Ministero dello Sviluppo Economico

Report to Parliament

on the implementation of policies in support of innovative startups and SMEs

Federica Guidi

Italian Minister of Economic Development

September 2015

Introduction

In March 2014, when I took over as Minister of Economic Development, I inherited a wide range of challenges, opportunities and emergencies from previous administrations. Recalling the process of exploration and fast learning that I experienced in my first week in office, I remember with pleasure that one of the acts with which I started my term in office was the submission to the Italian Parliament of the first annual report on the implementation of the policy on innovative startups.

Based on an express provision of the law, I was required to report on regulatory developments and the first impact analyses of legislation that at the time resembled nothing so much as a large building site. Faced with a legislative package that was starting to take off, about a subject, that of promoting new innovative business ventures, which I thought was essential for strengthening the competitiveness of the national economic fabric, I favoured a gradual approach based on continuity with ongoing actions. The months that followed the submission of the first report were characterised both by a consolidation of existing initiatives as well as by a growing expansion of the range of measures to support new innovative business ventures.

With regard to the former, there was a continuation of hidden but vital work based on monitoring the signals coming from the ecosystem. This included discussions with market participants and replies to requests for information from citizens and companies. It was possible to resolve interpretative doubts raised by a number of parties in relation to the legislation – through the drafting of circulars, guides and explanatory documents and the development of procedural simplifications. This was a natural result of legislation characterised by strong innovative elements and its widespread communication throughout the regions, often in collaboration with the Chambers of Commerce. Solid, meticulous, comprehensive and continuous work.

However, we needed to implement new initiatives to raise the level of ambition, to accelerate the process of catching up with our international competitors that our ecosystem has undertaken in recent years, and to implement its own original features.

The Italia Startup Visa and Italia Startup Hub programmes date back to June and December 2014 respectively. These programmes revolutionised – by simplifying, accelerating and putting them online – the procedures that allow the attraction and retention of talent from outside Europe to our country. Those who choose our country to start their innovative enterprises can open up and enrich our ecosystem.

Then, the "Investment Compact" Decree-Law, which was converted into a law in March 2015, introduced the new procedure that allows entrepreneurs to establish innovative startups online. This can be done without the need to use external professionals, with lower costs and digitally signed articles of incorporation. The same measure also enhanced the programme on innovative startups, bringing the period for which the subsidies are applicable up to five years.

However, it was through another provision of the Investment Compact that public action to strengthen the innovations ecosystem achieved the most significant breakthrough since the Growth Decree 2.0 at the end of 2012. This was the provision related to innovative SMEs. This provision extended a large part of the measures already provided for the benefit of innovative startups to a potentially much broader target, comprising all small and medium-sized companies operating in the field of innovation, regardless of their date of establishment, formulation of corporate purpose or level of development. With this sort of legislation aimed at stimulating new businesses, startups and innovative SMEs are just two evolutionary stages of a sequential and coherent process. Through it, the Government wishes not only to facilitate the

starting phase but also, after two years, to accelerate the strengthening and growth in size of all companies with a strong focus on innovation among the SMEs, which form the backbone of our economy.

Having reached the second edition of this report, I am therefore firmly convinced that in recent months, public actions in favour of the national ecosystem of innovative business ventures have gained further strength and effectiveness. The rapid and sustained growth of innovative startups, of which ample evidence is given in the following pages, will allow the reader to assess this evaluation objectively and scientifically.

At the end of August 2015, there were 4,511 innovative startups, 1,391 more than at the end of 2014 and 2,792 more than the number recorded at the end of February 2014 in the previous report to Parliament. Figures like these illustrate the high level of attention that the innovation ecosystem is paying to the policy, its increasing appearance in public discussions about innovation, and its gradual dissemination through the regulatory instruments used to promote investment in innovations.

This is a growing recognition, which is clearly perceptible all over Italy, when one considers that, on average, 40 new innovative companies are set up each week from Milan to Palermo, which further expand the number of companies in the special section of the Registry that gives access to the incentives system. Eight provinces are now giving a permanent home to over 100 innovative startups. The figures show three particular areas of concentration, in the cities of Turin, Rome and Milan, the latter now being able to proudly stand up to competition with major European cities. There is also a significant presence of innovative startups in the South, where the province of Naples ranks fifth among the provinces of Italy in terms of startup numbers.

This phenomenon, it should be added, has started to show figures that are significant, including those for employment trends and, more generally, in terms of size as well. According to data from the Chamber of Commerce, on 30 June 2015, innovative startups employed 20,800 workers (16,861 shareholders – one may assume that the shareholders are directly involved in their companies – and 3,924 employees). This was about 2,900 more than in the previous quarter and over 5,800 more when compared to late 2014.

Between 2013 and 2014, we have also witnessed an increase in the number of companies with employees (from 634 to 1,010), accompanied by an increase in the average number of employees (3.2 to 3.4).

Also as at mid-2015, 461 startups were able to attract bank loans using the simplified and free procedure provided by the Guarantee Fund for SMEs, for a total amount of €198 million. This was an average of €306,000 per loan, a particularly high figure considering that they are high-risk companies and that traditional companies are having continuing difficulties in accessing credit.

Encouraging signs also came from the data on tax incentives for investments in startup equity. In 2013, the first year of operation, 844 taxpayers (individuals and companies), directly or indirectly, invested resources amounting to €28.2 million. This data shows a good start for one of the main tools of the "startup package". I am confident that the next report, which will analyse the transactions in 2014 (the period when the number of startups achieved higher figures), will confirm a significant impact on the equity investment market. Further impetus will also be offered by the enhancing of the rules about incentives, with a broadening of the range of investments eligible for subsidy and a simplification of procedures. This development was made possible by the new European Commission guidelines on state aid, which were published in the summer of 2014.

Despite the great efforts that have been made and these very encouraging figures, many challenges persist. Three challenges remain above all:

1. *To internationalise the Italian ecosystem of innovative entrepreneurship, make it more attractive to the international flow of human and financial capital, and improve its recognition globally. I have already mentioned the Italia Startup Visa and Hub programmes, which revolutionised the procedures for granting visas and residence permits for self-employment to the advantage of talented people from outside Europe who want to start high-tech companies in our country, but that is far from all. The recent launch of a collaboration between the Italian Investment Fund and the European Investment Bank, the agreement signed with France in May 2015 for the submission of joint investment projects under the Juncker Plan, the Italian contribution towards creating a Single Digital Market for the European Union, membership of initiatives such as the Policy Tracker Startup Manifesto, a valuable mapping of national strategies on innovation, and the Startup Europe Partnership, to encourage cooperation between large companies and innovative startups, are the most vivid examples of the international drive that increasingly characterises Government action in the field of innovation.*
   However, in order to move faster, team spirit and commitment from everyone is required to enhance recognition of the good progress that Italian innovative entrepreneurship has made in the last three years, both in Italy and overseas. Although the Italian innovation ecosystem has now gained self-awareness and the many scattered centres of excellence are finding cohesion thanks to the policies implemented in the last three years, some media debates about startups continue to view the phenomenon as a passing fad. On the contrary, in a world where value chains are increasingly global, a country's ability to generate new companies and push them towards the frontier of innovation is bound to be one of the main determinants of competitiveness.
2. *Strengthening the venture capital investment market. Although tax incentives for investment are showing slightly encouraging signs, despite the intensification of the action in terms of venture capital by the Italian Investment Fund, despite Italy being one of the first movers with equity crowdfunding legislation, the figures for equity investment in new innovative companies are not yet up to standard for a large industrialised country. So many of the talented people who create innovative companies are not able to attract the capital that would allow their companies to grow, and are forced to lower their ambitions. At a regulatory level, the strengthening of tax incentives for investment in startups and measures to ease the regulations on equity crowdfunding are currently underway. The recent creation of a €50 million venture capital fund, managed by Invitalia and able to mobilise the same amount of resources from the private sector, testifies to our commitment to achieve our goal. However, even in this case, we need a strong commitment from everyone, especially from the private sector, which is called upon to have a greater tolerance of risk and to devote more attention to productive investments in research, development and innovation.*
3. *To multiply and improve the links between research and industry, and between traditional companies and innovative companies. This is not a leitmotif or empty rhetoric, but a commitment that the Ministry of Economic Development has been pursuing via tangible steps. I refer not only to the aforementioned investment incentives for venture capital, which also affect companies, but also to the new tax credit system for research and development launched by the Stability Law of 2015, which provides significant tax benefits for companies doing research and innovation by cooperating with research centres, laboratories and startups. Large companies, which could innovate entire supply chains by drawing from the pool of innovations contained in startups, continue to view the latter with indifference, if not suspicion. We need a paradigm shift that would be able to create a dynamic synergy*

between mature companies and a new generation of startups, and to promote acquisition and acqui-hiring processes.

To conclude, a great deal of work has been carried out since March 2014, and the path that has brought us this far has been arduous but continuous. Our commitment to supporting and strengthening the entrepreneurship of a new generation is unchanged. Strong public investment and regulatory effort is not only justified for economic reasons – such as the pursuit of sustainable development, strengthening the competitiveness of the economy and the creation of new jobs based on the centrality of innovation, which is unanimously recognised by international economic experts as a fundamental driver of economic growth – but also in terms of meta-objectives of a social and cultural nature.

The very publication of this report signals a change in attitude compared with the past. The Government's intention is not only to "claim victory" when things are going well, but above all, to allow transparency in relation to the effects of the policies it is pursuing, to make data and facts available to the public, to judge and be judged. I believe that this trend toward decisions that are as evidence-based as possible is essential for identifying errors, correcting and learning from them. Only in this way, can the use of public resources – not only financial but also in terms of "political capital" for the benefit of a cluster of enterprises we think it is our duty to believe in – be truly responsible.

To identify the meta-objectives underlying our policy effort, we will briefly remind you of the salient features of the startup phenomenon. A startup is a new innovative company that, by definition, aspires to grow rapidly and is not content with a local market. Instead, it is driven by a strong international ambition, is based on a team with diverse skills, has a strong drive towards innovation and grows not by improvisation but through a structured and continuous planning process.

Thus, startups metaphorically embody a change that is very desirable, not only in business but also, in a broader sense, at the cultural and social level.

The ambition to face the toughest challenges, awareness of what is happening in the world and one's own role in it, the ability to bring together talent and build on collective intelligence to pursue common objectives, the willingness to find new solutions to old problems and the ability to take decisions that are planned, not improvised. Are not these characteristics that we want for Italy?

The Minister

Federica Guidi

This report was produced by the Technical Secretariat of the Ministry of Economic Development and Division VII "SMEs, innovative startups and enterprise networks" of the Directorate General for Industrial Policy, Competitiveness and Small and Medium Businesses (DGPICPMI).

Its contents were agreed with the "Technical Committee for monitoring and evaluation of policies in favour of startups and innovative SMEs", set up at the Ministry of Economic Development (MiSE) under the Ministerial Decree of 27 May 2015.

The Committee is chaired by Stefano Firpo, Director General for Industrial Policy, Competitiveness and Small and Medium Businesses. Patrizia Iorio, head of the Division VII of DGPICPMI, is a permanent member in accordance with the law.

The following are temporary members, nominated by their respective organisations:

Gerardo Baione, Mattia Corbetta and Enrico Martini, representing MiSE;

Fabio Bacchini, Alessandro Faramondi and Caterina Viviano, representing Istat;

Silvia Carbone, representing the Consob;[1]

Antonio Benfatto and Domenico Mauriello, representing the Chambers of Commerce;

Luca Grilli, Associate Professor at the Polytechnic University of Milan, as an independent expert.

The report was prepared by Carla Altobelli, Paolo Carnazza, Mattia Corbetta and Enrico Martini.

We thank the following for their cooperation: Fabio Bacchini, Alessandro Faramondi, Marco Ventura, Caterina Viviano (ISTAT); Luca Grilli (Politecnico di Milano); Silvia Carbone, Davide Zaottini (Consob); Stefano Casagrande, Marco Conte, Caterina Pampaloni, Giuseppe Salonia, Pierluigi Sodini (Unioncamere); Antonio Benfatto, Luigi Marangon (Infocamere); Emanuele Baglioni, Gianpaolo Bruno, Rossana Ciraolo, Ferdinando Gueli, Marco Saladini, Silvana Stella (ICE); Alfredo Bruni, Lina D'Amato (Invitalia); Salvo Mizzi (Invitalia Ventures), Cristina Bini, Luigi Tommasini, Giacomo Valentini (Fondo Italiano d'Investimento), Massimo Mamberti, Alessia Marchione (Comitato Leonardo); Maurizio Cuppone, Eleonora Egalini, Alberto Pela (GSE); Anna Amati and Dario Mazzella (Meta Group).

