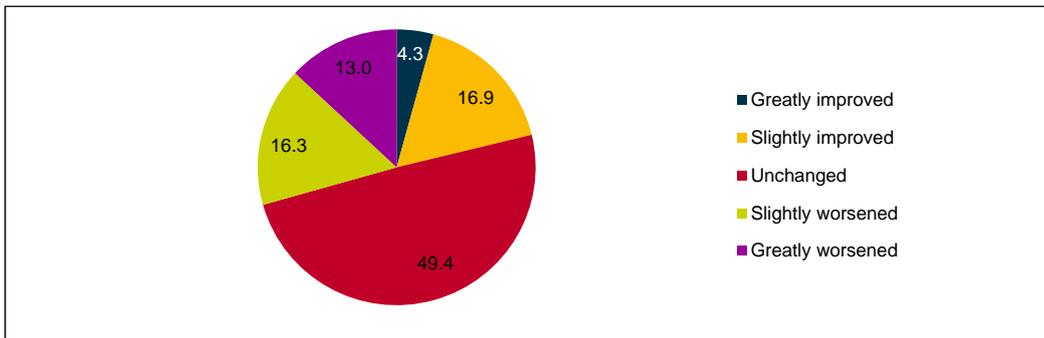
To complete the profile of the founders, they were asked information regarding their international experiences and family background. About 55% of the shareholders has had at least one working or training experience abroad: in 13.5% of the cases he or she was working as an employee, for 21% of the shareholders it was for study purposes and for 10.3% it was an entrepreneurial experience. In many cases the academic and/or professional experiences abroad had a positive impact on their foreign language skills.

Approximately 96% of the shareholders know at least another language besides Italian (65% of them know only one, 22.9% two). English is the most widely spoken language (91% of the operating shareholders), followed by French (21%) and Spanish (11%). Knowledge of English is slightly more widespread among men (91%, compared to 89.9% of the women), while French is more widespread among women (with 29%, compared to 19% of the men). The percentage of startupper declaring mastery of English is particularly high in the regions of Central and Southern Italy: for women it goes from 58.5% in Central Italy to 52.6% in the North East (55.8% in the North West and 57.2% in Southern Italy), while for men, the highest percentage is recorded in Southern Italy, with 71.3% (63.5% in the North West; 62.4% in the North East and 70.1% in Central Italy).

The analysis of the family background of the shareholders, based on the profession of the parents, highlights diverse backgrounds. In 34.8% of the cases their father was an employee (labourer or general worker), in 12% of the cases a public employee, and in 40.5% of the cases an entrepreneur or self-employed worker. With regard to the profession of the mother, only in 16.2% of the cases she had entrepreneurial activity or was self-employed; for 34% of the entrepreneurs the mother's profession was a domestic activity, such as that of a family helper.

2.1.3 What drives the startupper to set upon innovative enterprise?

This part of the survey investigates more personal aspects of the operating shareholders: they were asked about the motivations which led them to establishing an innovative enterprise (Figure 2.4) and their perception of the impact that this decision has had on their financial situation (Figure 2.5).

Figure 2.4 - Motivations for the creation of the startup – Year 2015 (percentage values)**Figure 2.5 – Impact on the income deriving from the launch of a startup – Year 2015 (percentage values)**

The data shown highlights how a considerable number of shareholders indicated the creation of innovative products or services as the main motivation for creating a startup (77.6% of the responses). To create a successful business with high profitability is, in order of preference, the second reason indicated (62.9% of the responses).

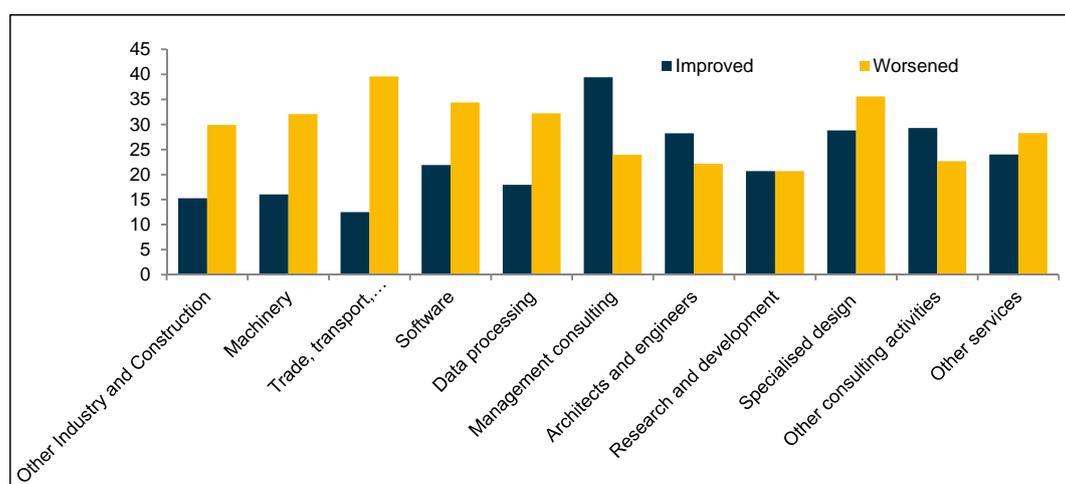
By splitting the data according to gender, it is observed that, equally for men and women, the creation of new innovative products or services is the first reason, declared by 73% of the women and 79% of the men.

The incidence of other answers reveals no interesting differences: the motivation connected to income and to success is significantly higher among men (65%, compared to 53% of their female counterparts), while the desire to put into practice university research is declared by 30% of the women shareholders, compared to 23% of the men.

In regard to the second question, half of the shareholders state that the launch of the startup has not yet produced significant effects on their income. 49.4% of them, indeed, saw their income remain unchanged from the start of the entrepreneurial activity. Almost 30% of the shareholders indicate a worsening of their financial situation, while 21.2% declare that their income has increased.

The startups that operate in the “Trade, transport, accommodation and restoration services” sector and in “Specialised design” are those whose shareholders are experiencing greater difficulties from the economic standpoint (respectively 39.6% and 35.6% declare a worsening of their income) (Figure 2.6). Interesting to note, however, how 29% of the shareholders of startups operating precisely in the “Specialised design” sector have seen an improvement of their financial condition. On the contrary, the sector that records the best performance is that of “Consulting” (more than 39% of the shareholders report an increase of their income).

Figure 2.6 – Worsening/improvement of income by sector of economic activity – Year 2015
(percentage values)



2.2 Main characteristics of the employees

The startups surveyed employ a total of 5,704 employees⁵ (on average 2.5 employees per enterprise), of which 1,467 with so-called “atypical” contracts (on average less than one per enterprise). 25% of the employees are women, a higher percentage compared to the 18% found among the shareholders; the male employees are therefore 75%, compared to 82% of the shareholders. This gender distribution does not vary according to the types of contract.

Slightly more than half of the startups (59.4%) have recruited employees, mainly workers and general workers with open-ended contracts (62%), while 15.5% are managers. The proportion of women is lower among the managers (approximately 13%), higher (27%) among the workers and fixed term employees and even higher (approximately 35%) among the interns and trainees.

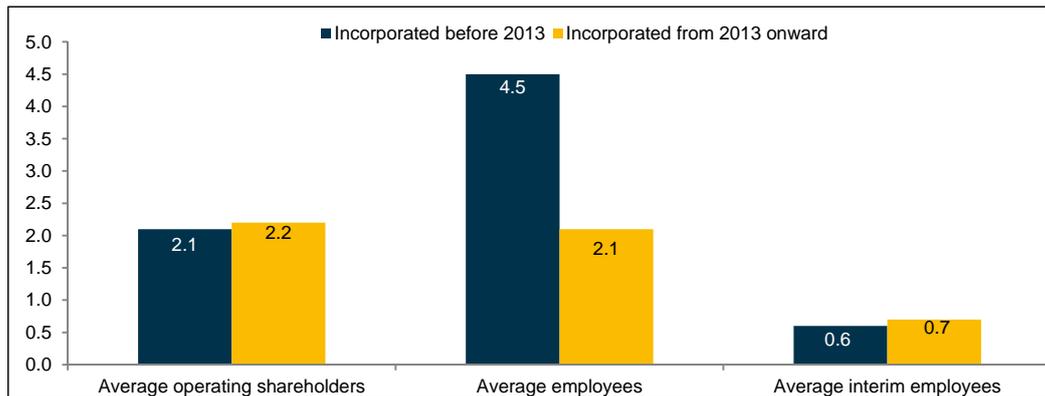
About a quarter of the startups employ interim staff to carry out their activities; in particular, two out of three of those firms also have employed staff. Among the interim staff the most recurrent type is that of project workers (46% of the total), while the recourse to administered or temporary work is not very widespread (only 2.7%).

The startups founded after the policy entered into force (82% of the respondents) have an employment structure in terms of operating shareholders similar to the enterprises that were

⁵ The term “employees” means all those who work (managers, general workers and workers with fixed term or open-ended contracts, apprentices) and intern trainees. “Interim staff” instead comprises the administered staff, the project collaborators, the dislocated personnel and other types of employees.

incorporated before. The number of employees is, instead, higher among enterprises already existing at the time the law was introduced (4.5 employees compared to 2.1 of the enterprises incorporated subsequently), as it to be expected for more mature enterprises (Figure 2.7).

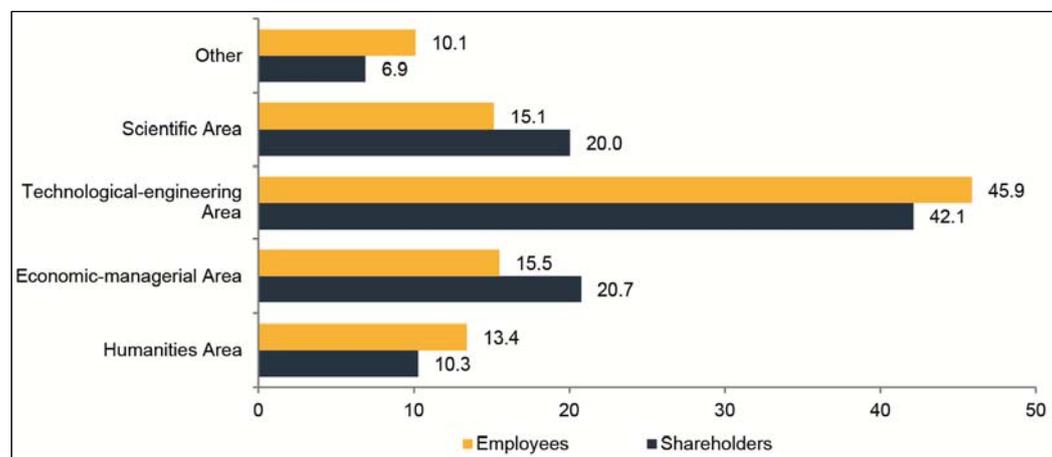
Figure 2.7 – Average size in terms of operating shareholders, employees and interim employees by year of constitution of the startups – Year 2015 (percentage values)



48% of the employees are aged between 25 and 34 years. Differently from what is found among the shareholders, the most widespread educational qualification is the middle school diploma (28%). Considering the total workforce of the startups (shareholders and employees), 66% have earned at least a university degree.

Most of the startups recruit personnel from the technological-engineering professional areas (45.9% of the employees originate in this context). Following at a distance are the employees who come from the economic-managerial area (15.5%) (Figure 2.8).

Figure 2.8 – Shareholders and employees by area of discipline – Year 2015 (percentage values)



As for the shareholders, the territorial roots are deep also among employees: 80% of them carry out their work in enterprises located in the same territory in which they have had their previous work experience or training.

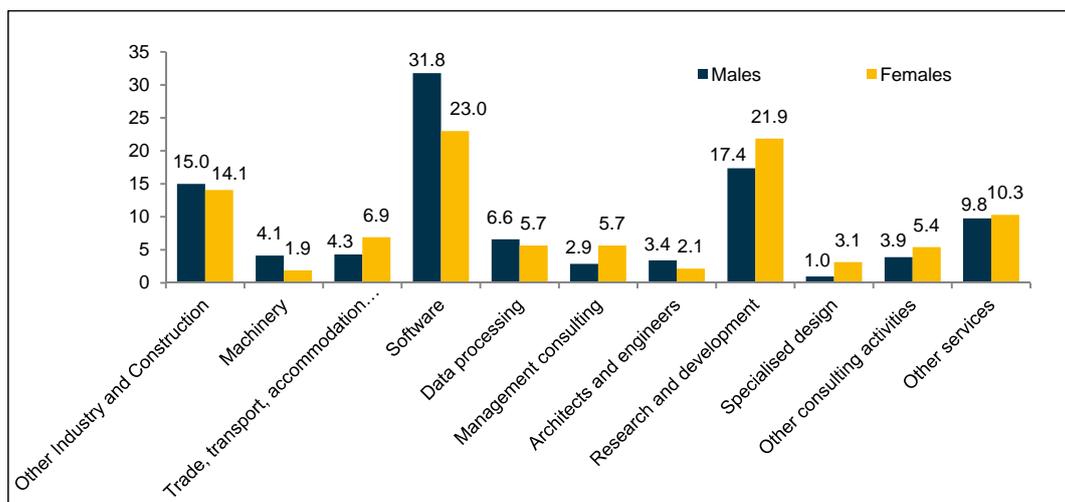
79% of the respondent employees believed that the activity carried out is consistent with their course of studies. It should be noted how the consistency between educational background and work duties by the employees of the startups increases as the educational level increases, passing from a minimum of 51% in the case of the middle school diploma to a maximum of 94% for holders of doctoral degrees.

2.3 Territorial and sectorial differentials in startups' characteristics

The analysis of the demographic characteristics of the shareholders of the startups, carried out in paragraph 2.1, is detailed in this section, which analyses possible differences between enterprises according to the territory and the sector in which they operate.

As regards gender differences, the sectors in which there is the greatest relative concentration of male shareholders are "Software", "Machinery" and "Architects and engineers". Conversely, the female shareholders are relatively more concentrated in "Research and development", in "Management consulting", in "Trade" and in "Specialised design" (Figure 2.9).

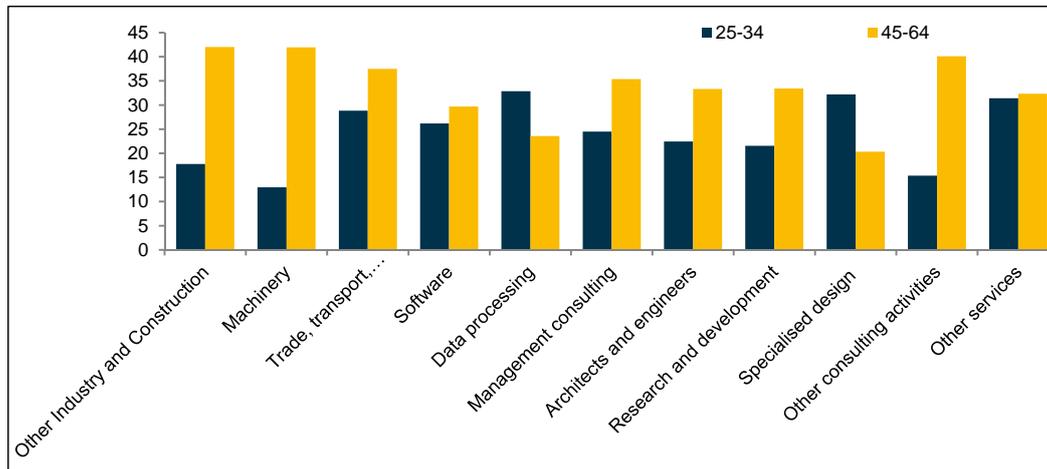
Figure 2.9 – Male and female shareholders by sector of economic activity of the startup
(percentages by gender and by sector)



As regards the age differences of the shareholders, the sectors in which there is a very high concentration of "mature" (over 45) shareholders compared to "young adults" (under 35) are "Machinery", "Other consulting activities", "Other industries and construction" (Figure 2.10).

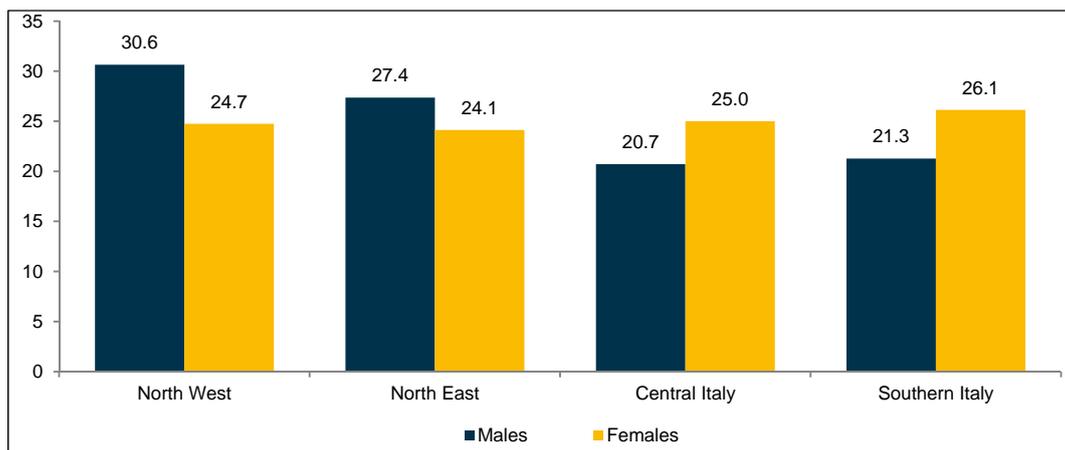
Other sectors in which the concentration of the "mature" shareholders is relevant are "Research and development", "Management consultancy" and "Architects and engineers". Minor age differences are found in "Trade", "Software" and "Other services" while only in the case of "Data processing" and "Specialised design" does the relative concentration of "young adults" exceed that of the "mature" shareholders.

Figure 2.10 – “Young adults” (25-34) and “mature” (45-64) shareholders by sector of economic activity



As regards gender differences, the territorial areas in which there is the greatest relative concentration of male shareholders compared to their female counterparts are the regions of the North, while in Central and Southern Italy one finds the greatest concentration of female shareholders (Figure 2.11).

Figure 2.11 – Male and female shareholders by territorial distribution of the location of the startups



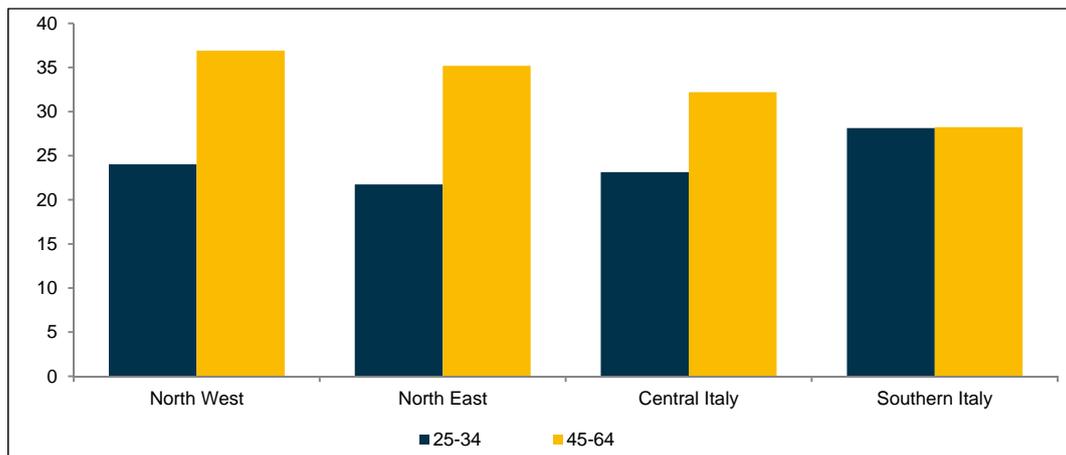
The comparative analysis of the distribution of the shareholders by gender, sector of economic activity of the startups and age group shows that almost 10% of the female shareholders operate in the “Software” sector and are aged between 35 and 44 years, which corresponds to 12.4% of the male shareholders employed in the same sector. The greatest concentration of male shareholders is found in the same sector for the more mature age group (45-64 years), in which the proportion of female shareholders compared

to the total female shareholders present in the sample of respondents is equal to 6.3%, lower by 3 percentage points compared to the male shareholders.

A higher incidence of female shareholders is found, instead, in the sector of “Research and development”, where 8.5% of the female shareholders aged between 35 and 44 years are concentrated, a greater proportion than the male shareholders of similar age operating in the same sector (6.3%). The same distribution in the same sector is found in the younger age group (25-34 years), where the female shareholders (6.5%) represent a higher proportion than the males (3.3%).

As regards the age differences of the shareholders, there is a very high concentration of the “mature” shareholders compared to the “young adults” in the regions of the North East and North West, followed, albeit with less prominent differences, by Central Italy. Among the startups located in Southern Italy there is, instead, a substantial balance between “mature” shareholders and “young adults” (Figure 2.12).

Figure 2.12 – “Young adults” (25-34) and “mature” (45-64) shareholders by territorial distribution of localisation of the startup



IN-DEPTH ANALYSIS

THE SOCIO-ECONOMIC AND MOTIVATIONAL PROFILES OF THE STARTUP SHAREHOLDERS: A MULTIVARIATE ANALYSIS

In this chapter we have analysed the socio-economic characteristics of the shareholders of the startups, as well as the motivations that led them to launching an innovative enterprise.

In order to jointly consider all the most relevant aspects for the analysis, we have used a statistical method of multivariate data classification called cluster analysis. This data analysis method allows us to identify the main characteristics that distinguish the various groups of units identified by the calculation algorithm, to then describe the salient characteristics in the form of summary profiles.

As regards the analysis of the socio-economic profiles of the shareholders of the startups (4,363 shareholders relating to the 2,250 firms responding to the survey), the cluster analysis has identified five groups on the basis of the following socio-demographic variables: gender, age, educational level, knowledge of at least one foreign language and experience abroad (Prospectus 1).

Prospectus 1 - Average values of the socio-economic variables within the groups defined by the cluster analysis

Cluster	Number	Age 35	gender	<=middle school	Humanities diploma	Scientific diploma	Human. degree	Scientific degree	knows foreign lang.	experience abroad
1	1,023	0.34	0.92	0.01	0.03	0.16	0.05	0.75	0.94	0.26
2	2,013	0.75	0.91	0.01	0.06	0.19	0.20	0.23	0.97	0.77
3	476	0.17	0.49	0.00	0.02	0.00	0.87	0.08	0.96	0.71
4	594	0.97	0.55	0.13	0.31	0.14	0.16	0.14	0.52	0.04
5	257	0.04	0.89	0.03	0.40	0.01	0.03	0.10	0.89	0.83
Total	4,363	0.70	0.82	0.03	0.09	0.14	0.21	0.30	0.90	0.55

The first group consists of over 1,000 shareholders, representing 23.4% of the total. They are mostly young (65.6% is younger than 35), men (approximately 92%) and educated, since 80% has a university degree. 74.8% have a degree in scientific subjects, a significant percentage, if we consider that, in average terms, the university graduates in scientific subjects are 30%. Only a minority of the shareholders belonging to this profile has had an experience abroad (only 26%), although 94.3% know at least one foreign language.

The second cluster includes more than 2,000 shareholders (about 46%) mostly men (only 9% are women), mature (74.6% are older than 35) and less educated compared to the first group (43% have a university degree, of which 23% in scientific subjects). They are characterised also by high foreign language skills (97.3% know more than one foreign language) and by a significant amount of experience abroad (76.7%).

The third group is mostly made up of women (51%, out of a set of 476 shareholders), young adults (82.9% are younger than 35) and educated (86.9% have a degree in subjects in the humanities). The shareholders belonging to this cluster know more than one foreign language

(95.8%) and a significant percentage has had an experience abroad (71.4%).

The fourth cluster, which represents 14% of the total of the shareholders, groups together shareholders who are for the most part women, mature (96.7%), less educated (mostly those with high school diplomas, university graduates are slightly more than 30%), with limited foreign language skills and limited experience abroad (3% of the shareholders).

The fifth profile, smaller in terms of number (257 shareholders) identifies young adults (96.4% are younger than 35), men (about 88.7%), high school graduates (41.2%, university graduates are only 12.3%), that in 82.8% of the cases have had at least one experience abroad and know more than one foreign language (89.1%).

Concerning the analysis of the motivational profiles of the shareholders, the cluster analysis has identified three groups on the basis of the reasons for founding the startup declared in the questionnaire (they are the creation of a successful enterprise with high profitability, the desire to be self-employed, to create innovative products/services, to put into practice university research, use tax breaks, monetary benefits, etc., to find a job, or other motivations). (Prospectus 2).

Prospectus 2 - Average values of the socio-economic variables within the groups defined by the cluster analysis

CLUSTER	No.	high profitability	self-employed	inn. prd/srv	research/uni	tax benefits	find work	other
1	1,655	0.4006	0.5782	0.9317	0.0943	0.0894	0.0779	0.0242
2	484	0.0971	0.2169	0.1715	0.2789	0.0475	0.3285	0.1839
3	2,162	0.9019	0.0731	0.7669	0.3478	0.0712	0.0458	0.0338
Average	4,363	0.6185	0.2837	0.7633	0.2425	0.0756	0.0900	0.0470

The analysis of the multivariate classification reveals three distinct profiles. The first represents 38% of the total: the ambitions of these shareholders are especially to create innovative products and services (93.2%) and, only after that, to be self-employed (57.8%). The second profile, with a more limited population (only 11% of the total shareholders), concerns the shareholders who mainly desire to find employment (32.8%). The third profile groups together the majority of the shareholders (2,162 shareholders, for 49.5% of the total), for whom the strongest motivation is to create a successful enterprise with high profitability (90.1%), followed by a desire to create innovative products and services (76.7%) and to put into practice their university research (34.8%) – a significant percentage, if one takes into account that in average terms the value amounts to 24.2%.

Overall, the shareholders of the startups seem to mirror socio-economic profiles which are rather diversified and they have chosen to undertake an innovative entrepreneurial activity for very different motivations. The largest group (almost 50% of the total number of the shareholders), however, seems to be motivated strictly by entrepreneurial reasons and by a remarkable drive toward innovation bolstered by the innovative ideas developed during their academic and professional training experiences.

CHAPTER 3

SOURCES AND DYNAMICS OF FINANCING ¹

Abstract

This chapter focuses on access to finance, a topic of utmost interest in academic and public debate on startups, in Italy just like anywhere else. At first, the issue is investigated by describing changes in the composition of the companies' structure, both at time of founding and at time of data collection, in order to track entry and exit patterns of different types of shareholders. The questionnaire then explores how the various kinds of internal and external financial sources typically used by startups – own funds, bank loans, equity investment, public funding – are distributed and change in relevance over time. Further questions try to assess are the startup founders' proneness to different sources of finance, especially with reference to the preferred choice between debt and equity, and the extent to which their financial needs are met. Lastly, the survey asks startupper to report on any partnerships in existence with business incubators and other enterprises, and examines how long startups take to enter the market.

¹ The authors of this chapter are Enrico Martini, Roberto Volpe and Mattia Corbetta (paragraphs 3.1, 3.2, 3.3 and 3.4) and Barbara Gentili (paragraph 3.5).

3.1 Who enters and who exits: how the shareholder structure evolves

The majority of innovative startups involve, at the time of their incorporation, a relatively small core of shareholders. In 43% of the cases the innovative startups surveyed were founded by a maximum of 2 persons; there were 3 or 4 founders in 35.8%. A significant proportion of “one-man” startups (10.1%) is also found. Several hundred startups have over 5 founders (21.1%), with a small minority of them (2%) having over 10.

The “Manufacturing” sector shows a particularly high proportion of enterprises with less than two founders; it is also interesting to note that the same applies to the majority of startups that have turnover exceeding €500,000 in the last year (50.6%). No significant differences are found between the startups that were incorporated before the policy entered into force (period 2010-2012) and those incorporated subsequently (2013-2015 period).

The survey analyses the composition of the company structure not only at the time of incorporation, but also at the time of the survey, in order to describe the variations in the enterprise. Since it analyses firms that are still in the startup phase, with only a few years of life behind them, it must be assumed that the turnover dynamic remains at a low level: however, it is noted that 1 founding shareholder has left in 22.8% of the startups, while a new subject has entered into 26% of them. In greater detail, given that 77.2% of the startups have not yet lost any of their shareholders since their incorporation, we observe that in 10.8% of the cases 1 component has left, and in 9.9% from 2 to 4 components have left. The same applies to the entry of new shareholders after incorporation: there were no new shareholders in 74% of the cases; in 10.4% only 1 new component had entered, in 10.5% from 2 to 4; in 5% of the cases 5 or more new shareholders joined the enterprise; in approximately 30 cases (1.5%) the new components were over 10 (Table 3.1).

Table 3.1 – Founding, incoming and outgoing shareholders in the Startup’s company structure – Year 2015 (percentage values)

	Founding shareholders	Outgoing shareholders	Incoming shareholders
None	-	77.2	74.0
1	13.7	10.8	10.4
2	29.3	5.6	6.0
3-4	35.8	4.3	4.5
5-10	19.1	1.8	3.5
Over 10	2.0	0.3	1.5
Total	100.0	100.0	100.0

There is a positive correlation between the turnover of the shareholders and maturity of the enterprise, both in terms of the enterprise’s years of activity and turnover. The percentage of outgoing shareholders grows visibly as the enterprise’s turnover increases, passing from 23.1% in the smallest enterprises, with turnover up to €100,000, to 32.3% in those with turnover exceeding €500,000. The percentage is 26.5% for the incoming shareholders for the smaller enterprises, but reaches 40.9% among the innovative startups with turnover exceeding €500,000. Similar trends are also evident among the oldest enterprises surveyed, i.e. those incorporated before the policy entered into force: in 33.3% of them, at least one founder has left, in 40.1% at least one new shareholder has entered.

3.2 Startups' financial sources

This section of the survey aims at photographing the composition of the financial resources that enable the Italian innovative startups both at the time of their incorporation and at the time of the questionnaire. It concerns not only the number of shareholders but also their nature. The types of financing sources taken into consideration are the following:

- founders' own resources;
- donations from family and friends: contributions from relatives or friends of the entrepreneur that finance the capital of the startup while not entering into its company structure;
- programmes of public financing, distinguished between national calls to tender (such as the Smart&Start Italia programme), or regional or local initiatives;
- equity financing: investments by external investors, among them Venture Capital and business angel funds, but also the acquisition of shares by other enterprises (that in the broad sense could be called "corporate venture capital");
- finally, use of bank loans, the traditional source of financing for Italian SMEs.

In particular, the survey aims at observing the relative importance (from 0% to 100%) that the single source of financing has had for the launch and evolution of the entrepreneurial initiative. The frequency distributions, distinguished by classes (respectively, 1-25%, 26-50%, 51-75%, 76-99% and 100% of the overall financing) are analysed below and shown in the two summary tables (Table 3.2 and Table 3.3) at the end of this paragraph.

3.2.1 Founders' own resources

Shareholders' own resources were the main source of financing at the time of the startups' incorporation: in 73.2% these covered the total amount necessary for the launch. The geographical area in which this source of financing prevails is the North West, with 75.2%; values close to 80% are found also for the enterprises that operate in the "Management consultancy" sector.