[1] The public authority responsible for regulating the Italian financial markets.

Table of Contents

Summary of the report

Now in its second edition, this report aims to show the regulatory changes that have been part of the Government's strategy to support the ecosystem of innovative companies from March 2014 to date (Chapter 1). It describes the "demographic" dynamics of innovative startups, which form the main focus of this edition, as well as of the certified incubators and innovative SMEs registered in the special sections of the Register of Companies (Chapter 2). It also analyses the initial results generated by the policy instruments that make up the Italian "Startup Act" (Chapter 3), and highlights additional initiatives for the ecosystem that were introduced after the Growth Decree 2.0 (*Decreto crescita* 2.0) (Chapter 4).

In this period, the Government's commitment to supporting innovative businesses reached an important turning point with the enactment of the "Investment Compact" decree-law, which extended some of the support measures provided to innovative startups to a new range of enterprises, that is, innovative SMEs. This covers all small and medium-sized businesses operating in the field of technological innovation, regardless of their date of incorporation and their corporate purposes.

The relatively short time that has passed since the start of Growth Decree 2.0 (whose conversion into law dates back to December 2012, while the establishment of the special section of the register dates to February 2013) does not allow a thorough assessment of the impact of the various measures. However, the figures that will be presented highlight the emergence and gradual consolidation of a national innovation ecosystem that can stand up to international competition and provide an inspiration for the modernisation of the Italian entrepreneurial model.

As of 30 June 2015, there were 4,206 innovative startups registered in the special section of the Companies Register of the Chambers of Commerce, including over 3,000 created after the Growth Decree 2.0 came into force: 18% in 2015, 35% in 2014, 23% in 2013 and only 24% before 2013. Each week, from Milan to Palermo, on average, 40 new innovative businesses are established and added to the special section of the Register that gives access to the system of supports. Eight provinces now have, on a stable basis, a quota of at least 100 innovative startups (Milan, Rome, Turin, Bologna, Naples, Modena, Florence and Trento). Startups all fall into the 'small' and 'very small' size categories. In fact, only 1,275 startups have any employees, and of these, 95.7% are micro-companies (belonging to the 1-9 employees size category).

The phenomenon is also having a noteworthy effect in terms of employment. According to data from the Chambers of Commerce, again on 30 June 2015, innovative startups employed nearly 20,800 workers (16,861 shareholders – presumably directly involved in the company as partner-workers – and 3,924 employees), about 2,900 more than in the previous quarter and 5,800 more than at the end of 2014, when there were 14,862 shareholders and 3,025 employees.

By analysing the human capital factor more deeply, we can see that a quarter of the overall number of startups on the register are made up of businesses controlled by young people (aged under 35). This is more than double the percentage for all businesses (12%) and four times the figure for joint-stock companies (7%). This gap is significantly greater if we take into account all the companies in which there is at least one young person amongst the shareholders or on the Board of Directors (41% for startups vs. 13.6% for joint-stock companies).

Amongst the innovative startups, a significant number of (782) of companies declared that they possess a means of protecting intellectual property.

The geographical distribution of innovative startups reflects a balance that, on a larger scale, characterises the national economy. The South of Italy is now home to 22.3% of the innovative startups in the country, the Central regions have 21.4%, and there are 56.3% in the North (30.7% in the North-West, 25.6% in the North-East). The Italian region that forms a home to the highest proportion of innovative startups is Lombardy (21.8%), followed by Emilia-Romagna (11.9%), Lazio (9.8%), Veneto (7.5%) and Piedmont (7.1%). Amongst the regions in the South, Campania and Sicily stand out, respectively in seventh and eighth place in the national rankings, with 5.8% and 4.3% of the total number of startups.

By analysing data relating to registration trends, it emerges that – excluding the initial peak in early 2013, shortly after the start of policy – there has been an almost linear growth over the last two years, although these have been characterised by a severe and widespread recession. The upsurge of startup companies therefore appears to contrast with the overall figures for new registrations of Italian companies, which in recent times has seen a slow but steady decline. Since the policy came into force, the average number of innovative startup registrations has risen from 79 per month in 2013 to 122.7 in 2014 and 127 in the first half of 2015.

A second pillar of the legislation aims to promote the creation of certified incubators. These are businesses that host, support and accompany the development of entrepreneurial startups from conception through to early development, by offering training, operational support and management. They provide tools and workplaces and facilitate contacts between investors and business ideas that are believed to have a high potential for financial return, but which are, as yet, not attractive to market capital.

At the end of June 2015, 30 certified incubators were registered, almost three-quarters of which were located in the North, about 25% in the Centre and only one in the South (in Sardinia). These employed a total of 322 employees, an average of 11 per company, with the largest having 71 employees .

Last year's value of production (the 2013 or 2014 figures, depending on the case) shows that the certified incubators have an average turnover of €1.6 million, with a maximum of nearly €7 million. The share capital of these companies is €1.9 million on average, with a maximum capitalization of nearly €10 million.

On the regulatory front, the last 18 months has been marked by important innovations that have boosted the number of measures aimed at supporting the emergence and expansion of innovative startups. A second generation of incentives was added to the legal instruments introduced in late 2012 with Growth Decree 2.0, including a reduction in costs for business startups, simplified, direct and free access to the Guarantee Fund for SMEs, and an equity crowdfunding tool for the online raising of broadly held capital and incentives for capital investment in startups. These new incentives were aimed at completing the subsidy framework aimed at growing the national innovative entrepreneurship ecosystem. The Italia Startup Visa and Italia Startup Hub programmes are aimed at facilitating the attraction and retention of talented people from outside Europe that are interested in starting an innovative business in Italy. The following elements were added to their programmes: soft loans with interest subsidies awarded by Invitalia under the Smart&Start programme, a new and free-of-charge online procedure for establishing innovative startups using standard articles of incorporation and articles of association with a digital signature, and a time extension, from 4 to 5 years, for innovative startup status.

As already mentioned, the benefits for innovative startups provide for lower initial costs related to starting companies and the formalities required by the Registrar of Companies, with a tangible impact on the costs of setting up businesses. Once they are registered in the special section of the Register, innovative startups and certified incubators"*... are exempt from the payment of stamp duty and administrative fees for obligations concerning registration in the trade register, as well as payment of the annual fee to the Chambers of Commerce*" (Article 26, Section (8) of Decree-Law 179/2012, as converted by Law 221/2012). These benefits result in appreciable savings, particularly for companies that are generally very small. If we examine the 888 companies already in existence on 18 December 2012 and that were only self-certified as innovative startups after the special section of the Register was established (February 2013), it is estimated that if these businesses could have benefitted from such exemptions from the time they were founded, they would have achieved average savings of €525 each in the first year of registration on the Register of Companies, and €435 for the following four years.

The Guarantee Fund for SMEs is also showing figures that are particularly encouraging.

This fund was created to facilitate access to credit and the development of micro, small and medium businesses by granting a public guarantee in relation to loans granted by banks.

With reference to innovative startups and certified incubators, the Fund intervenes without charge, covering 80% of the loans issued by banks, without performing creditworthiness checks additional to those already performed by lenders. This preferential access is resulting in very solid figures.

646 applications for support from the Fund in favour of innovative startups were approved between 26 July 2013 and 30 June 2015. In this context, the Fund has granted nearly €156 million in guarantees, which in turn have generated about €198 million in credit. 461 innovative startups have had access to these benefits, of which 110 (24% of the total) were for more than one financing agreement.

The level of funding granted amounted, on average, to €306,000 per transaction, a much higher value than that recorded in 2014 for all SMEs (€134,000).

The most representative category size, for the entire period under review, is the category for loans with a monetary value of between €100,000 and €300,000 (32.2% of the total). Loans exceeding €500,000 represent 13% of the overall loans guaranteed by the Fund, and 7% are for more than €1 million.

To strengthen the venture capital investment market, Article 29 of Growth Decree 2.0 provides that individuals investing in innovative startups with cash contributions are entitled to a deduction from the gross tax on their income of 19% of the amount invested, up to a maximum amount of €500,000. Companies are granted a deduction from taxable income of 20% of the amount invested in share capital, subject to a maximum of €1.8 million. The deduction rate for natural persons increases to 25% and the rate for companies increases to 27% for investments in innovative startups with social goals, or those that exclusively develop and market innovative high technology products or services for the energy sector.

The figures for the first year of operation are showing encouraging signs: in 2013, when the number of innovative startups was still very small, there were 844 taxpayers, both individuals and businesses, who had made investments of €28.2 million, directly or indirectly, in relation to 463 innovative startups.

In particular, investments by individuals amounted to €14.5 million (of which €0.9 million was as indirect investments) and involved 338 innovative startups. Deductions from taxable

income for income tax of almost €2.9 million were granted. Investments by companies that were eligible for tax concessions reached the sum of €13.7 million (€1.5 million as indirect investments) and involved 126 innovative startups. Deductions from taxable income for IRES corporation tax of almost €3 million were granted.

Furthermore, according to AIFI[2] data for 2013, 'early stage' investments amounted to €81 million. The share of investments subsidised by this measure was almost a third of the market's total.

With regard to angel investment, the latest IBAN[3] Survey calculated a total amount invested in startups of €46 million for 2014, up 45% compared to 2013. These figures give a glimpse of a dense undergrowth of different investors emerging, and we expect a strong increase in subsidised investments from 2014 onwards.

Equity crowdfunding is an innovative system for raising widely-held capital using online platforms, and it is showing signs of some vitality. By 31 August 2015, 17 portals had been entered onto the register managed by Consob, of which 16 were authorised by the latter and one was operating as an investment firm with prior authorisation to provide investment services. 8 of the registered portals are currently operational.

The range of offers available via online portals is still quite limited. Up to 31 August 2015, a total of 25 offers had been made available on these portals. On average, the capital requested amounted to approximately €342,000 per project, with a minimum of €80,000 and a maximum of €750,000. The average share of venture capital on offer was 23.74%.

Of the 25 available services, 8 ended up operating successfully (36.4%), whilst of the other 17, 14 were shut down without success and 3 were still in progress. The total funds requested by the startups that have published their offers via these portals amounted to €8,545,976, whilst the amount actually subscribed, which is a first estimate of the potential for raising capital through online portals, amounts to little more than €2.3 million, equal to 33.3% of the overall targeted capital raising for the completed offers.

In addition to the provisions of Growth Decree 2.0, the Ministry of Economic Development has committed itself to other programmes in support of the innovations ecosystem. In particular, in collaboration with the Ministry of Foreign Affairs, the Ministry of Interior and the Ministry of Labour and Social Policies, it has started a visa policy aimed at innovative entrepreneurs from outside the EU, as a strategic lever for attracting and retaining highly qualified human resources to our country.

Launched by the Ministry of Economic Development on 24 June 2014, the Italia Startup Visa programme introduced a centralised fast-track mechanism, with a minimum of bureaucracy, for granting entry visas for the self-employed to applicants who intend to establish an innovative startup in our country.

On 23 December 2014 the Italian Startup Hub was launched, based on the blueprint for the Italia Startup Visa, which extended the fast-track procedure to non-EU citizens who already have a valid residence permit (obtained, for example, for study purposes) who want to remain in the country after expiry of the permit in order to establish an innovative startup. In this way, they could convert a residence permit to a "self-employment startup permit" without having to leave Italy, as well as benefitting from the same simplified procedures that are applicable to the granting of startup visas.

[2] Italian Private Equity and Venture Capital Association

[3] Italian Business Angels Network

As of 31 August 2015, 37 applications had been received in relation to the Italia Startup Visa programme (18 of which arrived in 2014, and the remaining 19 in 2015). There were 15 countries of origin: mainly Russia, with 10 applications, followed by Ukraine (5), Pakistan (4) and Japan (3). Of the 37 applications, 24 were successful (65%), 11 were rejected due to the weakness of the business plan or lack of innovation and 2 were considered inadmissible due to the requirements not being met.

With regard to the Italia Startup Hub programme, again as of 31 August 2015, a joint application from two Koreans citizens, and an application from an Iranian citizen already resident in Italy for study purposes had been received (all of whom had obtained 5-year university degrees).

Another subsidy instrument showing consistent results has been the Smart&Start measure, which provides for the granting of zero-interest loans by Invitalia. The first wave of subsidies (between 16 February 2015 and 29 July 2015) involved 131 innovative startups at a total of €65.8 million of benefits provided. It is expected that the startups will trigger investments exceeding €63.2 million, of which nearly 75% will be for companies located in the Centre-North of the country.

More recently, further initiatives have given even stronger support for the development of the national innovation ecosystem.