The enterprises launched with financial sources other than the shareholders' own resources are a minority, but they are nevertheless relevant: 5.7% of the respondents claimed that they did not use personal economic resources. The proportion is higher than the average for the enterprises of the North East (6.5%); it should also be noted that 10.2% of the enterprises with over 10 employees have been incorporated without using any of their own resources.

Startups prevalently continue to use their own resources to finance their entrepreneurial idea at the time of the questionnaire: in 57.5% of the cases for the total sources used, for 68.4% it comprises the majority proportion of the sources used. The highest proportion is for the enterprises of Central Italy (74.3%). It is interesting to note that innovative startups with the highest turnover (exceeding €500,000) use prevalently their own resources to finance their enterprise to a lesser degree than those enterprises with a lower turnover (60.8%, compared to 66.5% of the enterprises with a turnover up to €100,000 and 64.7% of the enterprises with turnover from €100,000 to €500,000).

With the passing of time, there is a decrease in the proportion of enterprises using exclusively or prevalently their own resources: at the date of the survey, 9.8% of the enterprises surveyed operate without using any of the shareholders' own capital. Falling into this category are 14% of the startups incorporated before the policy entered into force, and 13.1% of the enterprises with turnover exceeding €500,000.

3.2.2 *Donations from family and friends*

The analysis shows that the economic contribution of family and friends plays a marginal role as a financial source at the time of incorporation: in 95.7% of the cases the startups have not used this source. Even if it remains very low, the proportion of the enterprises which instead have used these sources is higher in the North West (4.9%), for startups that operate in “Trade and tourism” (8.1%), and in enterprises with lower turnover (5.5% of enterprises up to €100,000).

This source of financing is even less frequent in the subsequent phases: only 3% of the respondents mentioned it in their mix of financing at the time the questionnaire was sent. It is certainly possible to assume that family and friends prefer having direct involvement as shareholders in the entrepreneurial experience, and that only in rare cases do they limit themselves to the role of mere donors.

3.2.3 *National and regional public financing*

Only a small fraction of respondents has used national public financing to start their activity (3%). Regional/local financing is used to a slightly greater degree, with 7.7% of the innovative startups having used them.

The enterprises that have used this financing are more numerous in Southern Italy: 8.5% of the startups have used national public financing, 10% local/regional financing. Among the enterprises incorporated before the policy entered into force, those who have obtained local financing (11.2%) are more frequent than the average of the sample. 3.7% of the enterprises with a turnover lower than €100,000 have used national public financing and 9.2% have used regional financing (8.9% of the enterprises with turnover from €100,000 to €500,000 and 3.9% of those with a turnover exceeding €500,000).

In the phases following incorporation, the percentage of startups that has received national financing increases by a few percentage points, rising to 5.6%; the percentage of regional and local financing is 8.7%. The proportion of enterprises that have used public financing remains higher in the South (10.7% national, 10% local/regional), but a good 9.7% of the innovative startups of the North West have received a proportion of local financing. In addition, 7.5% of the startups that primarily carry out activities of scientific research have received national financing.

The highest percentages of national and regional financing are found among more mature enterprises. The enterprises incorporated before the policy entered into force have used both national (7.7%) and local (12.2%) public financing, with percentages significantly higher than the average value; with local public financing being used by 17% of the enterprises with turnover exceeding €500,000.

3.2.4 *Equity investments*

Only 8.2% of the innovative startups have received, during the incorporation phase, financing in equity by venture capital enterprises, business angels or other enterprises. However, 5% (which rises to 6.3% in the North West) have launched their activity with venture capital coming mostly or entirely from private investors.

The number of enterprises that were launched thanks also to the contribution of venture capital from other legal persons is relatively higher for enterprises in the North (in the North West it is 9.3% and in the North East it is 9.6%), for the sectors of “Trade and tourism” (13.5%), “Data processing” (12.6%), “Data processing software” (9.7%) and for the enterprises incorporated from 2010 to 2012 (11.2%). This proportion is particularly high for the innovative startups with over 10 employees (18.2%).

At the time of the survey, the proportion of the enterprises that had received new equity investments did not exceed 11.2%. There is however a fraction of enterprises,

7.2% of the total, that works with financing coming primarily from outside investors. The startups of the North West seem to be particularly attractive for the market of investors in venture capital (14.4% have received funds, 10.2% for a majority share), and the enterprises incorporated between 2010 and 2012 (17.5%, 12.4% for a majority share). It should also be noted that equity investments are used by no less than 15% of the innovative startups with turnover exceeding €500,000 and as many as 27% of the enterprises with over 10 employees. The data confirm that the venture capitalists prefer to invest in larger startups and ones that are already present on the market.

3.2.5 Access to bank credit

Most of the innovative startups (91.5%) launched their activity without using bank loans. Only 4% of the enterprises used financing coming primarily from banks at the time of incorporation. They are located mostly in the North East (5.8%), and to a lesser extent in the South (2.4%). Bank loans are a significant source during the launch phase only for startups with turnover between €100,000 and €500,000 (over 10%) and for specific economic sectors, such as “Machinery” (16.4%).

At the time of the survey, the percentage of innovative startups that had access to bank credit had grown to approximately a quarter of the total (25%). Bank loans constituted a major proportion of the sources used in 11.8% of the cases; the enterprises with the highest turnover report the highest proportion (18.9%). From this data, it is evident that the likelihood of having used bank loans increases with the growth of the enterprise. One startup out of three (32.5%) among those incorporated before the law’s entry into force has received a loan, compared to 23.4% of those incorporated in 2013-2015. This percentage grows visibly at the increase of turnover, passing from 21.5% of the enterprises, with production up to €100,000 to 49.7% of those with production exceeding €500,000. The proportion of enterprises that have access to credit is very high for enterprises having from 10 to 49 employees (50%).

Table 3.2 - Financial sources at the time of the startup’s incorporation - Year 2015
(percentage values)

Proportion	Own funds	Donations from family, friends and fools	National public financing	Regional/local public financing	Equity investments (a)	Bank loan
%						
0	5.7	95.7	97	92.3	91.8	91.5
1-25	7.5	1.4	0.4	2.3	1.9	2
26-50	7.4	1.5	1	1.9	1.3	2.4
51-75	2.8	0.1	1.1	1.4	0.8	1.6
76-99	3.4	0.5	0.3	1.9	1.3	1.5
100	73.2	0.8	0.1	0.2	2.9	1
TOTAL	100	100	100	100	100	100

(a) Venture capital, business angels, enterprise, other.

Table 3.3 - Financial sources at the time of the filling in of the questionnaire - Year 2015
(percentage values)

Percentage of the capital %	Own funds	Donations from family, friends and fools	National public financing	Regional/local public financing	Equity investments (a)	Bank loan
0	9.8	96.9	94.4	91.3	88.8	74.9
1-25	11.1	1.5	1.7	3.9	1.9	6
26-50	10.7	0.7	2.1	2.9	2	7.2
51-75	5.4	0.1	1.2	0.9	1.4	4.4
76-99	5.5	0.4	0.4	0.5	2.3	4.7
100	57.5	0.4	0.2	0.5	3.6	2.8
TOTAL	100	100	100	100	100	100

(a) Venture capital, business angels, enterprise, other.

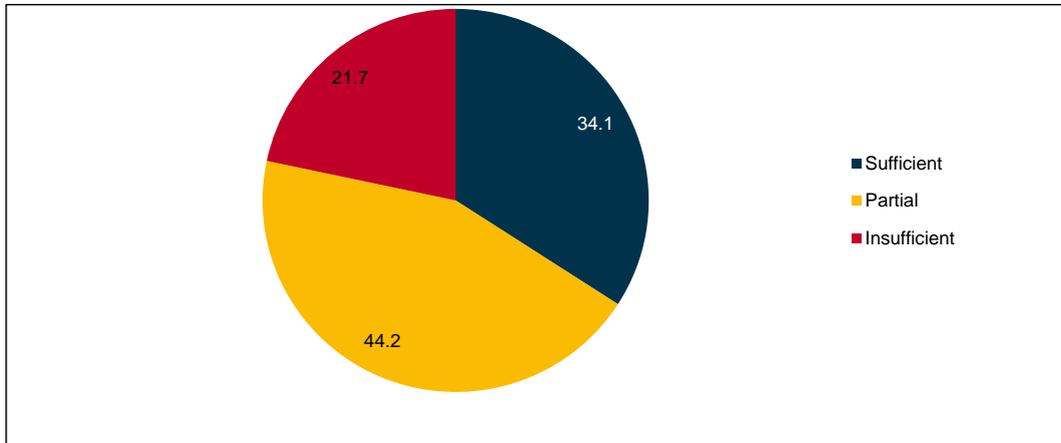
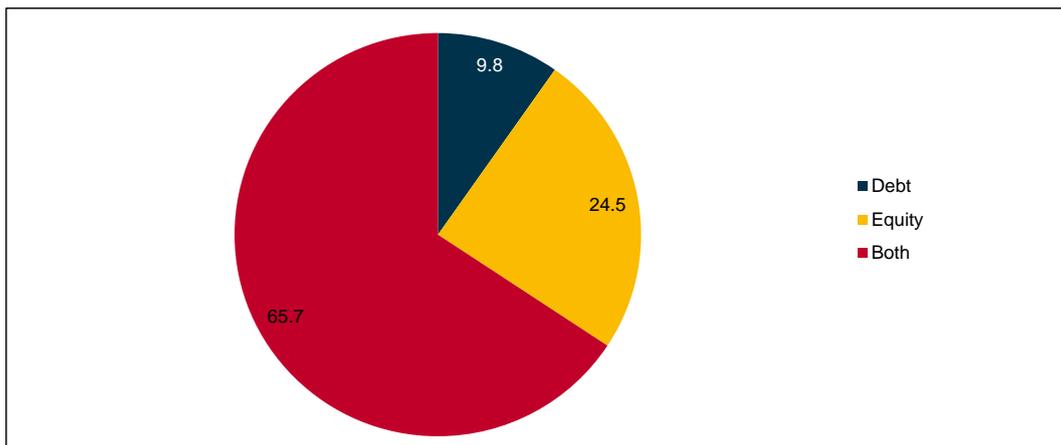
3.3 Sources of financing and their role in startups' growth

Italian startupper are for the most part satisfied with the financing available to them. In contrast, 44.2% of the innovative startups state that their financial needs are only partially covered. In 34.1% of the cases the current resources are perceived as fully sufficient. This data, however, has a considerable regional variability: the largest number of startups satisfied with the coverage of their financial needs is in the North West (38.4%); while in Southern Italy the percentage of those satisfied drops to 29.4%.

The proportion of those claiming to be fully satisfied increases along with the turnover of the enterprise: 56% of the startups that exceed €500,000 compared 28.8% of those with turnover under €100,000. Similarly, since the enterprises established before 2013 tend to present higher turnovers, no less than 40.4% of them claim that they are fully satisfied with the financial resources at their disposal. At the sectorial level, the proportion of those who are fully satisfied is higher in the innovative startups operating in the "Consulting" and "Research" sectors, with values much higher than 40%.

Only in 21.7% of the cases does the entrepreneur consider their financial availability completely inadequate to cover needs. The proportion of those dissatisfied is relatively greater in Central Italy (24.1%), in the "Data processing" sector (35.8%) and in enterprises with an annual turnover lower than €100,000 (24%).

This section of the questionnaire asks about financing preferences and the approach of the entrepreneurs in their search of sources of financing. The dichotomy between financing in debt and in equity, although in reality relevant only for a limited part of the respondent startups, is investigated in a structured way. 65.7% of the 2,039 innovative startups who respond to this question consider that their ideal financing should derive from an adequate mix of equity and debt. In 24.5% of the cases the ideal financing is found only in equity. It is interesting to note how 11.6% of the enterprises with turnover exceeding €500,000 are willing to finance themselves with the inflow of new venture capital. In 9.8% of the cases they would prefer using only debt financing, and it is indeed the innovative startups with higher turnover preferring this solution (14.4%). No significant differences are recorded between startups that were constituted prior to the policy entering into force and those constituted subsequently (Figure 3.2).

Figure 3.1 – Coverage of startups’ financial needs– Year 2015 (percentage value)**Figure 3.2 - Ideal financing forms for the startups - Year 2015 (percentage values)**

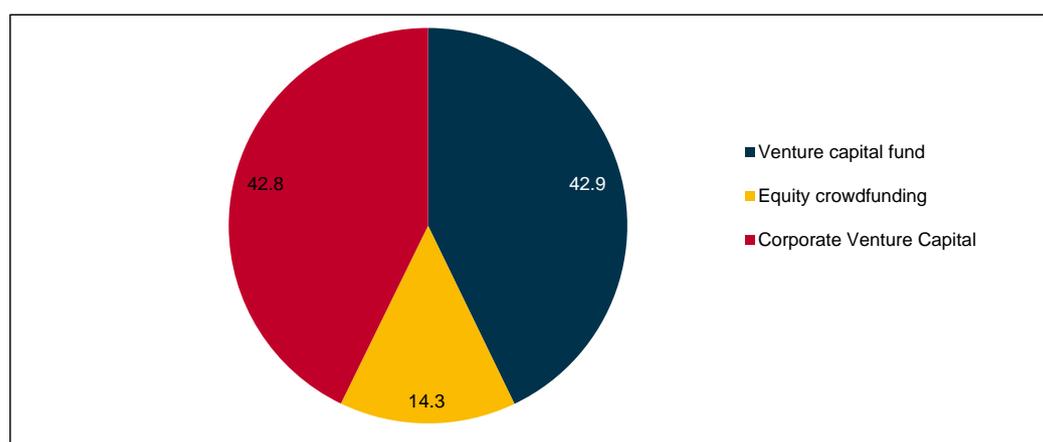
The vast majority of innovative startups would therefore be interested in offering their own venture capital to investors: but what kind of investors? Approximately 80% of the entrepreneurs surveyed declare that if it were possible to open the capital to an outside investor, there is a nearly equivalent preference for the intervention of a venture capital fund (42.9%) or that of an enterprise (42.8%). This second possibility is the preferred one for the enterprises in the North (46.9% in the North East, 44.8% in the North West). Moreover, the proportion of enterprises that would prefer the investment of an external enterprise is higher for those operating in the “Machinery” (53.7%) and “Research” (46.8%) sectors, in the enterprises incorporated prior to the entry into force of Decree-law 179/2012 (45.8%) and among those with medium size turnover (€100,000-€500,000; 51.3%).

Instead, the interest in venture capital funds is higher in Central and Southern Italy (respectively 46.2% and 44.0%), in the “Data processing” (50.8%) and “Software” (47.3) sectors, and among enterprises with lower turnover (45.0%).

Only 14.3% of the innovative startups would launch an equity crowdfunding campaign. The enterprises in Southern Italy state that they are more willing to use this solution, 18.1% compared to a minimum of 12.6% in the North East. This financial

strategy arouses more interest among the enterprises incorporated in the three-year period 2013-2015, i.e. after the entry into force of the law on equity crowdfunding (15.1%). As expected, the interest in web portals for the raising of capital decreases with the increase of the turnover of the enterprise surveyed (Figure 3.3).

Figure 3.3 – Type of investor preferred by the startups – Year 2015 (percentage value)



Even if many declare interest, in practice, startups infrequently have taken concrete steps for opening their own venture capital. After their incorporation, 68.4% of the enterprises interviewed have not sought new funding from venture capital or business angels nor have they launched equity crowdfunding campaigns; another 8.9% has not responded to the question. The search for new sources of financing that are an alternative to bank credit was relatively higher among more mature businesses (37.8%), but also among those with turnover up to €100,000 (34.4%). Vice versa, enterprises with medium-high annual turnover are less interested in this solution (72.1% for those with turnover from €100,000 to €500,000 and exceeding €500,000).

It should be noted however that the majority (53.8%) of those surveyed that were hosted by a certified startup incubator in the past have sought new funding from venture capital, business angels or through equity crowdfunding campaigns.

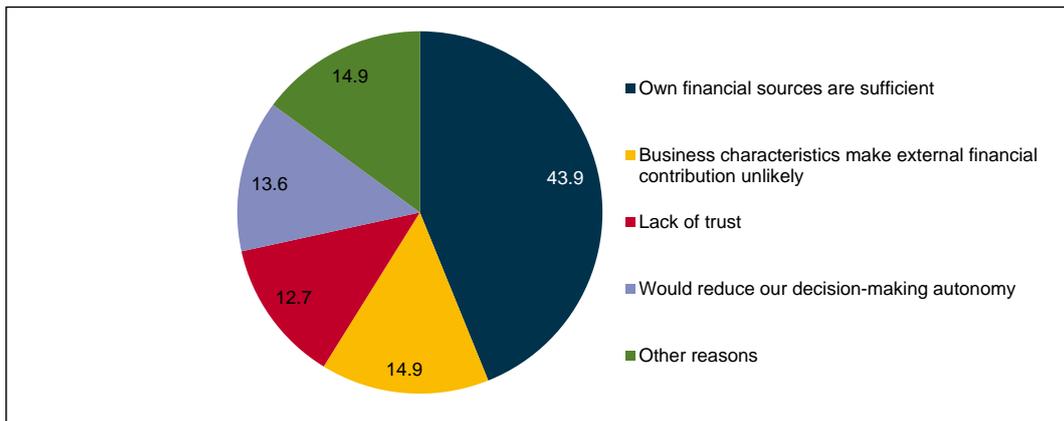
In 43.9% of the cases the enterprises declaring to not pursue new risk capital believe that their financial resources are sufficient for developing their business idea. This motivation is especially high in enterprises with turnover exceeding €500,000 (47.6%). Another significant motivation is represented by the enterprises' lack of confidence in the possibility of gaining access to the venture capital market: 14.9% considered obtaining an external financial contribution unlikely, due to the intrinsic characteristics of their business. This proportion amounts to 23.3% in the enterprises incorporated in the years 2010-2012 and 15.6% in the smallest enterprises.

If the previous indicator sought to evaluate the characteristics of the enterprise, it is also possible that the startupper is not interested or has no confidence in the venture capital market itself: this is the case of 12.7% of the respondents. This perception is particularly high in the North East (16.8%); it is instead much lower in the North West (9.9%).

Finally, 13.6% of the founders believe that the entry of a new shareholder would reduce the decision-making autonomy of those already present in the entrepreneurial team: entrepreneurs most reluctant to opening the company structure are in Southern Italy

(14.6%), in more mature enterprises (16.7%), and in enterprises with higher turnover (19.8%) (Figure 3.4).

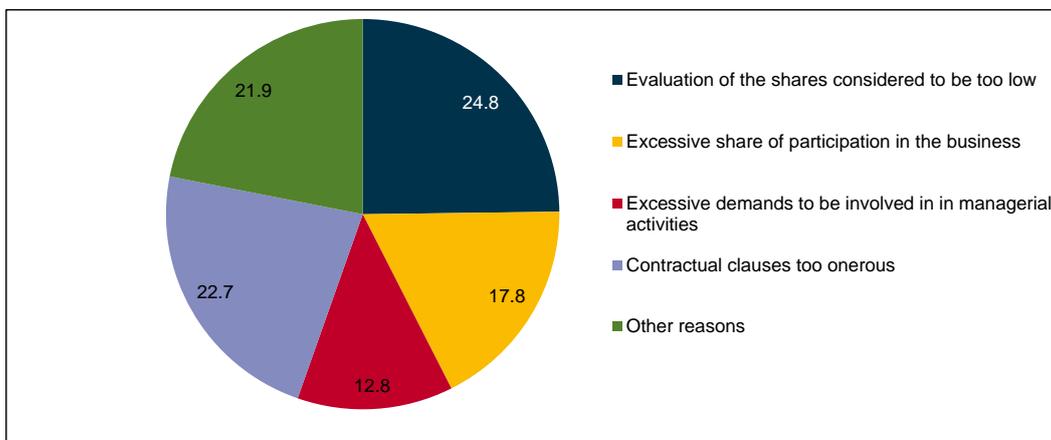
Figure 3.4 - Motivations of the startup for failure to seek new financing - Year 2015
(percentage value)



From the incorporation of the enterprise, 12% of the respondent enterprises, despite having received at least one investment offer from external subjects, declined them. The percentage is higher among the enterprises incorporated in the three-year period 2010-2012 (18.7%) and with turnover exceeding €500,000 (14.9%); it reaches 18.2% for the enterprises that have ongoing formal agreements with other subjects and 23.1% for innovative startups that were hosted by a certified startup incubator in the past.

The primary motivation for the enterprises to refuse investment offers is the poor economic assessment they have of the idea: in 24.8% of the cases the evaluation of the shares was considered to be too low, percentage which tends to rise with the growth of turnover. Another reason given is that the contractual clauses seemed too onerous for the shareholders already present in the company structure (21.9%).

Figure 3.5 - Motivations for rejection of the investment offer received - Year 2015 (percentage value)



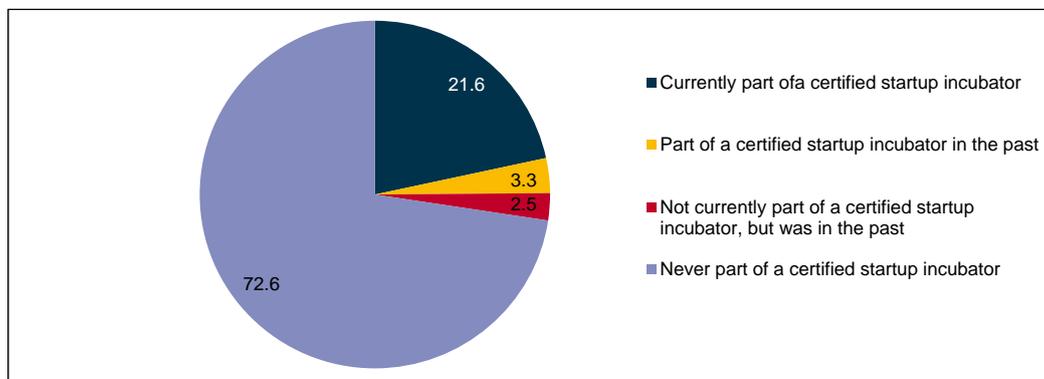
There is also a significant number of enterprises giving as their motivation the excessive level of participation in the enterprise (17.8%) or the excessive weight of the decision power (12.8%) requested by the external investor. Both motivations are more frequent in the younger enterprises (incorporated in 2013-2015) and less frequent for the innovative startups with higher turnover (Figure 3.5).

3.4 Startups' linkages with the "ecosystem": incubators, universities, other enterprises

The last important aspect addressed by the second section of the questionnaire relates to the alliances, i.e. formal agreements for cooperation with other actors, foremost with incubators but also with universities and mature enterprises. 72.6% of the startups have never used a certified incubator, as defined in accordance with the law by the Ministry of Economic Development.

Conversely, 21.6% of the enterprises are at the time of the survey using an entrepreneurial incubation/acceleration structure, compared to 5.8% that have used one in the past. The presence of currently incubated enterprises is higher in the North East (24%), particularly among those in the "Data processing" (25.6%) and "Research" (24.6%) sectors. The percentage of incubated enterprises decreases with the increase of turnover (Figure 3.6).

Figure 3.6 - Startup enterprises using a certified incubator - Year 2015 (percentage value)



Cooperation agreements with other players (universities, enterprises) are concluded by approximately half of the respondent enterprises (45.6%). The percentage is relatively low in the North, while it surpasses 50% in Central Italy (52%).

Enterprises incorporated in the three-year period 2010-2012 are among those that have concluded more formal agreements (59.7%); also showing significant values are enterprises with annual turnover between €100,000 and €500,000 (54.5%) and innovative startups with over 10 employees (56.8%).

Innovative startups that have an ongoing formal agreement of cooperation with universities or enterprises are set apart from the others by the following characteristics:

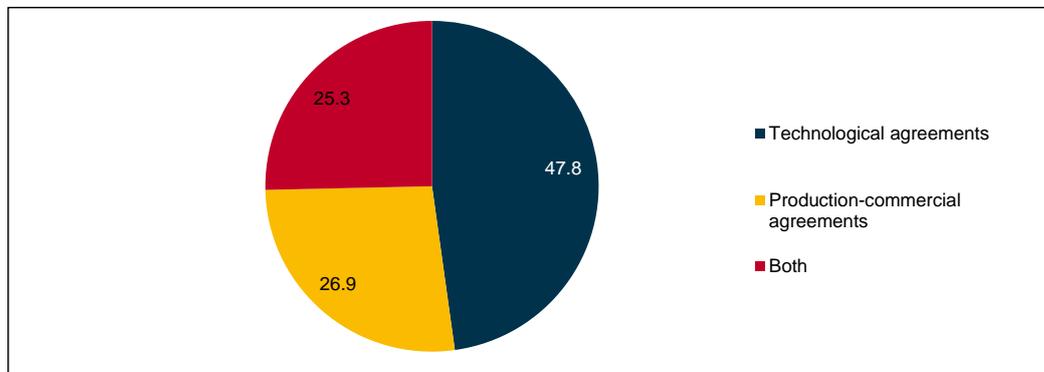
- they are characterised primarily by product innovation (49.8%), in particular by the improvement of existing products (36.8%);
- more than half of them (50.3%) spend over 40% of their turnover in R&D;

- 33.3% have at least 5 shareholders, compared to 21.6% of the startups that have not concluded formal agreements;
- 25.7% have at least 5 employees, compared to 16.3% of the other startups.

The majority of the agreements were concluded with universities and research centres. In 47.8% of the cases they are technological agreements: the value is higher than the median for more mature enterprises (51.8%) and increases proportionally with the increase of the turnover. In 26.9% of the cases they are production-trade agreements: in this case, instead, the percentage decreases with the decrease in turnover.

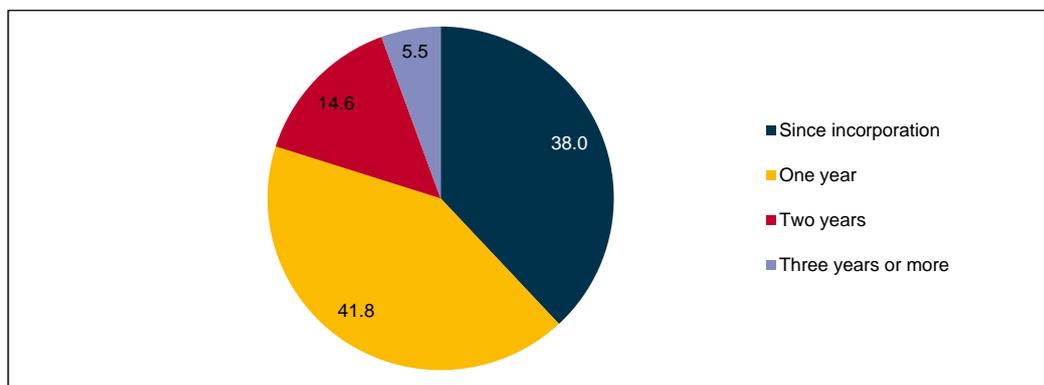
Both types of formal agreements coexist in 25.3% of the cases: in particular, falling into this category are almost one third (31.6%) of the innovative startups with a middle range turnover (€100,000-€500,000) (Figure 3.7).

Figure 3.7 - Type of formal agreements with external subjects - Year 2015 (percentage value)



To conclude, the second section of the questionnaire sought to find out in which year the enterprise began to market their products or services. According to the responses, the innovative startups are often ready to enter the market very quickly but with a very limited portfolio of customers. 38% of them had started to market their product or service just after their incorporation; as many as 8 out of 10 innovative startups claim that they began to sell and invoice within the first year of incorporation, a percentage that rises to 94.5% in the second year (Figure 3.8).

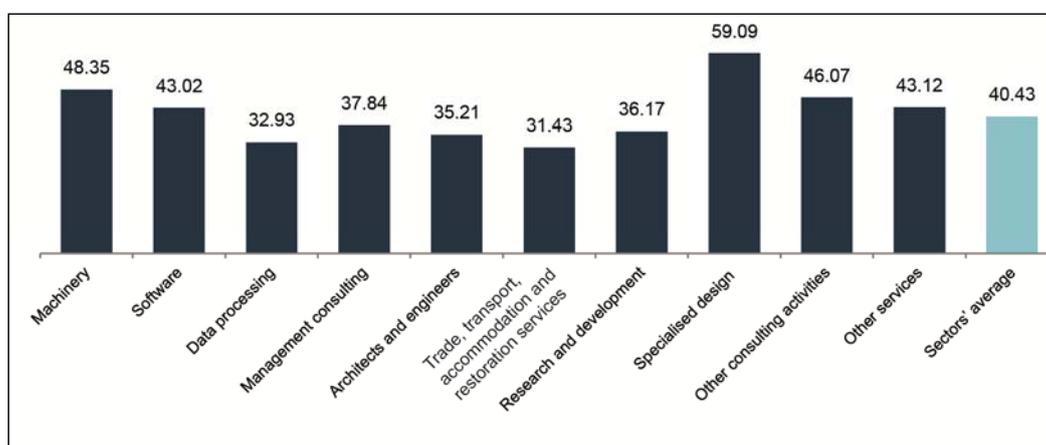
Figure 3.8 - Number of years of life of the startup from the first sale on the market - Year 2015 (percentage value)



3.5 Sectorial differentials in the shareholder structure at the time of incorporation, and in the current sources of financing

The sectorial analysis of the company structure at incorporation shows some significant differences among sectors, albeit in a general framework characterised frequently by family members or other persons as the main founding shareholders. These differences concern the role of other enterprises and especially the other types of shareholders. With regard to the role of other enterprises in the company structure at incorporation, there is a greater weight of this type of shareholder in “Specialised design” and in “Machinery”, which associates a prevalently “exclusive” participation mode (100% of the shares), followed with lower intensity, but however with shares above the average in the “Other consulting activities” and “Software” sectors (Figure 3.9).

Figure 3.9 - Contribution of other enterprises at the incorporation of the company structure by the main sectors of economic activity (percentage value)



With regard to universities and research centres, albeit within the framework of a rather limited role in the company structure at incorporation for the startups overall (3%), some significant differences are found at the sectorial level with an important role in “Research and development” and “Architects and engineers”, followed with lower intensity, yet with proportions that are still above the average, in “Other consulting activities” (Figure 3.10).

Finally, as regards the business angels, shares were higher than the average for “Trade, transport, accommodation and restoration services”, “Software” and “Data processing”.

Current sources of financing show significant oscillations at the sectorial level in the incidence of own funds, which remain the main source of financial support. Their average value amounts to 63%, but with shares that, with the exclusion of “Agriculture”, vary from a minimum of 52% to a maximum of 72%.

The role of the bank loan as a source of current financing is particularly high for “Other industry and construction”, “Machinery” and “Trade, transport, accommodation and restoration services”, while it is relatively lower for “Data processing”, “Software” and “Research and development” (Figure 3.11).