In particular, to support venture capital investments in firms with a high growth potential, the Decree of the Minister of Economic Development of 29 January 2015 allocated a share of the resources in the Fund for Sustainable Growth of €50 million to a fund named "Italia Venture I", which is managed by Invitalia Ventures SGR S.p.A.

At the same time, activities carried out by the Chambers of Commerce all around Italy, aimed at supporting innovative startups have been significant; in particular, a roadshow of 7 meetings was held in the final months of last year, coordinated with the Ministry of Economic Development, to publicise the whole structure of regulations in favour of innovative startups at a local level.

The need to organise these meetings was linked to an appreciation that many businesses knew very little about the industrial policy measures recently implemented by the Government.

This information gap was also reflected in a survey carried out in May 2015 by the Ministry of Economic Development, on a sample of 1,000 "excellent SMEs", defined based on a number of parameters including their investments in R&D and innovations.

The primary purpose of the survey was to measure the performance of innovative Italian companies and facilitate the emergence of a niche of "excellent" businesses, with potential for playing a strategic role in reviving the national productive system.

Research shows signs of a significant recovery in the economy, with particular reference to the forecasts for 2015 for turnover and employment, and a degree of computerisation that, on the whole, is satisfactory.

There was a significant commitment by the vast majority of excellent businesses to make investments, that were mainly innovative in nature. In particular, just over 80% declared they had made investments in 2014 and intended to do so in 2015 as well. In addition, 96.7% and 95.4% of the sample indicated, for 2014 and 2015 respectively, that they supported or would support investments in product, process and organisational innovation. These data are especially important after many years when investment activities have effectively been “on strike”.

Finally, a high proportion of excellent SMEs (just over 56%) reported that they had carried out overseas transactions in the period 2012-2014, which bears witness to the fact that, quite often, innovation and internationalisation strategies go hand-in-hand.

The survey by the Ministry of Economic Development confirmed the results of many other studies and research highlighting the fact that innovative businesses perform better than those that are not particularly innovative, above all in regard to the main company indicators (turnover, employment and investment).

Therefore, targeted support of this group of successful companies may be a further stimulus for economic growth.

Bringing on models of excellence and success and triggering positive emulation processes are two key challenges in the context of industrial policy, concerning which the Ministry of Economic Development intends to step up its efforts in the coming year.

1. The Investment Compact and other regulatory developments

WHY PROMOTING INNOVATIVE ENTREPRENEURSHIP MATTERS

The promotion of innovative entrepreneurship is one of the main objectives of the Ministry of Economic Development's industrial policy.

Before discussing the regulatory changes that have occurred since the previous edition of this report, we would like to recall the main theoretical paradigms that underlie them.

That technological innovation is a harbinger of better performance at a macro level is an assumption recognised in literature as early as Solow, who in his 1957 classic – "Technical Change and the Aggregate Production Function" – calculated how much technological advances had contributed to the 87.5% growth of the US economy from 1909 to 1947.[4]

The most recent economic literature also attributes to new innovative companies, compared to existing ones, a greater impact on overall levels of output and employment (Enrico Moretti, "The new geography of work", 2013) and emphasises the importance of public intervention in support of innovation (Mariana Mazzucato, "The Entrepreneurial State", 2013.)

The views of economic theorists on the central role of innovation in development processes is therefore a major source of inspiration for the policy on innovative startups. The economic literature, which emphasises the role of new businesses in the dynamics of growth and job creation, runs parallel to this line of research.

In "Science, Technology and Industry Scoreboard 2013", the OECD, in focusing on 15 major world economies, estimated that over the past decade, excluding the financial sector, recent businesses (established in the last 5 years), while only employing 20% of the overall work force, generated almost half of the new jobs. Moreover, during the last recession, there was a greater loss of employment from companies that had been running for over 5 years, whilst net employment growth remained positive in recently established businesses.

Furthermore, a study by the Kauffman Foundation in 2010 showed how, from 1977 to 2005, the net growth in employment in the US occurred only through companies that had only been in business for less than a year. The study revealed that, on average, existing companies had lost about a million net jobs each year. In contrast, new companies had added an average of three million jobs. The study also highlighted that trends in the expansion of both startups and existing companies were pro-cyclical, but while the ability of startups to create jobs remained more or less stable during recession years, the net loss of jobs in existing businesses was very significant and sensitive to the intensity of the economic cycle.[5]

The above helps explain why, in the regulatory process undertaken by the Ministry of Economic Development since 2012, attention has focused on innovative new or newly established businesses - innovative startups. However, certain statistics on the structure of the national economic fabric show why, through the Investment Compact (2015), the Government's strategy has aimed to extend the scope of assistance to all small and medium companies with clearly innovative characteristics, including those that were not recently

[4] The endogenous growth models: [Romer (1986), Romer (1990), Aghion and Howitt (1992)] follow the Solowian model.

[5] The studies on this topic included, of note: Haltiwanger et al. (2013), Kauffman Foundation (2010), OECD (2013).

established and have a more consolidated turnover than startups, these are the innovative SMEs.

First, SMEs are the backbone of the Italian economic system.

According to the latest official data provided by Istat on nearly 4.4 million SMEs, medium-sized companies are only 0.5% of the total number of businesses, whilst large businesses account for only 0.1%.

The contribution towards generating overall added-value by the three main size segments of businesses is quite balanced: 30.8% by micro-companies (with fewer than 10 employees), 37.7% by small and medium sized companies (10-249 employees) and 31.5% from large companies (250 or more employees).

Table 1.1 Structure of industrial companies and services – 2012 data

The size of companies	Number of companies currently trading	% of total companies	%of the value added
1-9 employees (Micro)	4,140,639	95.2	30.8
10-49 (Small)	185,852	4.3	37.7
50-249 (Medium)	21,134	0.5	
SMEs	4,347,625	99.9	68.5
> 250 (Large)	3,393	0.1	31.5
Total	**4,351,018**	**100.0**	**100.0**

Source: based on ISTAT data

The significant role of SMEs in the Italian economy is also shown by their contribution in terms of exports. About 54% of total exports involve this segment, and of the 211,000 Italian companies that export, almost two-thirds have fewer than 10 employees.

Moreover, 80.6% of employees are employed in SMEs, 47.5% in the micro companies. It is a segment that, even during the most acute phases of the recent recession, has "held" better in terms of employment levels than that of large companies. 64% of new jobs created in Italy in the decade from 2001 to 2011, net of public authorities and agriculture, is attributable to micro, small and medium size businesses. Thus, they have played not only an economic role but a social one for our country too, in the longest and deepest period of recession since the economic recession of the 1930s.

Second, within the Italian SME sector, there is a sub-set of innovative businesses with better performance in terms of turnover, employment and investment, etc. compared to non-innovative businesses. Supporting excellent businesses with more developed innovation and internationalisation strategies can therefore be a further stimulus to economic growth.

A large amount of research and numerous analyses confirm the existence of this "qualitative difference" in the Italian and European business world, and support the concept of the strategic importance of excellent businesses.

For example, according to the European Commission's European Competitiveness Report 2014, companies that produce innovations create more jobs than non-innovating companies do, at all stages of the business cycle. More specifically, the study showed that companies involved in product innovation create more jobs than companies that innovate in other fields.

In addition, product innovation contributes to employment growth, particularly during the phases of expansion, whilst in times of recession it contributes to maintaining employment at relatively stable levels. Finally, the research underscored the importance of supporting investment in innovation activities, especially during recessions, since this trend tends to decrease when companies anticipate stagnant demand.

The report presented by Intesa Sanpaolo at the last Small Industry Forum of Confindustria, based on a survey of about 43,000 companies, confirmed that SMEs that innovate are able to mitigate the negative effects of a recession. Between 2008 and 2013, the decrease in net sales was 9% for companies that did not take out patents and only 3% for those that innovated. There were about 4,000 companies that innovated and had at least one patent application during the reporting period. These companies were able to promote the development of their subcontractors through the transfer of knowledge, technologies and the exchange of personnel and technicians. In addition, companies that developed new products and services in 2013 hired more young people up to 29 years of age (10.3% in construction, 13.6% in services, 15% in industry, excluding construction, 5.5% in agriculture and 37% in public utilities) compared to non-innovative companies.

A recent survey conducted by the MET economic policy research centre based in Rome on a sample of 25,000 companies showed that, between the pre-recession period and 2012, the difference in performance increased between two extreme types of businesses. The first included excellent businesses, with an export share of turnover exceeding 25% and an investment in R&D and innovations; the second included businesses geared to the domestic market, which lacked innovation or internationalisation strategies. More specifically, the "excellent" segment fared better economically, with a widening gap compared to static companies over the aforementioned period. In addition, an analysis of 2012 profitability levels, showed “a trend that was generally in favour of the most dynamic segment".

Innovation, promotion of new entrepreneurship, enhancement of excellent companies and the diffusion of excellent SME models are of central importance. These are the policy objectives forming the background to the changes in legislation that have continued over the last eighteen months, and which are explained in more detail in the next section.

SYNOPSIS OF REGULATORY CHANGES FROM MARCH 2014 TO SEPTEMBER 2015

Table 1.2 Overview

	Date of Regulation:	Description
1	20 March 2014	Publication in the Official Gazette of the Ministerial Decree of 30 January 2014 concerning tax concessions for investment in innovative startups.
2	11 June 2014	Publication of Circular 16/E by the Italian Revenue Agency, giving details about the tax aspects of the "startup package".
3	24 June 2014	Launch of the Italia Startup Visa programme.
4	11 December 2014	Launch of the *Decreto Flussi* (Flows Decree) 2014, whose explanatory circular introduces the Italia Startup Hub programme.
5	13 November 2014	Publication in the Official Gazette of the Ministerial Decree of 24 September 2014 refinancing, as well as changing certain structural features, of the Smart & Start programme.
6	24 March 2015	Approval of Law 33/2015 converting Decree-Law No. 3 of 24 January 2015 (Investment Compact), introducing new benefits for innovative startups (6.a.), launching the policy on innovative SMEs (6.b) and other measures applicable to both categories (6.c.).
7	27 May 2015	A decree from the Minister of Economic Development introduced the Technical Committee for the monitoring and evaluation of policies in favour of startups and innovative SMEs.
8	22 June 2015	A decree of the Directorate General for Market Competition, the Consumer, Supervision and the Technical Regulations of the Ministry of Economic Development changed the registration procedures for companies by introducing the special section of the Register of Companies dedicated to innovative SMEs and a new simplified mechanism for converting innovative startups into innovative SMEs.

An exhaustive and detailed analysis of the eight regulatory steps listed in the table is given below.

1. With the Ministerial Decree of 30 January 2014, published in the Official Gazette of 20 March 2014, the Minister of Economy and Finance in collaboration with the Minister of Economic Development, established the method for implementing tax concessions for investments in innovative startups (Article 29 of Decree-Law 179/2012). This identified the stakeholders, types of investment and the nature and means for benefitting from the tax subsidies, providing important details on the subject. This implementing act was approved following a Community notification procedure, which was adopted pursuant to Article 29, Section (9) of Decree-Law 179/2012. This concluded with the European Commission's decision of 5 December 2013 C (2013) 8827, which considered the aid measure compatible with the internal market pursuant to Article 107, Section (3) c) of the Treaty on the Functioning of the European Union.

2. In addition to providing some clarification about tax incentives on investments in the equity of startups cited in the above section, Circular 16/E from the *Agenzia delle Entrate* (Italian Revenue Agency) of 11 June 2014 reiterated that innovative startups are not subject to the rules that apply to shell companies (both those that are trading and those systematically generating losses). Throughout the period in which a company is eligible to qualify as an innovative startup it is therefore not necessary to undergo a test to show it is trading. In

addition, for the purposes of applying the rules for companies making systematic losses, the "three-year period of observation" takes effect from the tax year following the year in which they cease to qualify as innovative startups.

Another prerogative of startups concerns the ability to allocate shares of equity capital as an additional form of remuneration, in order to encourage retention and provide incentives to management teams, employees and suppliers, startups and incubators. The income arising from allocating these financial instruments does not contribute towards formation of the tax base, for either tax or social security payment purposes.[6]

In this regard, the circular specified that casual workers are not eligible for this tax concession, because they are income earners who do not comply with the provisions of Article 67, Section (1) l) of the Income Tax Code.

In other words, innovative startups and certified incubators are permitted to use tools such as stock options and 'work for equity' under even more favourable terms than larger listed businesses.

The circular clarified in particular, that there are significant differences compared with the provisions of Article 51 of the Income Tax Code, in terms of requirements and applicable conditions, and specified that the incentives applied to financial instruments granted after 19 December 2012, the date Law 221/2012, converting Decree-Law 179/2012, came into force.

Professional services provided by the directors of innovative startups or certified incubators also fall within the scope of Article 27, Section (4), that is, the consideration for these, which income is regarded as self-employment income. However, this does not include services rendered by people whose remuneration falls within the scope of income from employment or similar.

The Ministry of Economic Development has prepared a concise guide to the use of shareholder and 'work for equity' plans and a commented model of the equity-based incentive plan.

Finally, the circular favours a broad interpretation of exemption from tax charges relating to the registration of documents with Chambers of Commerce. This will be referred to in section 3.1.

3. Article 3 of the Decree of the President of the Council of Ministers of 25 November 2013 regarding the "Temporary planning of entry flows of non-EU workers for non-seasonal work in the State for the year 2013" (the "Flows Decree 2013") introduced a new category for entry in Italy for reasons of self-employment, in other words, "foreign nationals who set up innovative startup businesses". On 24 June 2014, the Ministry of Economic Development, together with the Ministry of Foreign Affairs, the Ministry of the Interior and the Ministry of Labour and Social Policies, presented the Guidelines and a website outlining the procedures, documentation and requirements needed for a new visa to be issued. Compared to ordinary visas for self-employment, as part of the Italia Startup Visa programme, this process is focused on a single organisation – the Ministry of Economic Development – is completed online and is significantly simpler, which leads to a definite outcome for the applicant within 30 days.

4. In order to transform Italy into a true global hub for innovation, the subsequent "Flows Decree 2014" of 11 December 2014 facilitated residence permits in our country for talented individuals from outside of Europe who want to start a new innovative business. In particular, the Circular of 11 December 2014 from the Ministry of the Interior and the Ministry of Labour

[6]Article 27, Sections (1) to (3) of Decree-Law 179/2012.

and Social Policies introduced the ability to obtain the conversion of a residence permit (for example for reasons of study) into a self-employment permit to found an innovative startup, by following the same simplified procedures used for the Italia Startup Visa programme.

5. The Ministerial Decree of 24 September 2014 from the Minister of Economic Development launched the new Smart&Start programme. The new Smart&Start programme is based on a budget of about €200 million for subsidised loans. The subsidies are extended to all Italian regions and not, as was the case in the previous edition, only to southern regions and areas of the Aquila earthquake zone. The instrument is intended for innovative startups – registered in the special section of the Register of Companies – established not more than 4 years ago, or for individuals who wish to establish an innovative startup. It is no longer possible to apply for the benefits of the previous Smart&Start programme (Ministerial Decree of 6 March 2013).

6. Decree-Law 3/2015 (the so-called "Investment Compact"), amended and converted into Law 33/2015 of 24 March, is certainly the most important new law in the field of innovative companies since the launch of Growth Decree 2.0, which concerned measures relating to startups.

In Article 4, the decree introduces important new measures for innovative startups and introduces the concept of the 'innovative SME'.

6.a. Here are the main developments in favour of innovative startups:

- ✓ *Extension of the status to 5 years (section 11-ter)*

  A company can maintain its innovative startup status for the first 5 years after its establishment, instead of the first four years as previously permitted. The applicability of the benefits associated with these special arrangements was therefore extended by one year.

- ✓ *Establishment and statutory changes according to standard models, with digital signatures (section 10-bis)*

  The Investment Compact gives the opportunity to establish a company using the digital signature of the legal representative following an online process focused on a standard form and articles of association. In fact, this procedure eliminates the involvement of a notary. In the light of this development, a company's deed of incorporation and its amendments can be made in two ways: the traditional way with a public document, and an innovative way, using a document with a digital signature, pursuant to Article 24 of Legislative Decree 82 of 7 March 2005 (Digital Management Code). Its implementing decree is currently awaiting the signature of the Minister of Economic Development.

- ✓ *Changes in the procedures for the reimbursement of VAT credits (section 11-novies)*

  With the introduction of the exemption from the obligation to affix the compliance visa for the clearing of tax credits of up to €50,000, compared with the ordinary threshold of €15,000, startups will receive significant benefits in terms of liquidity during what is usually a lean innovation phase for innovation investments.

  Over the years, the institution of horizontally offsetting VAT credits has been used extensively by companies wishing to acquire liquidity quickly. However, the law that prescribes affixing the compliance visa for compensation on the F24 VAT credit forms for more than €15,000 has hampered the use of this institution, especially by companies that are consistently in a credit position. This situation is typical for innovative startups that are faced with initial investments that can be enormous (and related costs, which tend to generate VAT credits) and still have very low turnovers.

- ✓ *Admission of European innovative startups*

  In accordance with the new EU rules on state aid in respect of risk capital, a change has also been made to the requirement relating to a company's registered offices. This clarifies that the scope of the legislation is not limited to companies resident in Italy, but extends to companies resident in another Member State of the European Union or the European Economic Area, providing they have a production site or branch located in Italy (section 11).

6.b. Article 4 of Decree-Law 3/2015, concerning urgent measures for the banking and investment system (the "Investment Compact"), amended and converted into Law 3/2015, introduced the new concept of 'innovative SMEs', to which many of the planned measures in favour of innovative startups were extended by Decree-Law No. 179 of 2012.

The decree defines innovative SMEs as companies that:

fall within the parameters established by Community recommendation 2003/361/EC (less than 250 employees, annual turnover not exceeding €50 million or an annual balance sheet total not exceeding €43 million);

i. are resident in Italy or in one of the EU Member States (or in one of the States that are parties to the Agreement on the European Economic Area) provided at least one production site or branch office is located in Italy;

ii. have had their last financial statements and any consolidated financial statements have been certified by an auditor or an auditing firm entered in the register of auditors;

iii. are not listed on a regulated market;

iv. are not listed in the special Companies Registry dedicated to innovative startups;

v. are in possession of *at least two* out of the three innovation indicators:

   a. volume of spending on research, development and innovation is equal to or greater than 3% of the highest amount between the cost and total value of production;

   b. use of a highly skilled workforce. Thus means that at least 1/5 of staff are in possession of a doctorate or are studying for an Italian or foreign PhD, or hold a degree and have been involved, for at least three years, in research at certified public or private research institutes, in Italy or abroad, *or* a percentage of at least 1/3 of the staff hold a master's degree;

   c. ownership of industrial property rights or rights in regard to original software.

The Investment Compact prevents an overlap between the two schemes, providing that innovative SMEs must not be registered in the special section of the Register of Companies dedicated to innovative startups.

As already mentioned, companies meeting the legal requirements for innovative SMEs may benefit from many of the measures provided for by the innovative startups regulations, including:

- exemption from the stamp duty payable to the State for entry in the Register of Companies;

- exemption from the regulations regarding shell and dormant companies;
- derogations from the corporate regulations regarding loss of share capital, intended to enable the company not to take into account losses that occur physiologically;
- the possibility for innovative SMEs established as limited liability companies to create classes of shares that provide rights other than those provided by the general rules regarding this type of company, as well as the possibility of the shares being subject to an offer to the public of financial products and company transactions in regard to their own shareholdings;
- the possibility of remunerating employees and contractors with equity incentive plans subject to favourable tax rules;
- the possibility of free access with simplified procedures to the Guarantee Fund for SMEs for an amount equal to 80% of bank loans;
- innovative SMEs trading for not more than seven years may also benefit from the tax incentives related to investments in innovative startups. For those that have been trading for more than seven years after their first commercial sale, these incentives may be applicable if they are able to submit a plan for development of new or substantially improved products, services or processes compared to the state-of-the-art in the area concerned;
- the possibility of raising venture capital on the market through online portals (equity-crowdfunding);
- reductions in the costs of assistance services provided by the Italian Trade Agency for the promotion abroad and internationalisation of Italian companies.

For access to this system of benefits, innovative SMEs must register in the special section of the Register of Companies created specifically with the Chambers of Commerce (http://startup.registroimprese.it/pminnovative/index.html). Similar to the procedure for innovative startups, registration is recorded electronically on a local basis by sending a self-certification form to the relevant Chamber of Commerce, declaring that the company meets the requirements set out above,.

This "new" flexibility is balanced by three counterweights:

- the checks carried out by the relevant authorities on the actual possession of the requirements
- the obligation to annually update (deadline 30 June) the data required for registration in the special section, in order to facilitate widespread monitoring. This data mainly concerns the type of business conducted, with particular reference to the characteristic elements related to technological innovation;
- within 30 days of approval of the financial statements and in any case within six months after the close of each financial year, the legal representative of an innovative SME must certify that the requirements have been maintained, and file this declaration with the office of the Register of Companies, on pain of forfeiting their innovative startup status.

In the same way as with the innovative startups, the special register of innovative SMEs is published in electronic format and updated on a weekly basis by the Chambers. This is in order to publicise and promote widespread monitoring and a qualified and objective debate on the impact the new legislation is having on economic growth, employment and innovation.

The following table gives a summary, and allows comparison, of the regulatory requirements for innovative startup and innovative SME status.

REQUIREMENTS	INNOVATIVE STARTUPS (ARTICLE 25, SECTIONS (2) AND (3) OF DECREE-LAW 179/2012)	INNOVATIVE SMES (ARTICLE 4, SECTION (1) OF DECREE-LAW 3/2015)
Limited companies, also established as cooperatives	Yes	Yes
Resident in Italy, or in the EU or in a State party to the Agreement on the European Economic Area, with a production unit or branch in Italy	Yes	Yes
Not quoted	Yes (it must not be listed on a regulated market or a multilateral trading facility)	Yes (it must not be listed on a regulated market, but it may be listed in a multilateral trading facility)
Time limits	Yes (new or trading for less than five years; special system for established companies that at 18 December 2012 had been incorporated less than 4 years ago)	No (there are no time limits, but the company must have at least one certified balance sheet and therefore it is not applicable to newly incorporated companies)
Size limits	Less than €5 million in annual turnover from the second trading year	SMEs within the meaning of Recommendation 2003/361/EC (less than 250 employees and an annual turnover of less than €50 million or balance sheet assets of less than €43 million)
Prohibition regarding profit distribution	Yes	No
Limits to the company purpose	It must concern production, development and marketing of innovative goods or services of a high technological value	No
Optional criteria to identify the nature of technological innovation	At least 1 out of 3 of the following: 1. 15% of the greater amount between costs and total value in relation to R&D activities; 2. team with 1/3 of the staff possessing a PhD, students studying for a PhD or researchers with three years' experience; or a team with 2/3 of the staff who hold a degree 3. An owner or licensee of industrial property rights, or owner of registered software	At least 2 out of 3 of the following: 1. 15% of the highest figure between costs and total value in relation to R&D activities; 2. team with 1/3 of the staff possessing a PhD, students studying for a PhD or researchers with three years' experience; or a team with 2/3 of the staff who hold a degree 3. An owner or licensee of industrial property rights, or owner of registered software

The table below compares supportive measures applicable to the two categories. Article 4, Section (9) of Decree-Law 3/2015 constitutes "bridge legislation" which grants innovative SMEs many of the benefits already attributed to innovative startups with Decree-Law 179/2012. This is why the relevant articles and sections in Decree-Law 179/2012 are indicated for each measure listed in the relevant table.

It is important to emphasise that the subsidies provided for the benefit of innovative startups apply for 5 years from their establishment, while the benefits granted to innovative SMEs have no time limits.