Figure 3.10 - Contribution of the universities and research centres at the incorporation of the company structure by the main sectors of economic activity (percentage value)

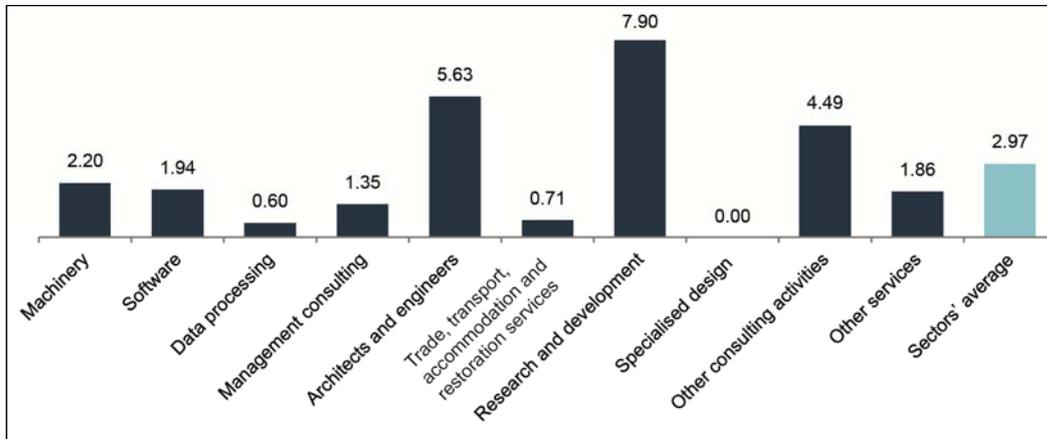
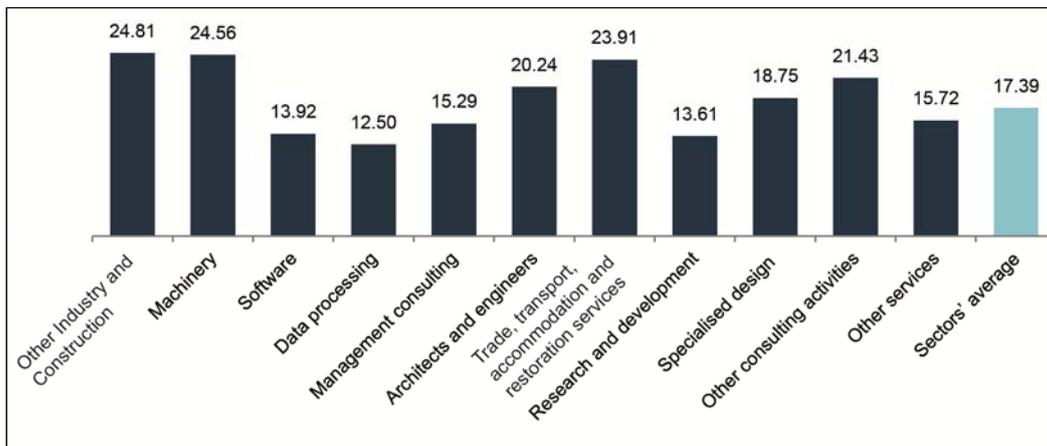


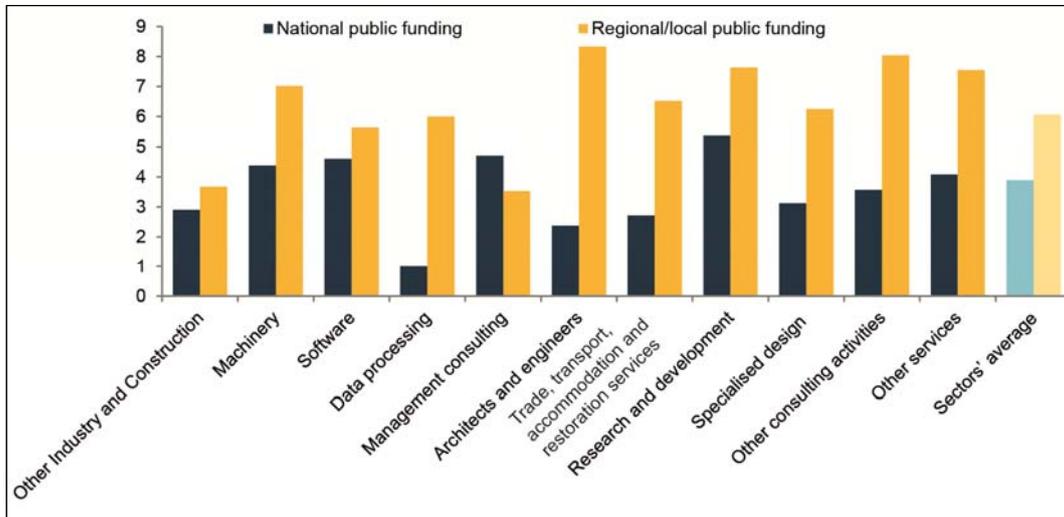
Figure 3.11 - Contribution of the bank loan to the current financing of the startups by the main sectors of economic activity (percentage value)



The “Machinery” and “Research and development” sectors have a high incidence of both national and regional/local public financing. Instead, “Software” and “Management consulting” seem to benefit primarily from national financing, while “Architects and engineers”, together with “Other consulting activities” and “Other services”, benefit primarily from regional or local financing (Figure 3.12).

Even considering the reduced role that business angels have as a source of current financing of the startups (they represent on average less than 10%), this particular source of financing has a significant contribution in the sectors of “Trade, transport, accommodation and restoration services” (13%), “Software” (9%) and “Data processing” (17%).

Figure 3.12 - Contribution of national, regional or local public financing to the current financing of the startups by the main sectors of economic activity (percentage value)



CHAPTER 4

INNOVATION STRATEGIES¹

Abstract

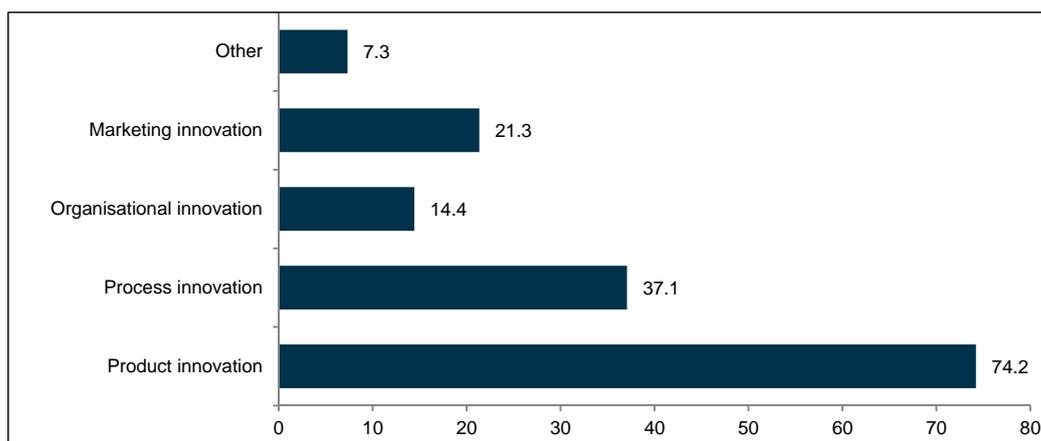
This chapter focuses on innovation. Startups were asked to describe the type of innovation introduced by their enterprise, with reference to the categories commonly used in economic literature: product, process, marketing and organisational innovation. The distinction between radical and incremental innovation is also considered. Furthermore, the survey studies the sources of knowledge startups draw from to fuel their innovation, as well as their propensity to engage in “open innovation” mechanisms. Finally, this section assesses the awareness and the use of strategies to protect innovation, both formal – such as intellectual property rights – and informal – e.g. lead time strategies. A non-negligible number of innovative startups, mostly of very small size and especially located in Southern Italy, either ignore or do not adopt any strategy to protect their intangible assets.

¹The authors of this chapter are Paolo Carnazza, Roberto Volpe and Mattia Corbetta.

4.1 Innovative startups: simple or complex innovation profiles

The survey found interesting indications on the types of innovations adopted by the startups in recent years: 74% of the enterprises claim to have created an innovation involving the product or service offered², while 37.1% have adopted process innovations. Percentages are significantly lower for other types of innovations, such as marketing and organisational innovations (Figure 4.1).

Figure 4.1 - Innovative startups by type of innovation - Year 2015 (percentage value)

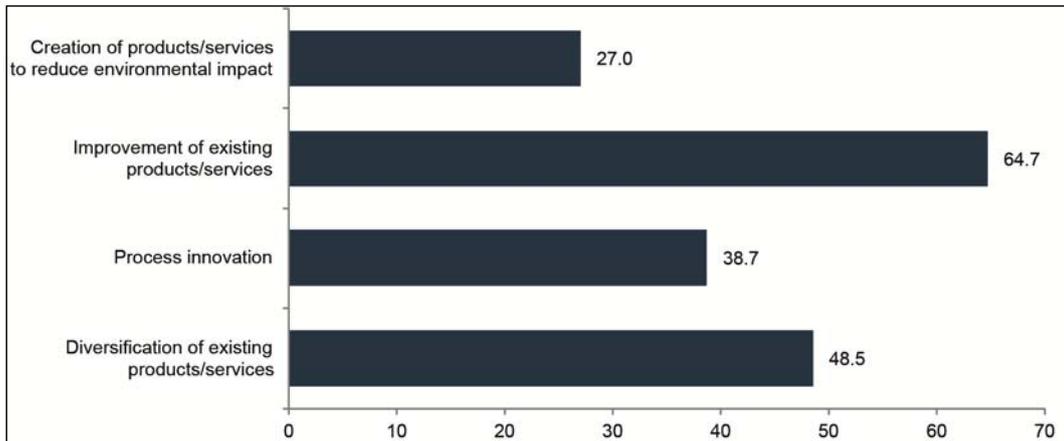


The tendency to make process innovations seems to increase along with the increase of turnover: 45% of the enterprises with turnover exceeding €500,000 have introduced this type of innovation, compared to 34.3% of those with turnover under €100,000.

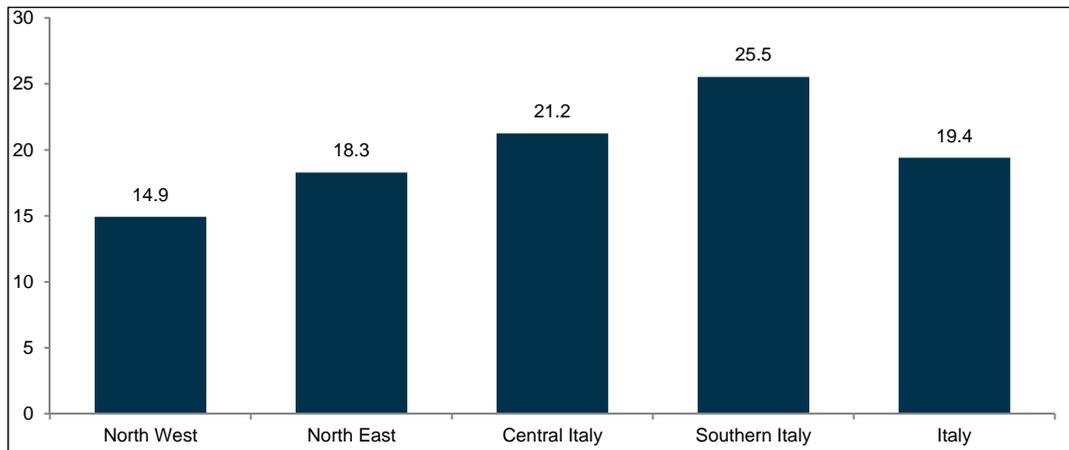
Looking at the sectorial distribution, we see that product innovations have been carried out primarily by startups in the sectors of “Machinery” (83.5% of the total number of enterprises in the sector), “Other industries and construction” (76.2%) and “Research and development” (79.5%). From the viewpoint of territorial distribution, product innovations are particularly widespread among the startups of the North East (77.3%) and Central Italy (76.2%).

The second aspect concerns the expected effects of the innovation introduced, in order to understand the extent to which Italian startups set about introducing an incremental innovation, i.e. an improvement of an already existing product or process, compared to those seeking to have a market breakthrough by creating new ones. According to the enterprises surveyed, in most cases the result of the innovation has been an improvement in the quality of the products or services (claimed by 65% of the enterprises) or the diversification of the previously developed products and services (48.5%). Given the high incidence of product innovations, it may be inferred that startups have dedicated particular attention to market positioning, while the introduction of process innovations and those for reducing the environmental impact are not as widespread (Figure 4.2).

² Different results were instead found in the survey conducted by the MISE in the months of April and May 2015 on a sample of 1,000 excellent SMEs: most innovations seem to involve prevalently production processes (62.1%; 73.9% for manufacturing enterprises), followed by product innovations (54.4%; 64.1% in manufacturing), and lastly, organisational innovations (50.5%).

Figure 4.2 - Startups and effects of the innovation - Year 2015 (percentage value)

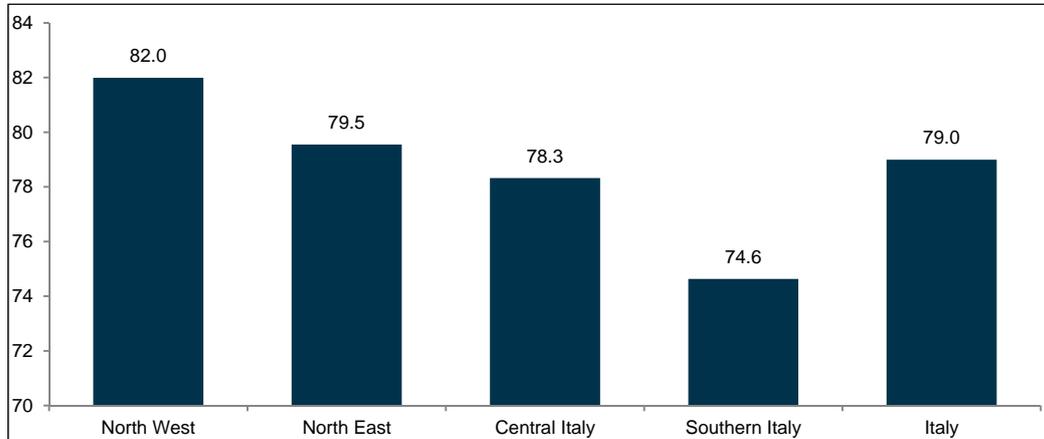
Considering the sources of knowledge that enable innovation, practical experience in the sector has been the factor that has enabled the innovation strategies according to 61.9% of the startups, with peaks found in the “Data processing” (70.9%) and “Management consulting” (69.2%) sectors. Academic research represents the second most widely used channel of knowledge: 19.4% of the new enterprises have drawn from it, with percentages that are considerably higher among the startups in Southern and Central Italy (Figure 4.3).

Figure 4.3 - Academic research as source of knowledge for the implementation of innovation by territorial distribution - Year 2015 (percentage value)

4.2 Sources of knowledge and R&D expenditure

79% of the innovative startups surveyed have claimed that they have expenditure in research and development (R&D). For innovative startups in the North West this proportion reached 82%; for the startups in Southern Italy it is lower, but it however remains close to three quarters of the total (Figure 4.4).

Figure 4.4 - Innovative startups that have expenditure in R&D by territorial distribution - Year 2015 (percentage value)



The survey has found that, on average, a substantial part of the innovative startups' budgets are allocated to research and development. The enterprises that claim expenditure in R&D have in fact an average of 47% of the total costs incurred dedicated to it. By also including the enterprises claiming to not have incurred any R&D expenditure in the calculation, the average percentage found is 36.2% of the aggregated costs.