SUPPORTING MEASURE	REFERENCE ARTICLE IN DECREE-LAW 179/2012	INNOVATIVE STARTUPS	INNOVATIVE SMES
Creation of a special section of the register of companies, accessible through self-certification, subject to fulfilment of periodic requirements and a special advertising procedure to facilitate widespread monitoring and control	Article 25, Sections (8) to (10)	Yes startup.registroimprese.it	Yes pminnovative.registroimprese.it
Flexibility in applying the rules of the civil code on recapitalization for losses	Article 26, Section (1)	Yes	Yes
Possibility of creating asymmetric voting rights	Article 26, Sections (2) and (3)	Yes	Yes
Non-applicability of the rules governing shell companies	Article 26, Section (4)	Yes	Yes
Exemption from stamp duty and administrative fees for the obligations concerning entries in the Register and the annual fee due to the Chamber of Commerce	Article 26, Section (8)	Yes	The exemption only applies to stamp duty. It does not apply to administrative fees in relation to registration obligations, or the annual fee due to the Chamber of Commerce
Exemption from stamp duty and administrative fees for the filing of any document with the Chamber of Commerce	Article 26, Section (8)	Yes (broad interpretation provided by Italian Revenue Agency Circular 16/E of 11 June 2014)	No

SUPPORTING MEASURE	REFERENCE ARTICLE IN DECREE-LAW 179/2012	INNOVATIVE STARTUPS	INNOVATIVE SMES
option of remuneration with equity-based incentive plans with exemption from income tax (taxed as capital gains only)	Article 27	Yes	Yes
Fast-track access and reserves in the limits for the tax credit for hiring highly qualified staff carried out in the 2012-2014 three-year period	Article 27a	Yes	No (the innovative SMEs regulations are subsequent to the temporal applicability of the measure)
Regulations regarding fixed term employment (possibility of using temporary contracts lasting a minimum of six months and a maximum of 36 months, renewable without a continuity option, for a maximum period of 48 months; possibility of part of the salary being variable)	Article 28	Yes	No (although Decree-Law 34/2014 is applicable, not dissimilar to the regulations regarding fixed-term contracts applicable to innovative startups)
Tax incentives for investments in equity	Article 29	Yes	Yes (In different ways depending on whether the innovative SME had its first commercial sale less or more than 7 years ago)
Increase in investment incentives for companies with a social goal or in high tech energy industry	Article 29, Section (7)	Yes	Yes
Equity Crowdfunding	Article 30, Sections (1) to (5)	Yes	Yes
Access to the Guarantee Fund for SMEs (free guarantee granted under a simplified bank loan arrangement)	Article 30, Section (6)	Yes	Yes
Ad-hoc support of internationalisation processes by the Italian Trade Agency	Article 30, Sections (7) and (8)	Yes	Yes

SUPPORTING MEASURE	REFERENCE ARTICLE IN DECREE-LAW 179/2012	INNOVATIVE STARTUPS	INNOVATIVE SMES
Fail-fast (exemption from the ordinary bankruptcy rules)	Article 31, Sections (1) to (3)	Yes	No
Mechanism for monitoring and evaluation of policies, annual report to Parliament	Article 32, Sections (2) to (7)	Yes	Yes

All the above measures are already in place, and can be used by innovative SMEs entered in the special section of the register, with two exceptions.

The intervention of the Guarantee Fund needs an implementation decree from the Minister of Economic Development, in consultation with the Minister of Economy and Finance: the measure is ready to be signed by the Ministers.

The Investment Compact requires a decree from the Minister of Economy and Finance, in consultation with the Minister of Economic Development, to be published for the implementation of tax relief on investments in innovative SMEs. For companies operating on the market for less than seven years from their first commercial sale, this measure applies under the conditions and limitations provided for by Article 21 of Regulation no. 651/2014 of the European Commission dated 17 June 2014. However, innovative SMEs that have been trading for at least seven years require notification to the Commission for verification of compatibility with the Community rules on state aid.

The following extra measures of Growth Decree 2.0 provided for startups are not applicable to innovative SMEs:

- incorporation using a standard form with digital signature (Article 4, Section (10a) of the Investment Compact; the implementing decree is currently being defined);
- exemption from the obligation to affix the compliance visa for compensation of tax credits up to €50,000 (Article 4, Section (11-novies) of the Investment Compact);
- the new edition of the Smart&Start programme launched on 16 February 2015. To summarise, over €200,000 have been allocated for zero-rate financing and deadlines for the return of credit of up to eight years for up to 80% (of which 20% on a non-recourse basis for startups from convergence regions) of investment plans ranging from €100,000 and €1.5 million realised by innovative startups located throughout Italy (Ministerial Decree of 24 September 2014);
- the Italia Startup Visa and Italia Startup Hub programmes that, by introducing a simplified, centralised and computerised process, are designed to attract and retain innovative and talented people from countries outside of the European Union who wish to establish an innovative startup in Italy. This treats visas and residence permits as tools for economic development. Using this procedure, even innovative startups that have already been incorporated can attract working partners within their team.

6.c. Equity Crowdfunding extended to investment companies and other specialised measures

Article 4, Section (10) extends beyond innovative SMEs, it also applies to collective investment bodies (UCIs) and other companies that invest mainly (70%) in innovative startups and SMEs, giving them the opportunity to raise capital by equity crowdfunding campaigns using online portals.

Moreover, subscriptions and sales of shares in companies offered on portals may be carried out, as an exception to the ordinary rules, in an electronic manner through intermediaries authorised to provide investment services. Authorised intermediaries complete the subscription or purchase of shares in their own name and on behalf of the subscribers or buyers who have accepted the offer through the portal, thereby reducing costs and simplifying the procedures.

The Ministry of Economic Development will develop a portal dedicated to storing all the documents and information needed to access public and private tender notices in favour of startups and innovative SMEs. The portal will aim to collect all the rules that govern innovative startups, as well as a regional section, which will list all the references to local and regional tender notices (sections 10-ter and 11-bis).

Finally, the decree has postponed submission of the annual report from the Ministry of Economic Development to Parliament from March to September each year. This is to enable the monitoring Committee to assess the impact of the legislation, pursuant to Article 32, Section (2) of Decree-Law 179/2012, and to analyse information related to financial statements filed by companies in the previous year (section 11-7).

7. Following the coming into force of the Investment Compact, and particularly of the legislation in favour of innovative SMEs, with Ministerial Decree of 27 May 2015 issued by the Ministry of Economic Development, the Directorate General for Industrial Policy, Competitiveness and SMEs, launched the "Technical Committee for monitoring and evaluation of policies in favour of innovative startups and SMEs." This Committee will replace the "Technical Committee for monitoring and evaluation of policies in favour of the innovative startups ecosystem", established by the Ministerial Decree of 31 January 2014.

In this way, policy on innovative SMEs will be combined with the "evidence-based" approach that inspired legislation on startups, in order to collect, through analysis, empirical data useful for correcting the impact of the measures, and thereby enhance them.

8. The Directorial Decree of 22 June 2015, issued by the Directorate General for Market Competition, the Consumer, Monitoring and Technical Regulations in the Ministry of Economic Development, approved the new procedures introducing the special section of innovative SMEs and amended the information relating to innovative startups. In particular, a new code will be introduced that, in certain circumstances, allows deletion from the special section dedicated to innovative startups and simultaneous registration in the section reserved for innovative SMEs. This conversion will only be possible if the company loses one or more of the requirements for innovative startup status, but meets the requirements provided for innovative SMEs. In this way, since there are no continuity measures, maintenance of subsidies compatible with both systems is protected.

1.1 The Ministry of Economic Development survey about the investment strategies and innovation of "excellent" SMEs

The strategy pursued in recent years by the Ministry of Economic Development (MiSE), which is expressed in a wide range of instruments such as the policy on startups and innovative SMEs, the tax credit for investment in R&D, the tax concessions on income from exploitation of forms of intellectual property (Patent Box),[7] was founded on the assumption that innovative businesses make a greater contribution to economic development than traditional companies, as they display better performance in terms of turnover, employment and investment.

To reinforce this theoretical framework, in May 2015, the Ministry of Economic Development conducted a survey on a representative sample of 1,000 "excellent" small and medium-sized companies – oriented towards international markets and engaged in organised innovation strategies – to highlight their main characteristics and performance. Looking back over the last 10-15 years, there has been an intense process of economic restructuring in Italy, partly in response to the severe effects of the 2008 recession, which saw the gap between successful and unsuccessful companies increase. This was because the business activities of the latter are based on local markets, leaving them open to suffer the effects of sluggish domestic demand.

The survey was undertaken by sampling companies from a population of about 61,000 (with between 10 and 250 employees) with a turnover of between €2.5 and €50 million. 1,000 companies were selected with at least two of the following three requirements: having invested in R&D in the period 2012-2014, having a fair level of management skills (at least three executives/middle managers), and having carried out innovative investments in 2014 or planned them for 2015.

We summarise the preliminary results of the survey below.

INVESTMENT STRATEGIES

The commitment of the surveyed companies to investment strategies was significant: 83.7% of the companies stated they wanted to make investments during 2015. This proportion increased significantly for bigger companies, and was particularly high in manufacturing and personal services.

The high propensity towards investment is worth highlighting since it has occurred after several years of an investment "strike".[8]

Most of the investment consisted of the acquisition of machinery (64% of the sample; 74.2% for companies in the manufacturing sector), software and patents (37.9%), and training of

[7] For a detailed analysis on the latest measures taken by the Government, see the report on the Small Business Act prepared by MiSE (August 2015).

[8] Between 2007 and 2014, the decline in accumulated investments amounted to about 30% and was attributable to the interplay of a number of factors including weakness of demand, uncertainty about the economic outlook, restrictions in the availability of credit (Bank of Italy, July 2015). There seem to be signs in the first half of 2015 of a partial recovery in GDP and investments related to a series of favourable external factors and to a set of measures in support of technological innovation and investment spending, repeatedly mentioned in this report, including, in particular, the "New Sabatini" (CSC (Centro Studi – Confindustria), August 2015 and Enterprise Foundation, August 2015).

staff (31.6%). The share of investment in product innovations and processes was about 30%, whilst the share of expenditure on capital goods aimed at achieving greater energy efficiency was about 11%. The ratio of investment to turnover was about 8%.

With regard to the main financing channels, a significant recourse to self-financing and medium-long term debt emerges. This last item has a significant impact on excellent SMEs compared to other companies, indicating better planning, and more balanced and forward-looking financial strategies.

75.5% of the sample of companies surveyed did not use any kind of public incentive to finance their investments (this share tends to fall with an increase in the size of companies). The possible causes include a lack of awareness about existing subsidies, the lack of a need to use them, a negative outcome in regard to checks and a lack of State and/or regional financial resources. About 9% stated they used subsidies of a fiscal and financial nature (low interest loans and/or grants with no obligation to repay the funds).

Assuming that public sources were more efficient and/or available, 47.7% of excellent SMEs declared they would prefer to continue not using them, whilst a proportion of companies of a certain size (31.8%) indicated they would tend mainly to use financing with no obligation to repay the funds.

INNOVATION STRATEGIES

Almost all of the companies surveyed (96.7%) made innovative investments in 2014 and indicated they planned to make investments in 2015 (95.4%).[9]

Most innovations seem to focus on processes (62.1%; 73.9% for manufacturing businesses), followed by products (54.4%; 64.1% in manufacturing), and finally organisational innovations (50.5%).[10]

The companies that intended to make process innovations were mainly focussed on the acquisition of new machinery, process automation and improved management of orders. A certain level of attention also emerged for interventions aimed at reducing consumption in terms of environmental impact.

With regard to product innovation, the majority of the replies focussed on strategies aimed at improving the quality of existing products; a significant level of "effort" by companies to change their production lines (aimed at manufacturing products already on the market) and to create innovative products to be marketed also emerged.

Organisational innovations seemed mainly to involve changes concerning organisational structures and marketing activities.

[9] A comprehensive analysis on recent innovation strategies adopted by Italian companies is contained in the SBA (Small Business Act) report prepared by the MiSE (August 2015). This analysis shows, also based on other surveys (Eurostat, 2012 and January 2015), studies and research, that there is a certain recent "technological awakening" by many Italian companies.

[10] A recent survey conducted by Eurostat on innovation strategies implemented by European companies in the years 2010-2012, shows that in Italy, rather similar percentages of companies achieved product and process innovations: respectively, 29.1% and 30.4%. What seems to emerge from the MiSE survey is instead a prevalence of companies focused on process rather than product innovation. Individual results are not yet comparable since the Eurostat survey was of a representative sample of SMEs, while the MiSE survey was based on a sample of 1,000 excellent SMEs.

When making innovations, almost 90% of excellent SMEs did not resort to any public financial support. Public resources came mainly from local or regional authorities; the role of central government appeared to be more modest.

Significant administrative burdens and red tape were the main obstacle to innovation. This is followed by difficulties in accessing credit and the lack of non-banking financial resources to invest in entrepreneurship. Just over ¼ of the sample also declared that no obstacles were encountered.

The survey showed another element of weakness regarding the high degree of isolation that seems to accompany many companies in their innovation activities: in particular, 79.6% of the sample reported that it did not collaborate with other "parties" (this share dropped to 76% amongst companies with 50-249 employees and 60.1% among those who provide services to people). The low degree of collaboration in our innovative companies was confirmed by a recent OECD study (2014), which emphasised the need, in Italy, to strengthen types of collaborative research (businesses – universities - research centres) that are widely used in the main European countries.

As regards businesses that do collaborate, a greater degree of involvement particularly related to competitors or other companies in the same industry, universities and companies within the same group. The use of network agreements appeared modest, despite the enhancements in this new industrial policy instrument in recent years.

It is also worth noting that 27.1% of the sample reported not having encountered any obstacles to innovation.

EXPENDITURE ON R&D

The survey allowed the extraction of interesting information about the expenditure of excellent SMEs in research and development. First, it emerged that in the period 2012-2014, almost 65% of the sample (with a peak of just below 82% in manufacturing) made this kind of investment. Almost a quarter of the companies also reported that such expenditure exceeded 3% of turnover. This percentage increased with company size.

On average, the number of people working full time, or almost full time, in research and development, amounted to 2.4. In this case, the size of the companies also was an important factor.

The main reasons leading companies to invest in research are attributable mainly to the need to follow technological changes in their industry (60.8% of replies) and the mission that characterises their business activities (31%), this seems to play a particularly prominent role among medium-sized companies (43.7%). These were followed – at some distance – by seeking the most profitable market segments and exploiting occasional opportunities.

Approximately 58% of the sample also reported having invested in the training for staff engaged in R&D, at levels ranging from just over 48% for companies with 10-19 employees to 63.2% for medium-sized companies (50- 249 employees).

Expenditure in research was also accompanied by patent activity, though this was a less pronounced feature. More specifically, 8.6% of the companies filed patents in the 2012-2014 period, with greater commitment among the larger companies, while the figures were slightly more modest for the companies that established brands (7.5%; 10.3% among medium-sized

companies) and, above all, drawings and models (just 1.2%, 2.6% among those with 50 to 249 employees).[11]

The survey also allowed comparisons to be made between companies that had registered patents in the 2012-2014 period and those, on the other hand, which did not register any. The comparison showed that the former type of company appears to be characterised in general by better economic performance and more developed strategies for R&D, technological innovation and internationalisation.[12]

Table 1.3 Clusters of companies: performance comparison (in %)

	companies that registered patents	companies that did not register patents	Total companies
% of companies that achieved a rise in turnover in 2014	43.1	29.7	30.9
% of companies that expect an increase in turnover in 2015	45.1	24.2	26.0
% of companies that hired more staff in 2014	22.0	19.5	19.7
% of companies that expect an increase in the number of staff in 2015	17.3	14.0	14.3
% of companies that has never been in recession	24.4	26.3	26.1
% of companies whose expenditure in R&D was more than 3% of turnover	28.4	24.7	25.2
Number of people (on average) dedicated to R&D (full-time or almost)	4.6	2.1	2.4
% of companies that believe that they are very competitive (more than adequate)	30.1	28.3	28.4
% of companies that increased investment in 2014	84.8	84.5	84.5
% of companies that expect to increase investment in 2015	94.1	82.7	83.7
% of turnover represented by investment	9.9	7.8	8.0
% of innovative investment compared with overall investment (2014)	97.4	89.0	96.7
% of innovative investment compared with overall investment (2015)	87.7	96.2	95.4
% of companies that had received public support for innovation activities	22.0	10.3	11.3
% of companies that invest in training their R&D staff	64.1	56.9	57.8
% of companies that have been involved in overseas activities in the 2012-2014 period	82.5	53.8	56.3
% of exports compared with sales revenue in the period 2012 – 2014	46.4	33.2	34.8
% of companies that exported to new markets in the 2012-2014 period	46.5	37.2	38.3
of which: EU Area	42.3	60.8	57.9
of which: non-EU Area	100.0	78.7	82.0

Source: MiSE survey, May 2015

[11] Based on the most recent data from the Ministry of Economic Development (MiSE), 2014 saw an increase in patent applications for the first time in three years (of 2.8% compared to 2013). The figures are lower in the South (only 412 applications), but there registrations have accelerated by 10.5%.

[12] The better performance of companies with patents compared with those without patents (in terms of labour productivity, employment, wages, etc.) was confirmed by a recent extensive study of to the European production system (Office for Harmonization in the Internal Market, June 2015).

References

P. Aghion and P. Howitt, *A Model of Growth Through Creative Destruction*, Econometrics, Vol. 60, No. 2, pp. 323-351, March 1992.

Ambrosetti Club, *Finance for growth*, March 2015.

Banca d'Italia, *Investment dynamics in Italy: financing constraints, demand and uncertainty* Quaderni di Economia e Finanza: Occasional Paper, No. 283, July 2015.

CSC, *Dopo il crollo nella crisi, gli investimenti ripartono. Cruciale sostenerli per avere una crescita più robusta*, August 2015.

Eurostat, *Community Innovation Survey*, 2012.

Eurostat news release, *The proportion of innovative companies fell below 50% in the EU in 2010 to 2,012*, January 2015.

Fondazione Impresa, *Indagine sull'innovazione nella piccola impresa manifatturiera*, August 2015.

Global Strategy, *Osservatorio PMI – L'importanza del fattore umano*, 15 June 2015.

J. Haltiwanger, R.S. Jarmin and J. Miranda, *Who creates jobs? Small versus Large versus Young,* Review of Economics and Statistics, Vol 95 (2), pp. 347-361, 2013.

Intesa Sanpaolo, *L'innovazione, un fattore di crescita durante la crisi*, 2014.

Kauffman Foundation Research Series, *Firm Formation and Economic Growth, the Importance of Startups in Job Creation and Job Destruction*, July 2010.

M. Mazzucato, *The Entrepreneurial State,* Anthem Press, 2013.

MET, *Le strategie per la crescita - Imprese, mercati, Stato*, Meridiana Libri, 2015.

Ministry of Economic Development, *Small Business Act. Support initiatives for micro, small and medium enterprises implemented in Italy in 2014 and in the first half of 2015*, August 2015.

E. Moretti, *The new geography of jobs*, Houghton Mifflin Harcourt 2012.

OECD, *Science, Technology and Industry Scoreboard 2013*.

OECD, *Studies on SMEs and Entrepreneurship*, Italy, key issues and policies, 2014.

P.M. Romer, *Increasing Returns and Long-Run Growth*, The Journal of Political Economy, Vol. 94, No. 5, pp. 1002-1037, October 1986.

P.M. Romer, *Endogenous Technological Change*, The Journal of Political Economy, Vol. 98, No. 5, Part 2: The Problem of Development: A Conference of the Institute for the Study of Free Enterprise Systems, pp. S71-S102, October 1990.

R.M. Solow, *Technical Change and the Aggregate Production Function*, The Review of Economics and Statistics, Vol. 39, No. 3, p. 312-320, August 1957.

2. Innovative startups, certified incubators and innovative SMEs: the main evidence

This edition of the report focuses on the analysis of innovative startups, for which support policy has now become relatively consistent. The conversion into law of Growth Decree 2.0 dates back to December 2012 and the special section of the register was established in February 2013.

In the coming months, studies of this subject will acquire further depth with the conduct of a survey which aims to shed light on aspects like the academic and professional background of "startuppers", the presence of entrepreneurs in their family environment, fluctuations in the level of income following the start of entrepreneurial activities, their level of knowledge of the support policy, their assessment of the quality of the various measures, etc.

For their part, certified incubators will be the subject of a study aimed at measuring their impact on the growth process of startups, to classify types according to the services provided and to formulate recommendations to the legislature about possible further support measures.

Finally, innovative SMEs currently represent a very limited area of investigation because of the brief period of the time that has elapsed since the introduction of the policy.

2.1 Innovative startups

2.1.1 Human capital, enterprise data, geographical and sectoral breakdown

THE STARTUPS CATEGORY: DATE OF ESTABLISHMENT AND TYPES OF COMPANY

As of 30 June 2015 there were 4,206 innovative startups registered in the special section of the Register of Companies of the Chambers of Commerce, including over 3,000 after the entry into force of Decree-Law 179/2012 (20 October 2012). In particular, 18% were established in 2015, 35% in 2014, 23% in 2013, and the remaining 24% before 2013.

Taking into consideration the innovative startups formed after the conversion of the decree, the average lead-time between the date of establishment and registration in the special section of the register was 103 days (the median value was 0 days).

The prevailing type of company is that of a limited liability company (Srl): almost 80% of innovative startups are this type of company; a further 16.7% chose to become simplified limited companies, including those with a sole shareholder and reduced capital, 2.1% as cooperatives and, finally, 1.4% as public limited companies (SpA). There is also a company incorporated as a limited company in accordance with the laws of the United Kingdom.

Table 2.1 Innovative startups by type of company

TYPE OF COMPANY	NUMBER	%
LIMITED LIABILITY COMPANY (Srl)	3,349	79.6%
SIMPLIFIED LIMITED LIABILITY COMPANY	555	13.2%
LIMITED LIABILITY COMPANIES WITH A SOLE SHAREHOLDER	129	3.1%
COOPERATIVES	90	2.1%
PUBLIC LIMITED COMPANIES (SpA)	58	1.4%
LIMITED LIABILITY COMPANIES WITH REDUCED CAPITAL	16	0.4%
LIMITED LIABILITY CONSORTIA	6	0.1%
JOINT-STOCK COMPANIES WITH A SOLE SHAREHOLDER	1	0.0%
SOCIAL COOPERATIVES	1	0.0%
COMPANY INCORPORATED UNDER THE LAWS OF ANOTHER STATE	1	0.0%
TOTAL	**4,206**	**100.0%**

Source: based on Infocamere data

HUMAN CAPITAL AND NUMBERS AT WORK

One of the key factors for this type of company is the quality of the human capital of the founding members. This refers to all the personal characteristics of the partners, such as gender and chronological age, the type of education received in connection with the possession of certain qualifications (degree, second-level masters, doctorate) and previous work experience, general or specific (e.g. academic, research assignment positions, researcher, associate or ordinary professors, also researchers at national research institutions). Mastering adequate skills and knowledge may on the one hand, ensure the success and survival of the startup. On the other hand, it may attract potential investors who consider the human capital of the founding team as much a key asset as the innovative idea itself. Thus, by trying to trace the profile of the new entrepreneur, we note that it concerns people who are, on average, 40 years old and are mainly graduates with primary degrees. However, there are also many startuppers with a doctorate, although intuitively one might suspect that those with a high-level educational background may be more likely to share such information publicly.

As is clear from a recent survey conducted by the University of Padua,[13] the founders of startups are people with previous management experience in 46% of cases, and of these, 41% have gained at least 10 years' management experience. In 31% of cases, there was also previous entrepreneurial experience.

A survey conducted in 2015 by Milan Polytechnic University,[14] limited however to the manufacturing sector, shows that the founders of startups are highly educated (37% have a research PhD), mainly in technical areas (58% have a technical-scientific master's degree) and, on average, have already gained considerable experience working in fields related to that of the startups (11 years on average). This figure is very reassuring, considering the close ties highlighted by the scientific literature between the human capital of founders and the performance of innovative startups.[15]

[13] Muffatto and Sheriff (2015).

[14] Sesana (2015).

[15] See, for example, Colombo and Grilli (2005) for the Italian context and Grilli (2014) for a review of the main evidence at European level.

For a complete picture of Italian innovative startups, we observe, with reference to the data published by the Chambers in the report on the second quarter 2015, that about a quarter of the overall number of startups in the registry was composed of enterprises controlled by young people (under 35). This is more than double the percentage for all enterprises (12%) and four times the figure for joint-stock companies (7%). This gap is significantly greater if we take into account all the companies in which there is at least one young person among the shareholders or on the Board of Directors (41% for startups vs. 13.6% for joint-stock companies).

As for the presence of females and foreigners, the values in relation to innovative startups are lower than that for joint-stock companies.

The percentage of females in the organisational structures of innovative startups is approximately 13%, compared to 16% in joint-stock companies; 1,883 companies employed at least one woman (44.3% of the total startups, a lower level but not far from that of joint-stock companies, which is 50.1%).

As for businesses controlled by foreigners, they are about 2.5% in startups, against 3.9% for joint-stock companies. 533 innovative startups have at least one foreigner among the shareholders, 12.6% of the total, and the percentage is higher than that of joint-stock companies in which there are less foreigners (10.2%).

From an employment perspective, the 1,363 startups with employees recorded at 30 June 2015 employ a total of 3,924 people (an increase of 899 employees compared to the end of March, up 29.7%), an average of 2.9 employees per company, while at least half of startups with employees have no more than two employees.

At the same point in time, there were 16,861 shareholders in the 4,144 innovative startups with at least one shareholder (an increase of 1,999 shareholders compared to the end of March, up 13.5%). It can be assumed that the shareholders are directly involved in their companies. On average, every startup has 4.1 shareholders; half of them have no more than three. These figures are higher overall than those of joint-stock companies.

VALUE OF PRODUCTION AND SHARE CAPITAL

The average value of production confirms the small size of Italian startups, with about €122,000 per company, compared with about 3 million on average in joint-stock companies. Half of the innovative startups produce less than €27,000. The cumulative production for the 2,281 companies for which figures are available is approximately €280 million.