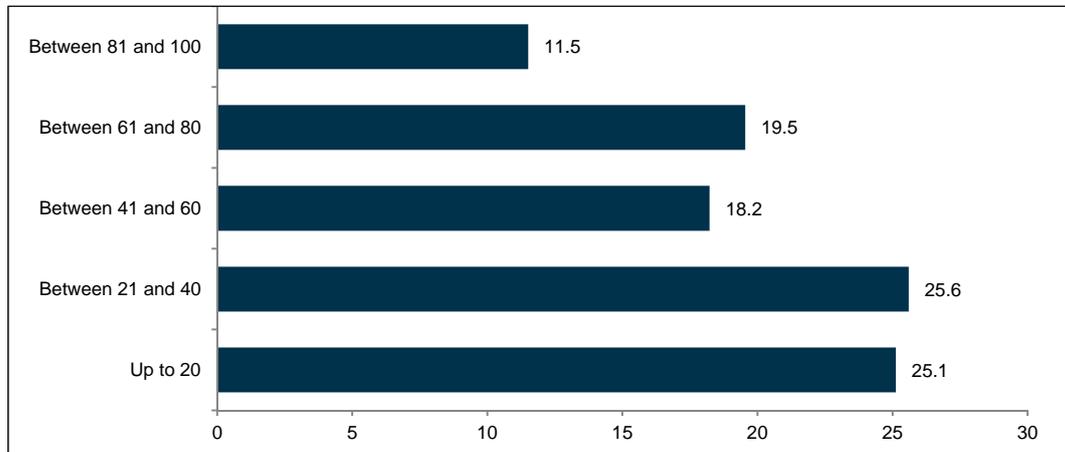
As confirmed in all the previous editions of the Annual Report to the Parliament on the innovative startup policy published by the Minister of Economic Development, most of the firms listed as innovative startups (approximately 63%, according to the 2016 report)³ have indicated that they meet one of the alternative requirements attesting their innovativeness set out by the policy (Decree-law 179/2012, art. 25, paragraph 2, letter h) and already mentioned in chapter 1 of this report, the requirement of the enabling threshold of 15% of expenditure in research and development on the greater value between cost and total turnover.

The survey has found that only 25% of the respondents claim to have spent less than 20% of the total in R&D (Figure 4.5), while slightly over 44% of the innovative startups claim to have invested in R&D a share of their turnover ranging between 21% and 60% of the total expenditure.

The declarations of requisites of the startups and the high propensity for investments of the Italian startups are supported by their financial statements: from the MISE-InfoCamera data at the end of 2016 (MISE, Unioncamere and Infocamere 2017) the rate of fixed assets on equity is equal to 29.4%, more than 9 times higher than the average limited company. A study by the Bank of Italy (Finaldi Russo, Magri Rampazzi, 2016) has clarified that this is true especially for intangible assets, which most likely identifies a large portion of the expenditure in R&D.

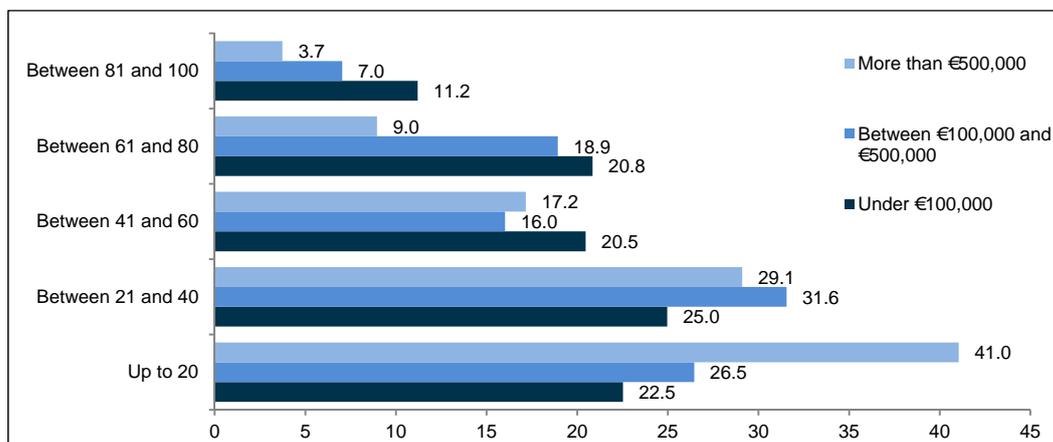
³ Ministry of Economic Development, Annual report to Parliament on the implementation and impact of the policy in support of startups and innovative SMEs 2016.

Figure 4.5 - Incidence of the R&D expenditure on total expenditure - Year 2015 (percentage value)



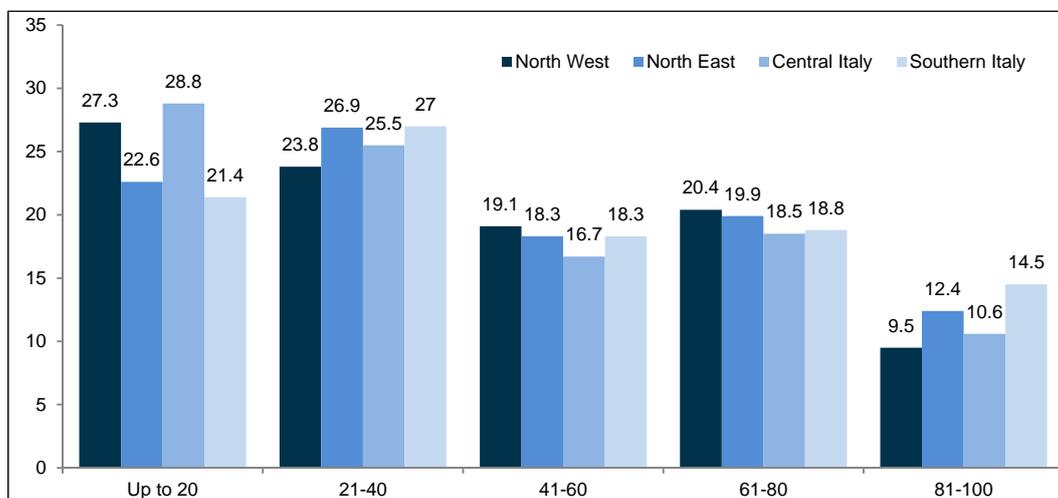
Additionally, the analysis of the data related to the size of turnover finds that the innovative startups spending proportionally more in R&D compared to the total liabilities are in particular those of micro and small size, with a turnover under €100,000 per annum. Vice versa, 41% of the enterprises with a turnover exceeding €500,000 per annum do not have expenditure in R&D exceeding 20% of the total turnover (Figure 4.6).

Figure 4.6 - Incidence of the R&D expenditure on total expenditure by size of the enterprise - Year 2015 (percentage value)



The innovative startups whose expenditure is almost wholly in R&D are located particularly in Southern Italy (14.5% of the startups of the South claim that at least 80% of their expenditure is invested in R&D), despite the fact that the innovative startups in this area on average invest in research and development slightly less than those of other geographic areas (Figure 4.7).

Figure 4.7 - Incidence of the R&D expenditure on total expenditure by territorial distribution - Year 2015 (percentage value)



4.3 Target markets for startups' products

The survey also collects information about the subjects who carry out the R&D activities accounted for by the startups, that is, if the activities were carried out by the enterprise itself (intra-mural) or by others on its behalf (outsourcing).

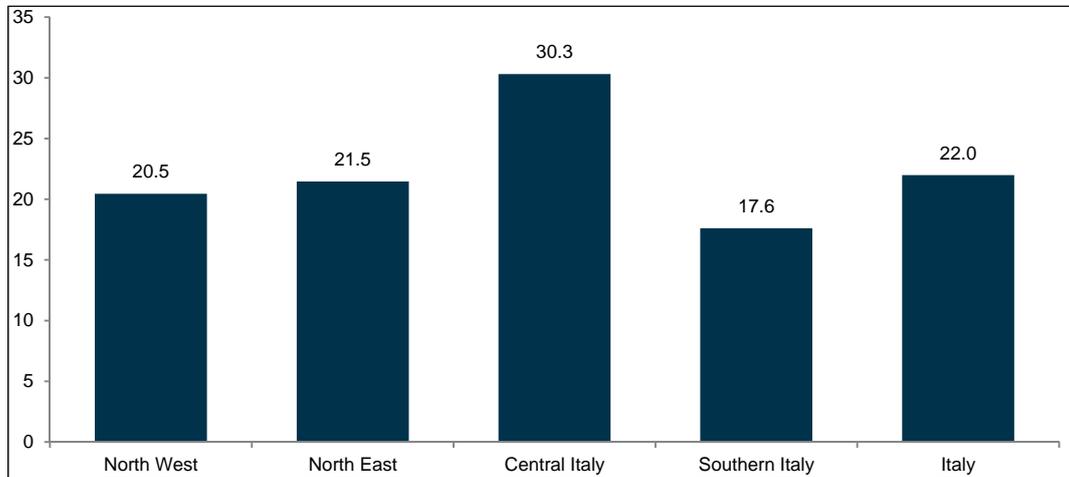
The majority of the innovative startups (82.6%) has had intra-mural R&D expenditure, while for 54.1% of the enterprises it was partially or exclusively outsourced.

The survey permits other interesting information to be gathered about the recipients of R&D activities (for intra-mural expenditure) and about the suppliers of the same (in the case of outsourced investment). With regard to the first type of investment, it is found that it is primarily the enterprise itself to benefit from the various R&D activities: this is indicated by 89.4% of the respondents, while 18.3% claim that they consider, as possible recipients, enterprises in other sectors. Public bodies play a minor role: only 8.4% of the enterprises are involved in open innovation dynamics with the Public administration.

The outsourced R&D is mainly provided by other enterprises active in the same sector of the acquiring enterprise (48.4%) or in other sectors (50.4%). Confirming what was found in other studies and analyses (Bugamelli *et al.* 2015), are the limited partnerships between the business world and universities/research centres: only 22% of the innovative startups indicate public and private universities as providers of R&D activities. The connection with the academic world is the weakest among the enterprises of Southern Italy (Figure 4.8).

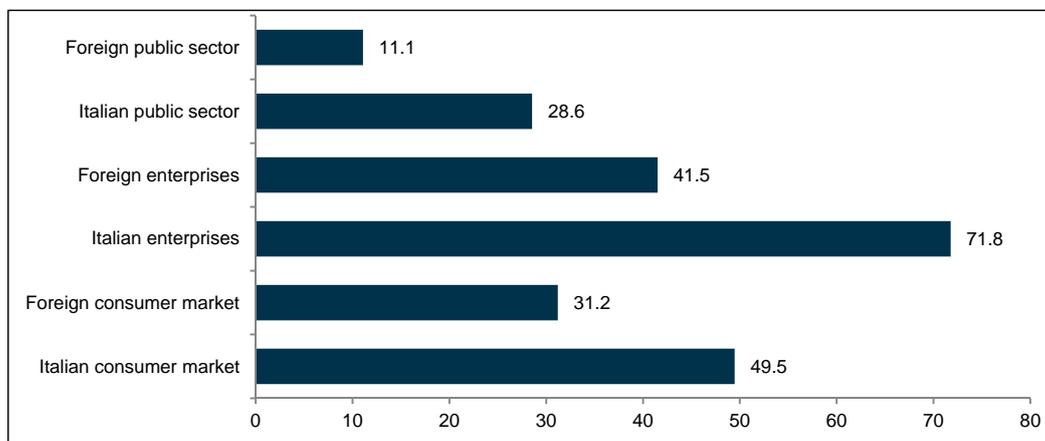
The percentage of innovative startups that make use of research centres and public or private laboratories for their R&D activities is slightly higher (23.1%), especially in the North East (27.1%).

Figure 4.8 Incidence of the university as an outsourced supplier of R&D expenditure by geographic distribution - Year 2015 (percentage values)



Additionally, the survey has collected information about the structure of the markets for the startups' products and services. It is found that 71.8% of the startups respond to the demand for goods and services from enterprises, 49.5% respond to direct consumer demand (Figure 4.9).

Figure 4.9 - Target markets by the activity of the startup - Year 2015 (percentage value)



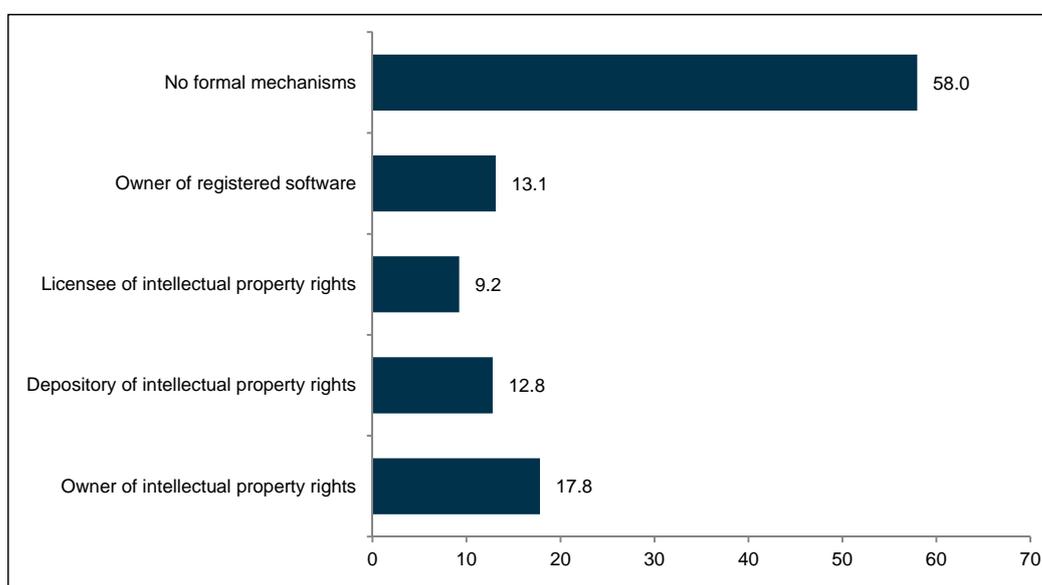
A large portion of the startups target themselves to foreign enterprises (41.5%) and, to a lesser extent, to direct consumers in other countries (31.2%); the enterprises of the North East seem to be more prone to populating the foreign markets. The Italian and foreign Public Administration (PA) is, finally, a significant market only for a small number of enterprises. Slightly over 28% of the enterprises, in fact, target the Italian PA and 11.1% target foreign PAs, and these are for the most part innovative startups in Central and Southern Italy (about 45% of them have indicated the Public administration as a target market).

4.4 Strategies for protection of intellectual property

17.8% of the startups indicate that they are owners of an intellectual property right,⁴ while 12.8% and 9.2% of the enterprises claim to be, respectively, depository or licensee of an intellectual property right.⁵ The percentage of the startups in Southern Italy that are the owners, licensees or depositories of an intellectual property right is relatively lower than other areas.

The survey provides important information about the strategies and mechanisms for the protection of the innovation. For example, 58% of the enterprises (62.7% in Southern Italy and 52.8% in the North East) state that they have not implemented any formal protection mechanisms (Figure 4.10).

Figure 4.10 - Startups and the formal mechanisms for protecting innovation - Year 2015
(percentage value)



Moreover, nearly a third of the innovative startups indicate that they have not adopted any informal/strategic protection mechanisms; the lowest values are found once again in the startups of Southern Italy.

More often (in more than two out of three cases) the enterprises claim that they have adopted informal protection mechanisms: industrial secret being the most widespread

⁴ This value does not differ greatly from what is found in the Annual report to Parliament on the implementation of the policy in support of innovative startups: at 30 June 2016 the proportion of enterprises owning intellectual property rights or registered original software was slightly over 15% (Mise 2017: 67-68).

⁵ Intellectual property rights are those instruments that the law provides for the protection of "intellectual property", allowing one to take full advantage of new ideas on the market. There are various types of intellectual property rights available, according to the asset that one is protecting; among the main ones are: a) industrial patent; b) trademark; c) copyright; d) inventions; e) new varieties of plants (Source: Industrial Property Code).

with 46.8% of the responses,⁶ following are lead time strategies,⁷ with 21.2% and complementary assets⁸ (Figure 4.11).