The 44 companies with a share capital that exceeds €1 million are located in the Centre and North, especially in Lazio, Emilia-Romagna, Lombardy, Liguria and Veneto. 64% of Italian startups had an initial investment of no more than €10,000. This type, by far the most widespread in Italy, is distributed fairly evenly over all the regions in Italy. The aggregate value of the share capital for the 4,118 companies for which data is available is just under €210 million.

SECTORAL BREAKDOWN

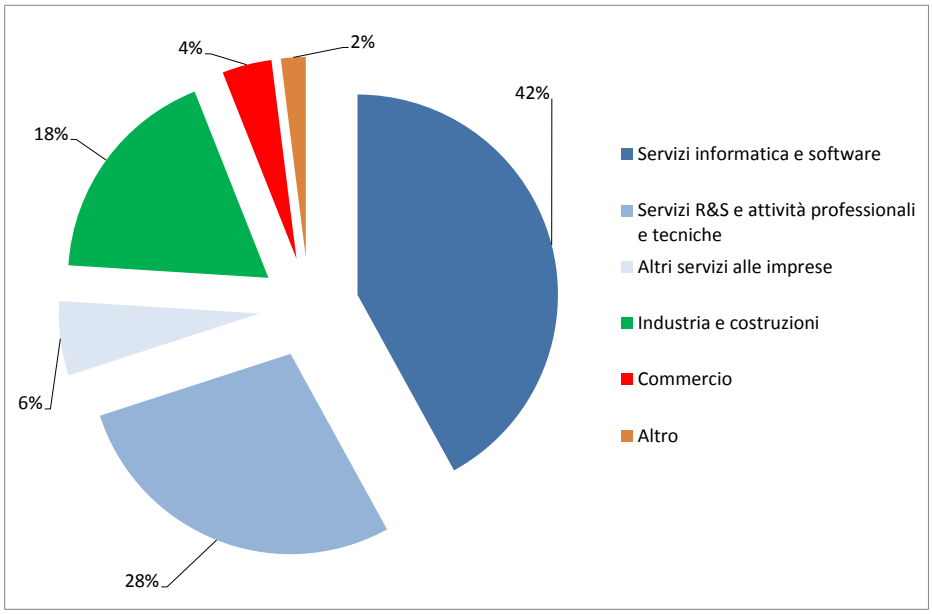
From a sectoral perspective, the majority of innovative startups (over 80%) work in the sector of private services to households and companies.

Excluding the sectors of tourism and trade, it emerges that 76% of Italian startups provide services to companies. In particular, the activities that are clearly the main ones are those

related to consultancy and software production (about 42% of the total number of startups). Scientific research and development and professional and technical activities are next (28%). Only 18% of innovative startups operate in the manufacturing and construction industries. Finally, trade accounts for only 4% of the total.

Within the manufacturing sector, the main activities are the manufacturing of computers and electronic and optical products, machinery and equipment and electrical and non-electrical equipment for domestic use.

Chart 2.1 Innovative startups in the key economic sectors



Source: based on Infocamere data

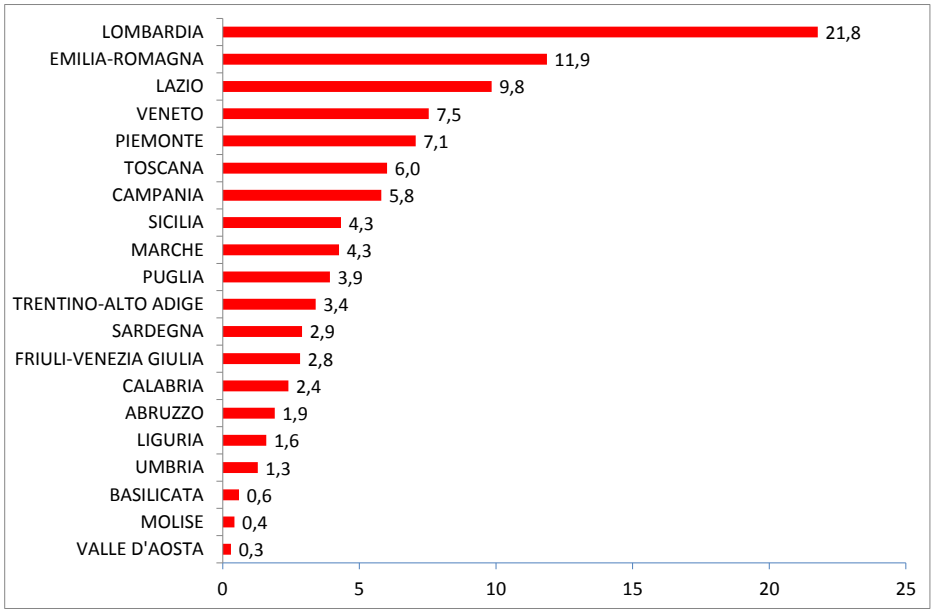
GEOGRAPHICAL DISTRIBUTION AND INCIDENCE OF TOTAL NUMBER OF COMPANIES

The South is home to 22.3% of the innovative startups in the country, the Central regions have 21.4% and the North has 56.3% (30.7% North-West, 25.6% North-East).

The Italian region with the highest percentage of innovative startups is Lombardy (21.8%), which is also where the biggest number of companies currently trading are located (18.3% of the total), followed by the Emilia-Romagna region, with 11.9% of startups (8.5% of the total number of companies that are trading), Lazio, with 9.8% of startups (9.4% of companies that are trading) and Veneto with 7.5% (9.1%).

Among the southern regions, Campania and Sicily lie in seventh and eighth place in the national rankings with 5.8% of the total number of startups (and 7.8% of companies currently trading) and with 4.3% of startups (and 6.1% of the number of companies), respectively. In particular, three regions in South Italy (Sicily, Sardinia and Apulia) have some of the largest startups in terms of the number of employees (in Italy, there are only 11 startups in the 20-45 employees category). Other innovative startups in this size category are located in two central regions (Lazio and Marche) and in three northern regions (Lombardy, Piedmont and Friuli Venezia Giulia).

Chart 2.2 Ranking of Italian regions by percentage of the total number of innovative startups



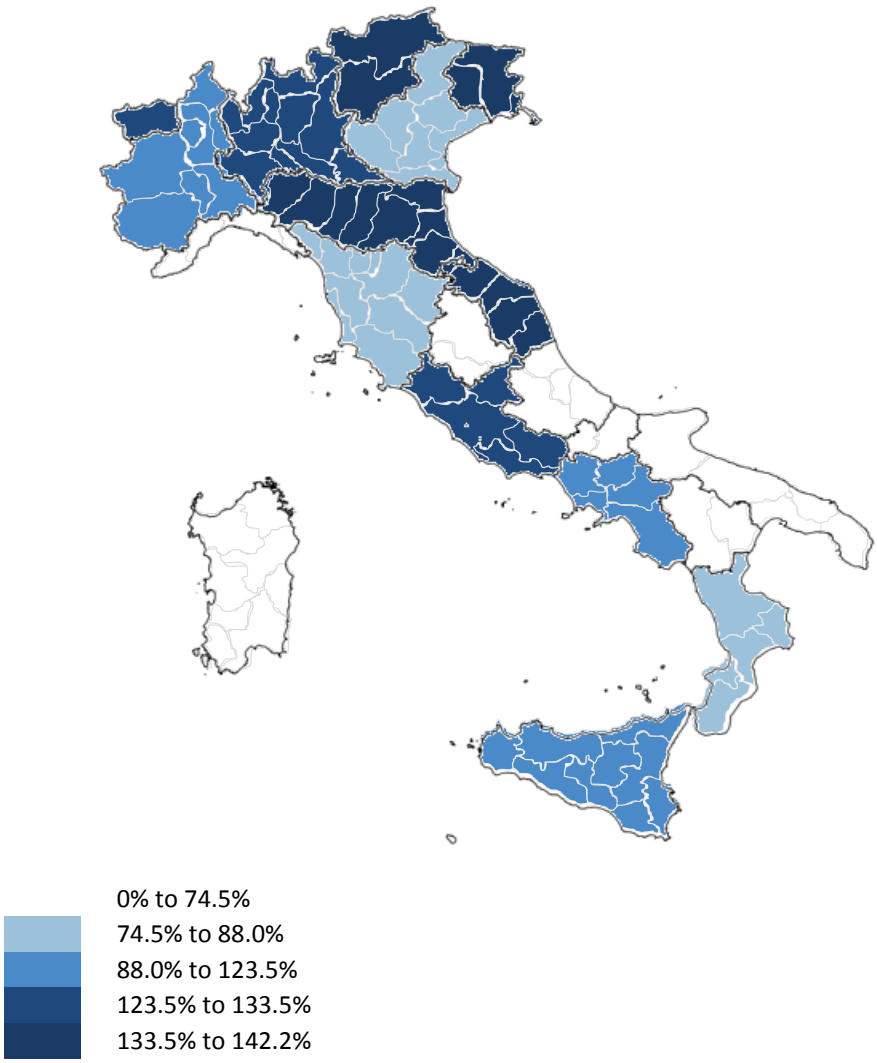
Source: based on Infocamere data

It is interesting to note that the geographical distribution of innovative startups in relation to the total number of companies currently trading in the Italian regions reflects, at least in part, the distribution of graduates in technical and scientific subjects per thousand young residents between 20 and 29 years of age.

The phenomenon seems to indicate, in line with the results of the surveys described above, how the type of degree obtained by young people can be correlated with the ability of graduates between 20 and 29 years of age to set up an innovative company.

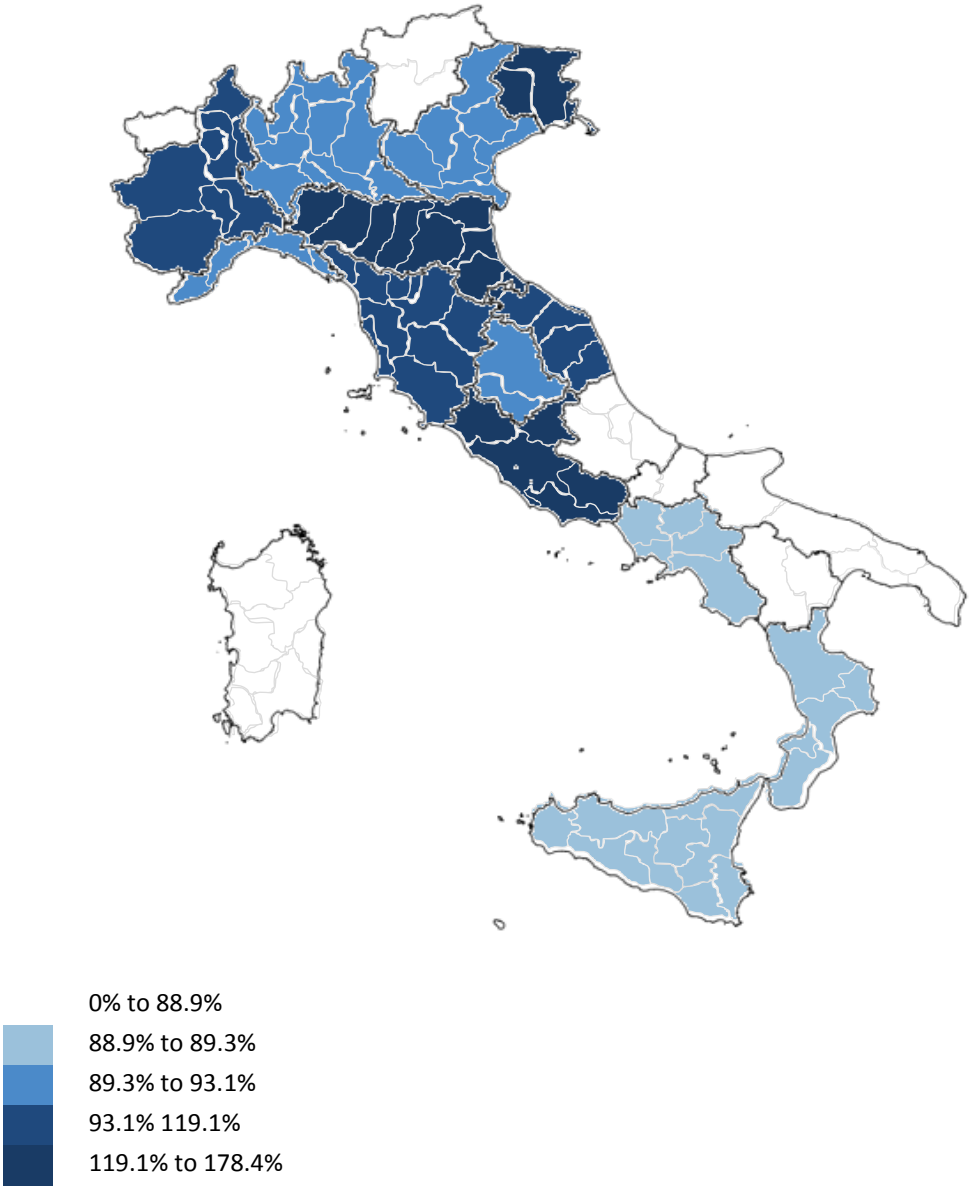
In most regions – with the exception of Trentino Alto Adige and Valle d'Aosta – the figures for the two indicators are on a par. In particular, the figures were significantly lower than the average for Italy – for both indicators that were used – in the southern parts of the Adriatic coast and in Sardinia.