Figure 4.11 - Startups and the strategic mechanisms for protecting the innovation - Year 2015 (percentage value)

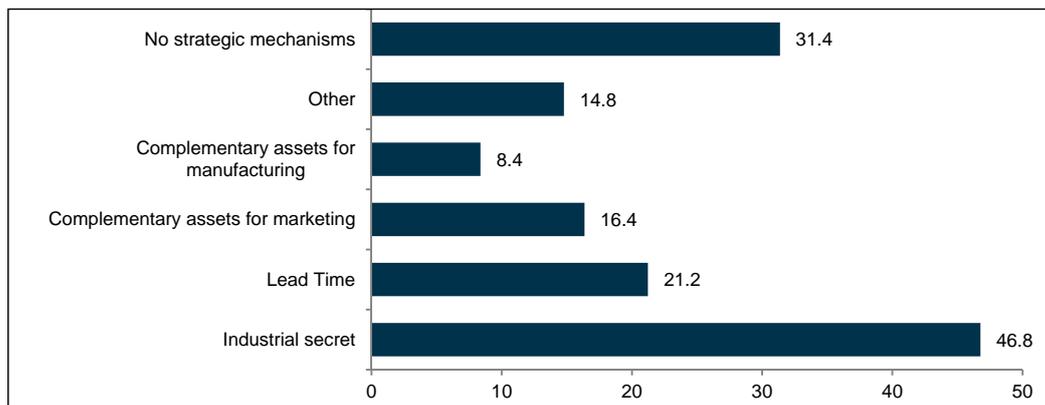
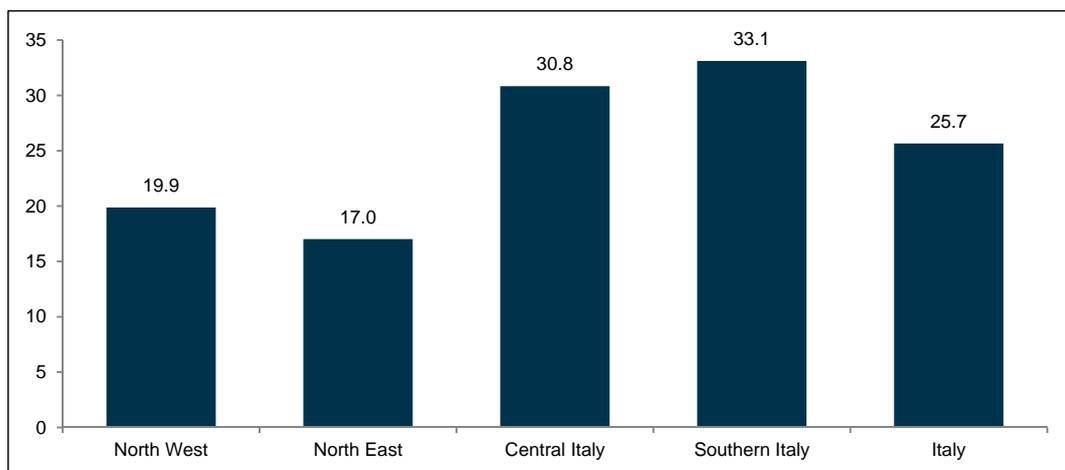


Figure 4.12 - Startups who are unaware of the protection strategies for innovation by territorial distribution - Year 2015 (percentage value)



⁶ Industrial secret refers to information on an enterprise's activities of production or organisation. We speak, therefore, of industrial secret when this information: a) is secret, i.e. its entirety or the precise configuration of its components is not generally known or readily accessible to experts and operators in the sector; b) it has commercial value because it is secret; c) it is subject, by whoever has the legitimate control over it, to measures that can be considered reasonably adequate for maintaining its secrecy, for example with confidentiality agreements.

⁷ Lead time strategies seek to take advantage of the learning curve before the competitors are able to, in order to consolidate leadership in the sector. They involve the advantages (for example, relationships with suppliers) arising from beating the potential competitors to the markets and/or the capacity of the enterprise to introduce innovations rapidly, so that competitors do not have enough time to imitate the enterprises' latest innovation.

⁸ Complementary assets are tangible resources (for example, distribution channels, machinery) and intangible ones (for example, know-how, brand, and so on) owned by the enterprise that are of fundamental importance for taking the best economic advantage of the innovation.

Regarding the reasons that have caused startups to refrain from adopting protection mechanisms, almost half of the entrepreneurs (47.9%) are convinced that their innovation could not in any way be appropriated by third parties. Moreover, 26.4% of the entrepreneurs indicate the lack of an innovation to protect, while 25.7% of the sample surveyed claims that they do not know the necessary strategies; this percentage is particularly high among the startups of Central and Southern Italy (Figure 4.12).

CHAPTER 5

POLICY MEASURES TO SUPPORT INNOVATIVE STARTUPS: THE STARTUPPERS' VIEWPOINT¹

Abstract

This chapter is intended to assess to what extent policy measures targeted at supporting the development of startups are actually known and appreciated by the startupper themselves. It explores the perceived impact and relevance of the various policy measures provided for by the Startup Act and related initiatives. Moreover, the survey investigates on the information channels through which startupper became aware of the legislative framework to support them. Finally, following a logics of transparency and accountability, startupper are asked to give their own suggestions on how to improve the policy framework within which they do business.

¹ The authors of this chapter are Roberto Volpe and Mattia Corbetta.

5.1 Awareness of the policy measures

The fourth and final section of the survey investigates the relationship that innovative entrepreneurs have with the extensive and diversified measures which altogether make up the national policy to support innovative startups. Structured in four questions, one of which is open-ended, this section specifically addresses the concepts of information about the policy and the satisfaction with it. The object of the analysis involves the various benefits that the Startup Act has specifically reserved for innovative startups, as well as other incentives that, while addressing a wider range of enterprises, are very relevant, since their aim is promoting investment in research, development and innovation.

Concerning information, the questions seek to investigate not only actual awareness of the policy's individual measures - the survey mentions as many as 20 different measures - but also how much this awareness has been broadened and which communication channels were used to acquire it. Information on the opportunities provided by the law may have been acquired directly by the entrepreneur through the media or through institutional communication, or, as is often the case, other actors may have played a significant role: the mediation of professionals such as accountants or structures such as incubators can be quite important for the dissemination of information.

Satisfaction with the policy is measured, by those who have used the various benefits and also by those who have not done so. In the latter case, satisfaction is understood as potential interest in the measures: in this way, there is greater data collected only on the information available about the policy. The survey has revealed, on the one hand, the measures that are known but which fail to capture the interest of the entrepreneur, and on the other hand, it pinpoints those which have not yet been used by the entrepreneur, although there is the intention of doing so in the future. Those who have already taken advantage of the benefits were asked to make an assessment, on a scale from 0 to 5, of the impact that they have had on their activities.

The answers to question 4.1, which measures both the respondents' degree of knowledge of the individual benefit measures and the actual interest in them, are summarised in Table 5.1.

Table 5.1 - Degree of knowledge of the benefit measure (percentage value)

KNOWLEDGE, INTEREST AND USE OF THE FOLLOWING BENEFIT MEASURES	I know and have used them	I know and intend to use them	I know them, but am not interested in them	I know them but I do not know how to take advantage of them/I need to learn more	I don't know them
Reduction of startup and incorporation costs	62.9	10.7	6.4	8.1	12
Flexible corporate management	25	17.8	20.6	12	24.6
Incentives for investors	18.6	36.2	12.3	15.7	17.2
Preferential access to the Guarantee Fund for SMEs	18.4	33.4	16	18.4	13.9
Simplification of VAT compensation	14.2	31.2	11	15.3	28.3
R&D Tax credit	12.2	38	8.8	18.5	22.5
Benefits in loss compensation Extension of terms for covering losses	11.6	24.1	24.5	15.1	24.7

Table 5.1 - Degree of knowledge of the benefit measure (percentage value)

KNOWLEDGE, INTEREST AND USE OF THE FOLLOWING BENEFIT MEASURES	I know and have used them	I know and intend to use them	I know them, but am not interested in them	I know them but I do not know how to take advantage of them/I need to learn more	I don't know them
Smart&Start Italia	10.8	23.7	25.2	16.8	23.4
Flexibility in the use of fixed-term contracts	9.8	36	20.3	15.7	18.2
Smart&Start	7.4	16.4	31.5	13.7	31
Cipaq 2012-2014	7.1	25.8	13.3	14.3	39.4
Inapplicability of the regulations on dummy companies	6.8	11.6	25.4	9.9	46.4
ITA services for internationalisation	5.9	23.7	21.2	19.7	29.5
Stock options and work for equity	4.4	28.3	25.2	18.9	23.3
Patent Box	3.5	28.9	15.4	19.9	32.2
Dynamic wages	3.5	30	16.9	16.8	32.9
Equity crowdfunding	1.7	27	36.5	18.2	16.7
Italia Startup Visa	1	8.7	27.8	13.1	49.5
Italia Startup Hub	0.5	8.5	27.3	13.2	50.6

The best known benefit is the reduction of the startup and incorporation cost, which takes the form of a waiver of secretarial fees and stamp duty for the registration in the special section of the Business Register, as well as the annual fees that are ordinarily paid by enterprises to the Chambers of Commerce. Nevertheless, 12% of the respondents were unaware of this measure and a further 8.1% do not know how to take advantage of it (Table 5.2). Although a minority share, it is surprising that a non-negligible number of enterprises is unaware of this benefit: it is in fact automatically applied to all the innovative startups enrolled in the special section of the Register. It is reasonable to assume that the waiver was applied without the enterprises being aware of it.

Another very popular measure is the simplified access to the Guarantee Fund for SMEs: only 13.9% is unaware of this opportunity, which permits obtaining a public guarantee on bank credit by taking advantage of a free automatic channel - without requiring evaluations of creditworthiness by the managing entity, MedioCredito Centrale - for amounts up to €2.5 million. However, the percentage of those who, while not unaware of this instrument, do not know how to access it, remains comparatively high (18.4%): exactly the same number of those who claim to have actually made use of this measure. The simplified access to the Guarantee Fund for SMEs is also one of the measures that, in cases non-use, seem to arouse a greater degree of potential interest among the innovative startups: 33.4% of the respondents claim that they intend to use this benefit in the future. Other measures that the innovative startups have shown considerable potential interest in, though they have not yet used them, are the tax credit on R&D – CIR&S (38%), tax incentives for investors in venture capital (36.2%) and the greater flexibility provided for fixed-term recruitment (36%).

It is not surprising that the least known measures are the programmes of migrant entrepreneurship [Italia Startup Visa](#) and [Italia Startup Hub](#) since they are addressed to entrepreneurs that are citizens of countries outside the European Union who intend to launch an innovative startup. These are evidently parts of the policy largely outside the scope of interest of the respondents, although slightly over 8% of them claim to be interested in making use of them in the future, since the programmes can also allow the attraction of foreign shareholders. Other little known measures are the exemption from the rules on dummy companies and tax credit for the recruitment of qualified staff (Cipaq) – the latter is understandable, as this was a tax incentive valid for the years 2012-2014.

Measures that a significant portion of entrepreneurs (between 15% and 20%) claim to have only superficial knowledge of are the optional tax regime on income generated by the use of intellectual property, known as Patent Box, which actually best lends itself to more mature enterprises, services for internationalisation offered by the Italian Trade Agency (ICE), the possibility of paying part of the remuneration in the form of incentive plans in tax-exempt equity, and the already mentioned CIR&S and the Guarantee Fund for SMEs, as well as equity crowdfunding, that allows raising capital through online platforms. As mentioned above, and studied in greater detail in the section dedicated to the level of satisfaction with the policy, the innovative startups claim to have great interest in some of the aforementioned measures (in particular CIR&S and the Guarantee Fund for SMEs), factor that is indicative of still untapped communication potential.

The knowledge of the content of the benefits related to the innovative startup status seems to be influenced, albeit slightly, by some context variables. In particular, the data show some trends related to the educational background of the founders: it is evident that those with economic or managerial training have an overall better knowledge of the measures, which is then reflected in a more widespread use of them. The least informed instead appear to be university graduates in technical-scientific subjects, if exception is made for some opportunities particularly relevant for the research-intensive professions, such as tax credit for R&D and the Patent Box. This trend is further amplified if one looks at the educational qualification of the respondents, in particular at the significant part of them (18.9%) that holds a PhD, presumably the majority of them in scientific disciplines. This category consistently shows (deviations from the average are often greater than five percentage points) less awareness of the measures, in particular of those more related to labour law or accounting: an exception to the above are once again CIR&S and Patent Box.

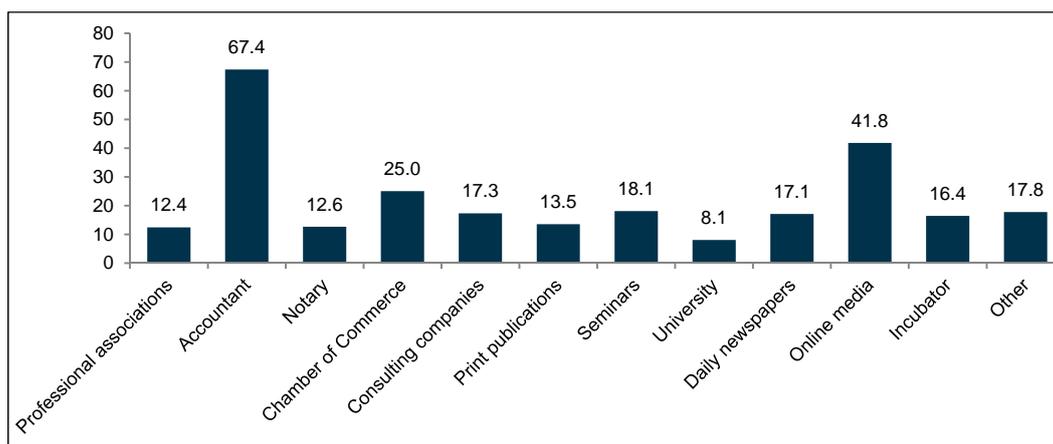
One of the most interesting aspects of this section of the survey is the study of the sources through which the innovative startups claim to have obtained information on the policy – in this case, understood in its entirety. The survey has revealed the existence of significant information asymmetries on the ways in which one can have access to the benefits.

The survey clearly shows that the most important source of information on the policy is represented by accountants: as many as 1,354 innovative startups, over two thirds of the respondents (67.4%), declare that they have received information on the measures from their accountant. This is a percentage that is almost double compared to the second most important single source of information, the online media (840 instances, 41.8%), which in turn greatly surpasses print publications such as magazines and daily newspapers. The Chambers of Commerce also play a non-negligible role: 25% of the innovative startups have indicated them as a source of information. Two channels that still are unable to express their full potential are employer associations – which play a

significant role only for the largest startups – and universities, the latter indicated by only 162 of the respondent startups (8.1%, enterprises engaged primarily in R&D activities).

The fundamental role of accountants in the communication of the policy is evident in all areas of professional activity. In the “Machinery” sector the percentage of respondents who received information from accountants is slightly lower than the average, but still higher than 55%; it reaches peaks of 70% or higher in the “Research and development” and “Consultancy” sectors. Online media have a particularly significant role for “Software” enterprises (45%), to which approximately 30% of all the startups participating in the survey belong. Vice versa, online media play a relatively smaller role in the enterprises operating in sectors closest to traditional industry (such as “Machinery”), indicated as a source for just over a third of the respondents. For these categories – and for the enterprises operating in “Trade” – a significant role is played by the Chambers of Commerce (respectively, 35.7% and 33%). Other sources of information mentioned in the survey do not generally exceed 20% for any category; the lowest share is regularly registered by Universities, which does not exceed 15% even among firms that operate mainly in the “Research and development” sector (Figure 5.1).

Figure 5.1 - Sources of information on the policy used by the startups - Year 2015 (percentage value)



Some interesting differences can be found by dividing the respondent enterprises according to turnover. For larger enterprises (exceeding €500,000 turnover in 2014) a stronger role is played by employer associations (19.2% of the enterprises, compared to the 12.4% average) and for consulting companies. Enterprises with lower turnover (under €100,000) instead indicate with a certain frequency the participation in seminars as well as the role of the enterprise incubators (19.8% compared to an average of 16.4%). Smaller businesses are also relying more often on the online media, which also – like accountants – remain a primary source of information for all the enterprises.

Looking at the year of incorporation of the respondent enterprises, one notes that the relative importance of the accountants and, in particular, of the notary professionals, has grown over the years: 64.4% of the enterprises incorporated in 2012 and earlier indicate the accountant and only 3.9% the notary, compared to respectively 70% and 19.4% indicated by those incorporated in 2015. In general, enterprises created before the policy’s entry into force tend to indicate informal sources such as online media more often.

5.2 Level of satisfaction

The survey investigates the satisfaction of the beneficiaries of the policy on innovative startups in two respects: the interest beneficiaries show in the measures that compose it and the impact felt by those who have used them. Under the first profile, addressed by question 4.1, it can be observed that the measure which sees the most interest is tax credit for R&D, despite the percentage of enterprises actually using it being rather low (12.2%). 38.0% declare an intention to make use of this opportunity in the future and only 8.8% claim to not be interested. Similar remarks apply to the incentives for equity investments, that 18.6% of the startups claim to have used and 36.1% intend upon using in the future, compared to 12.3% who are not interested. Two measures for which there is a significant number of enterprises showing no interest are equity crowdfunding (36.2%) and the opportunity of adopting stock option plans and non-taxable work for equity (25.1%), in turn used only by 1.7% and 4.4% of the innovative startups surveyed.

Similarly to what was found regarding awareness of the policy, taking account of interest in the measures also from the viewpoint of the founders' educational level, the following trends are observed: PhDs are less interested in access to the Guarantee Fund for SMEs, with 21.5% not interested and a utilisation rate lower than 10%, both data are much lower than what was claimed by entrepreneurs with other educational qualifications; a similar situation, even if less marked, also applies to investment incentives. Evidently, the innovative startups that come out of university research are not only characterised by a lower rate of knowledge of the measures, but also by less need to resort to this kind of external funding.

Another interesting trend is found regarding innovative startups that have followed an incubation path, now or in the past. Compared to non-incubated enterprises, they more frequently claim to have benefited from the incentives for investors in venture capital (21.6% compared to 17.6%) or that they are interested in using them in the future (37.6% compared to 34.4%): the same applies to the possibility of issuing stock options or providing work for equity schemes (33.7% compared to 25.2%) and to measures in support of internationalisation offered by the Italian Trade Agency (9.3% of incubated enterprises claim to have used them, compared to 4.1% of those that never have been incubated). Only those claiming to have used the proposed measures were asked to express an evaluation of their impact. Table 5.2 shows the number of respondents for each measure, which varies from a few dozen to several hundred, and their average evaluation provided on a scale from 0 to 5. It is found that the most popular measures are preferential access to the Guarantee Fund, which has obtained markedly positive reviews (on average 4.33, with 61.3% of the respondents giving it the maximum score) and R&D tax credit (on average 4.02, with 46% giving it 5 points). Obtaining high scores are also other fiscal measures: incentives for investors in equity and the Cipaq 2012-2014. It should also be noted that the few innovative startups that have used plans for incentives in equity (stock options and work for equity) give a markedly positive evaluation of this instrument's impact: 40% have given it the maximum score.

Among the least popular measures, we find some little used services such as the internationalisation support of the ITA and the Smart&Start and Smart&Start Italia tenders, for which the responses show a remarkable degree of polarisation – i.e., there are many instances of both 0 and 5 points given. The average score for the measure of which all the innovative startups have direct experience, i.e. the reduction of costs to the Chamber of Commerce, is among the lowest, but not because of the polarisation seen for the above-mentioned programmes: the evaluation is, on the contrary, distributed more or less evenly over all the values, especially the intermediate ones.

Table 5.2 - Average rating of the benefit measures (0-5 scale²)

Impact of the measures used	average rating	no.
Preferential access to the Guarantee Fund for SMEs	4.33	310
R&D Tax credit	4.02	213
Cipaq 2012-2014	3.80	117
Incentives for investors	3.72	311
Stock options and work for equity	3.59	80
Extension of terms for covering losses	3.49	224
Simplification of the VAT compensation	3.45	261
Flexibility in the use of fixed-term contracts	3.39	170
Smart&Start Italia	3.23	124
Patent Box	3.14	58
Dynamic wages	3.13	56
Inapplicability of the discipline for dummy companies	3.07	126
Flexible corporate management	3.06	501
Waiver of costs in the Chamber of Commerce	2.88	1,433
Reduction of start-up costs	2.84	1,291
Smart&Start	2.84	183
ITA services for internationalisation	2.72	97

5.3 The voice of startupper: suggestions and comments on how to improve the national policy framework

#StartupSurvey also contained an open-ended question: “In your opinion, how can the government strengthen the regulatory framework in which innovative startups operate? In which aspects of the life of the enterprise should it intervene?”

Here one part of the logic that inspired the survey is expressed, namely the attempt to obtain suggestions for action from the actual voice of the beneficiaries of the policy. The participants are asked to share their ideas through the suggestion of one or more policy proposals. To achieve this, any type of rigidity was deliberately avoided, allowing participants to comment on any topic of interest to them in the form and in the length that they consider most appropriate; given the optional nature of the response, the possibility of no reply was also admitted. No comparable efforts are known, either in terms of amplitude of the field of reference – potentially, all the Italian innovative startups – or for the quantity or responses received.

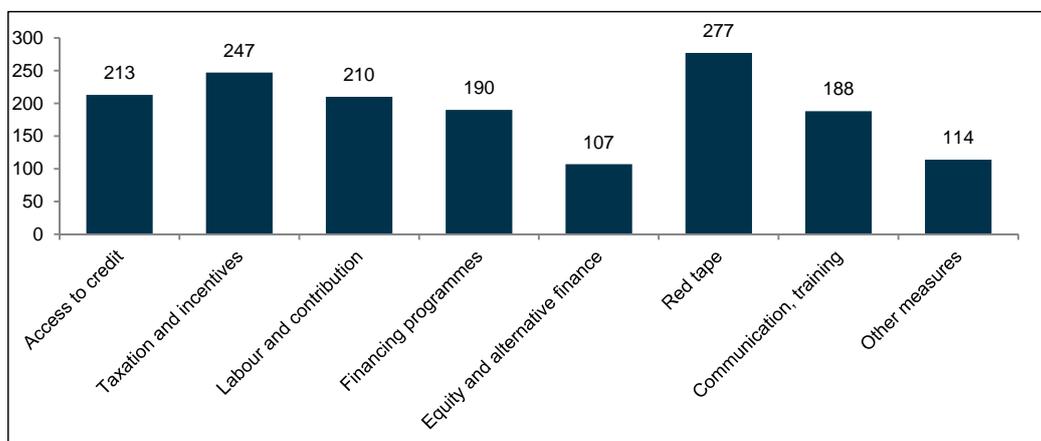
² Excluded from the table are measures with less than 50 responses: Italia Startup Hub, Italia Startup Visa, equity crowdfunding.

1,044 startups have filled in the field under examination. Removing any responses from the results that showed the startups' inability to express a proposal (for example, answers such as, "I don't know"), there remain 994 (44.2% of the 2,250 questionnaires received) containing answers referable to a specific and recognisable framework, therefore making it possible to identify them as "policy suggestions". The responses vastly differ, both for their length and their completeness: they range from answers of a few words to some particularly detailed and articulated ones.

There was a great deal of variety also in their content, but it was still possible to classify them: some topics in fact tend to have a strong recurrence. The analysis of the responses has allowed us to identify seven main categories:

- "access to credit": one startup out of five made proposals concerning the relationship with banks and, in particular, for access to the Guarantee Fund for SMEs;
- "taxation and incentives": included in this category are all the responses that refer to the topic of taxation and the incentive measures of a fiscal nature, such as the CIR&S. This is a category that, especially in the less detailed responses, has a certain degree of overlap with the next category;
- "labour and contribution": several innovative entrepreneurs have submitted suggestions regarding both the fiscal obligations (among the most common, the topic of the INPS minimal for the startups that do not invoice) and under the labour law aspect (discipline of contracts, recruitment etc.);
- "financing programmes": this is a very broad category, which contains references to already existing programmes for facilitated financing (such as Smart&Start Italia) and any proposal concerning financing measures other than banking or tax ones. Many of the answers contained herein are short and relatively vague, but some are more complex and make reference to the entrepreneur's specific experiences. In any case, there is a widespread request for grants (mentioned 37 times);
- "equity and alternative finance": there is a tendency to automatically associate this category to the world of startups: the responses cover incentives for investment in equity, equity crowdfunding, the role of Venture Capital and so forth. However, we note that this is a relatively under-represented topic in this context;
- "red tape": the majority of innovative entrepreneurs has proposed less red tape, including lower starting costs and less need to make use of notaries and accountants. This category includes a majority of generic responses as well as several that are more precise and articulated;
- "communication, training, networking and internationalisation": this category has as its common thread the need to facilitate the movement of information within the national and international ecosystem: information materials, networking events, matching with other enterprises, support for access to national and international markets;
- "other measures": around a hundred suggestions that do not fall entirely into any of the previous categories and are too infrequent to have their own classification. The most recurrent proposals concern measures on intellectual property, the world of incubation and innovative public procurement.

The frequency distribution for each category is illustrated in the following chart (Figure 5.2).

Figure 5.2 - Number of responses for each category - Year 2015 (percentage value)

The total number of frequencies (1,546) is different from the number of respondents, amounting to 994: many enterprises have submitted more than one proposal or offered proposals that involve different areas.

The most represented category is “Red tape” (27.9%), followed by “Taxation and incentives” (24.8%), “Access to credit” and “Labour and contribution” (almost equivalent, respectively 21.4% and 21.1%). The two macro-categories, “Financing programmes” and “Communication, training, networking and internationalisation” are respectively 19.1% and 18.9%. The least recurrent type is “Equity and alternative finance” (10.8%), exceeded even by the generic “Other measures” (11.5%) field.

Many of these suggestions have been made in joint form by the startups, in particular in the shorter answers, where they appear in more or less predictable formulas. This is particularly true for the topics of “Taxation” and “Red tape”, which are found together in no less than 68 cases: other common correlations are “Taxation” and “Labour and contribution” (48), “Taxation” and “Financing programmes” (41), “Taxation” and “Access to credit” (38).

The topic of taxation therefore tends to occur in several cases in correlation with other topics. Checking the number of responses associated to a single category, we find that this value is relatively low for this category (37.1% of the total), with only “Other measures” having a lower value. Some fields lend themselves instead to policy indications with greater specificity: over 40% of the fields related to “Labour and contribution” (43.2 percent), “Financing programmes” (42.2%) and “Equity” (40.7%) are filled in with an indication that pertains to that policy area alone: in other words, it is likely that the response has focused on one specific issue.

Entering more into the substance of the proposals, we can identify some relevant subgroups within each category.

About 30 of the suggestions that fall into the category of “Access to credit” refer to the Guarantee Fund for SMEs. Many answers illustrate the difficulties encountered in the direct experience of the respondent and they are articulated in more general suggestions, such as how to bring the guaranteed amount to a higher percentage.

In “Taxation and incentives”, 121 answers (49%) were classified as generic (i.e., declarations of intent such as the need for “lower taxes” or “less taxes”); some, instead, are more detailed and provide some proposals for establishing some form of temporary “no tax area” for a number of years that vary from 2 to 5, or they concern suggestions of interventions on specific taxes (VAT in particular).

The same applies to the topic of social security contributions, for which they propose various forms of exemptions on a time and turnover basis, as well as tax reduction in particular for employees.

A proposal that is very frequently catalogued under “Financing programmes” is the request to activate more multiple non-repayable transfers (almost a quarter of all the suggestions on this topic). Many of the proposals, however, concern problems related to the operation of the existing financing programmes, such as specific questions related to Smart&Start Italia and, more in general, other cash-negative tenders, (i.e. those in which the delivery of the financing comes in the form of reimbursement of expenditure already incurred, which therefore assumes that the enterprises already have enough financial availability to anticipate the costs).

About half of the responses classified under “Equity and alternative finance” (52 out of 108) refer to requests for expansion and extension of the legislation on tax incentives for equity investors. In a few cases there is a request for the abolition of the 30% limit on the shares held by a single person in the startup. Actually, this limit was already removed two months prior to the survey, with the enactment of a new Ministerial Decree on tax incentives to innovative startups. In another 15 cases the topic of equity crowdfunding is touched upon, generally calling for a simplification of the law.

“Red tape” is the category that has the greatest frequency of generic answers (such as “less bureaucracy”): over 70% of the total. But it is a classification that also absorbs very specific proposals or those linked to specific cases: some of the most common responses concern the launch procedures and the costs related to the role of intermediaries such as accountants and notaries.

The macro-category “Communication, training, networking and internationalisation” contains very heterogeneous proposals: some relate to institutional communication in general or to vocational training by intermediate actors (for example, Chambers of Commerce, banks etc.), others propose more structured systems of mentorship and support to the individual enterprise in phases such as go-to-market. 56 answers go into various degrees of detail on the topic of internationalisation and 27 proposals refer to measures which promote open innovation (in particular, cooperation with mature businesses and with the world of the university and research).

Finally, recurring topics, but not enough to merit a special category, are those of “Intellectual property” (26 mentions), “Incubation” and “Innovative public procurement”. For obvious reasons, here we can also find very original proposals, such as specific measures on spaces and logistical issues.

The macro-area territorial distribution of the enterprises that have given policy indications is representative of the national distribution of the innovative startups. 312 enterprises in the North West have filled in this field, about 30% of the total, compared to 30.6% of the innovative startups throughout the country. Following are the North East (271, 26%), Southern Italy (243, 23%) and Central Italy (218, 21%): none of these percentages differ significantly (more than 1%) from the national total. There is no apparent pattern by geographic macro-area in the answers: in general it is noted that the topic that elicits the most interest in the two areas of the North regards “Red tape”, in Central Italy it is “Taxation”, while issues related to “Access to bank credit” are found in the relative majority of the responses from Southern Italy, an area in which suggestions related to “Equity financing” are the lowest.

36.4% of the respondent enterprises (380) were incorporated in 2014, 27% (285) in 2015 and 20% in 2013; all the others were incorporated in 2012 and earlier. The age of the innovative startups has not significantly affected the type of answers: one does note, however, that the younger enterprises have proven to be more sensitive to the topic of

“Red tape” than the older ones, who instead show a slight prevalence of interest in the question of “Taxation” (2013) and in the “Cost of labour” (2012).

Just like innovative startups in general, the vast majority of the respondents have a turnover lower than €100,000: 505 out of the 792 for which financial statement data are available (63.8%). The breakdown of the responses given by this category faithfully represents what has been indicated overall by the respondents. For the innovative startups with higher turnover (216 between €100,000 and €500,000, 43 between €500,000 and €1 million, 23 exceeding €1 million) one instead observes a slight increase of the topic the “Cost of labour”, which attracts for all these categories over 25% of the responses compared to the average of 21.1%. As was expected, there was little interest in forms of “Equity financing” and alternatives to bank credit, which however are not widely cited in any turnover class.

The decision to introduce an open-ended field for suggestions in this survey should be seen in the context in which it is placed: the section to assess the level of knowledge and appreciation of the policy. We hope that this exercise has also provided an opportunity for the startups to broaden their knowledge: a possibility for them to become fully aware of the extent and limits of the range of benefits that are available to them, of how they can best take advantage of them, and to discover what truly hinders their use.

In conclusion, it is very positive that over a thousand entrepreneurs contributed, without there being any obligation to do so, in free and autonomous evaluations of the opportunities offered by the economic policy measures for innovative startups. It is hoped that similar initiatives may constitute a step for better understanding the relationship between lawmakers and recipients of public policies in a logic beyond passive adherence to rules: a bi-directional relationship, open to new proposals and constructive criticism, founded on healthy and fruitful collaboration.

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