Chart 2.3 Innovative startups per thousand currently trading companies (Italy index = 100)



Source: based on Infocamere data

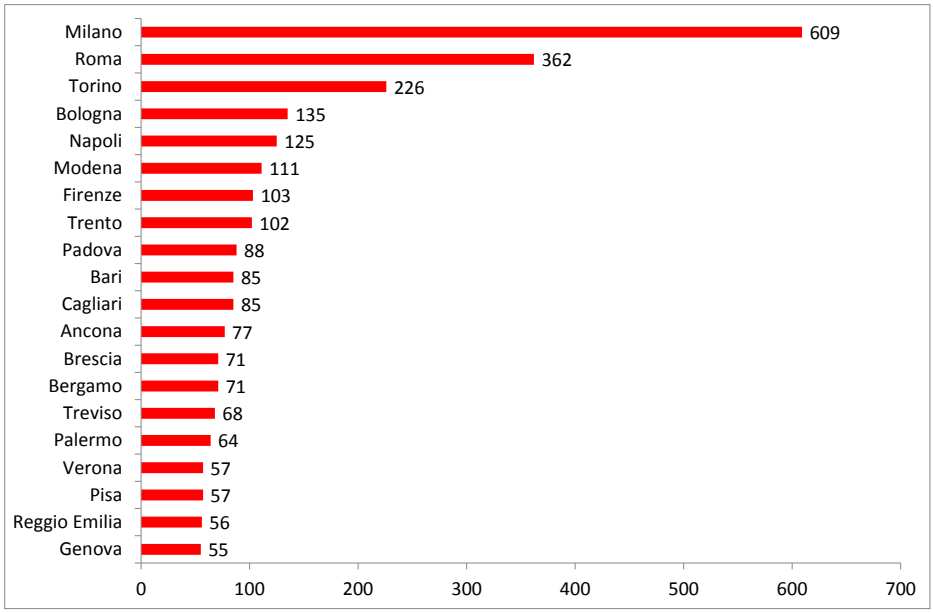
Chart 2.4 Graduates in technical and scientific subjects per thousand inhabitants aged 20-29 years (Italy index = 100)



Source: based on ISTAT data

A study of the provincial distribution of Italian innovative startups shows that Milan is, in absolute terms, the province with the largest number of startups: 609, accounting for 14.5% of the total. Rome is next with 362 (8.6%), Turin 226 (5.4%), Bologna 135 (3.2%) and Naples 125 (3%). Modena, Florence and Trento also have more than 100 startups.[16]

Chart 2.5 Ranking of the top twenty Italian provinces by number of innovative startups

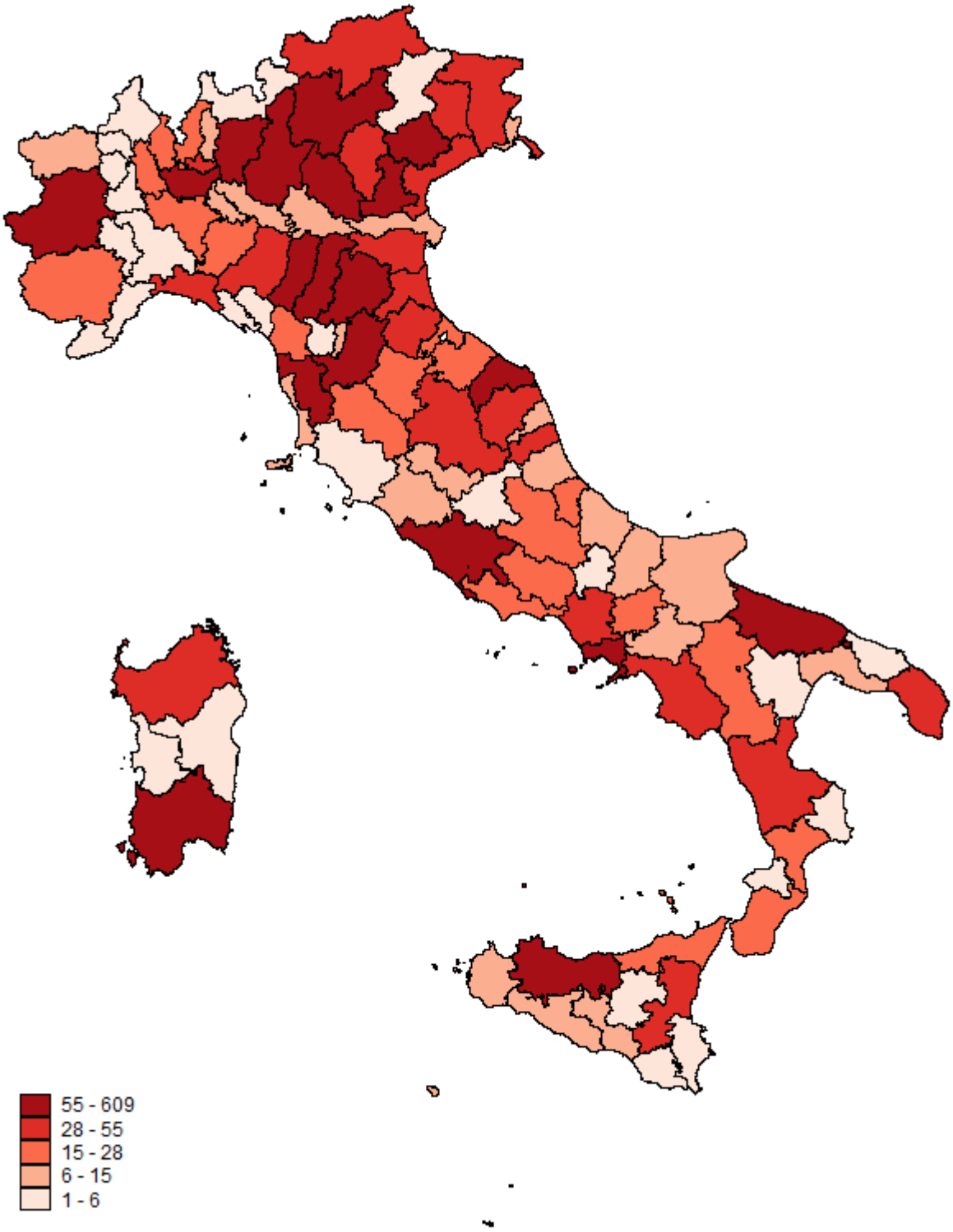


Source: based on Infocamere data

The map below shows that high-tech startups are mainly concentrated in the larger Italian cities, particularly in those reached by the high-speed railway.

[16] The complete provincial statistics are attached to this report.

Chart 2.6 The number of innovative startups in each Italian province



Note: the territorial breakdown does not take into account the following provincial boundaries: Barletta-Andria-Trani, Carbonia-Iglesias, Medio Campidano, Ogliastra, Olbia-Tempio.

Source: based on Infocamere data

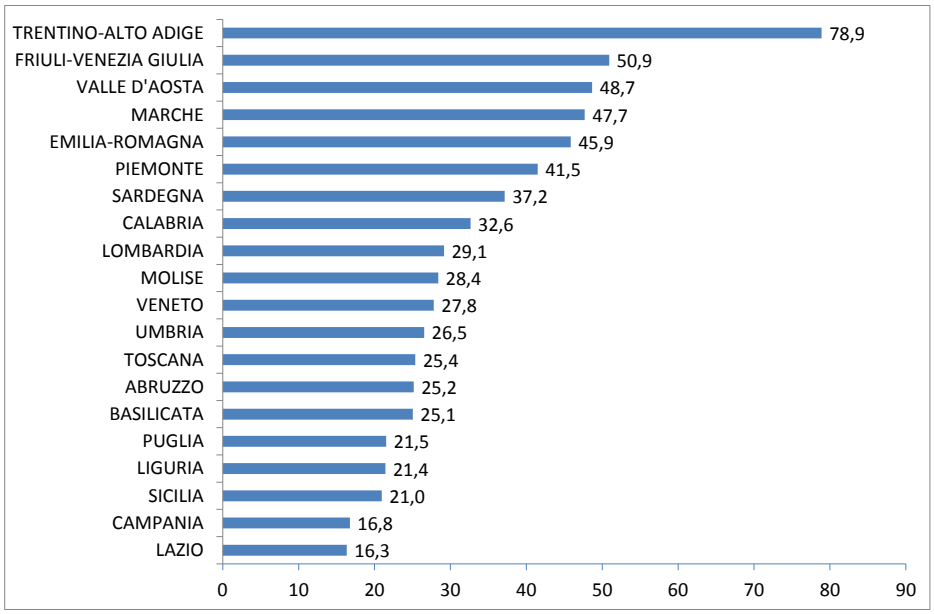
After analysis of the indicators related to innovative startups in absolute terms and in relation to all the companies currently trading in the Italian regions, the ratio to the total number of joint-stock companies was analysed, which essentially represents their reference point.

The distribution thus obtained shows a significantly diversified picture. At the level of the geographical areas, there is not that much variation. The nationwide average of the indicator is 27.8 startups for every ten thousand joint-stock companies. This is higher in the North-East (40.8) and the North-West (30.8), slightly lower in the Centre and South.

The rankings for the individual regions, however, show wide variations. Trentino-Alto Adige is the region with the highest ratio of startups relative to joint-stock companies, with 78.9 startups per ten thousand companies. This is followed, but with a wider gap, by Friuli Venezia Giulia, with 50.9, Valle d'Aosta with 48.7, Marche with 47.7, and Emilia-Romagna with 45.9. The leading southern region is Sardinia with only 37.2 startups per ten thousand companies.

Lombardy ranks only in ninth place, with a ratio of 29.1, while Lazio is last in the rankings, with a ratio of only 16.3.

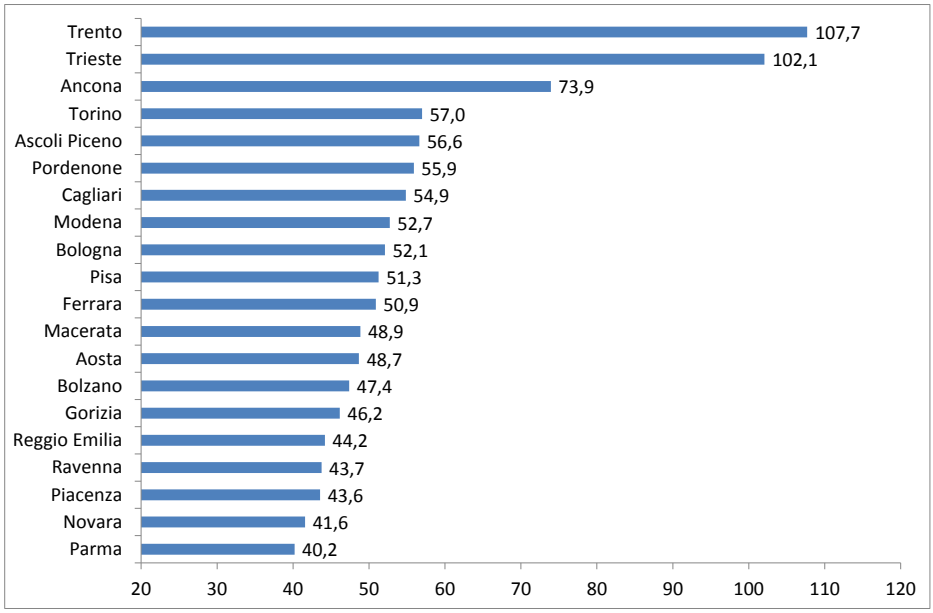
Chart 2.7 Ranking of Italian regions relative to the number of innovative startups per ten thousand joint-stock companies



Source: based on Infocamere data

If the provincial data is considered, Trento is in first place with 107.7 startups per ten thousand companies, followed by Trieste with 102.1, Ancona with 73.9, Ascoli with 57. The highest-ranking southern province is Cagliari, in 7th place with 54.9. Milan and Rome are not among the top twenty provinces: the former is in 25th place with 37, and the capital is in 73rd place with 16.8.

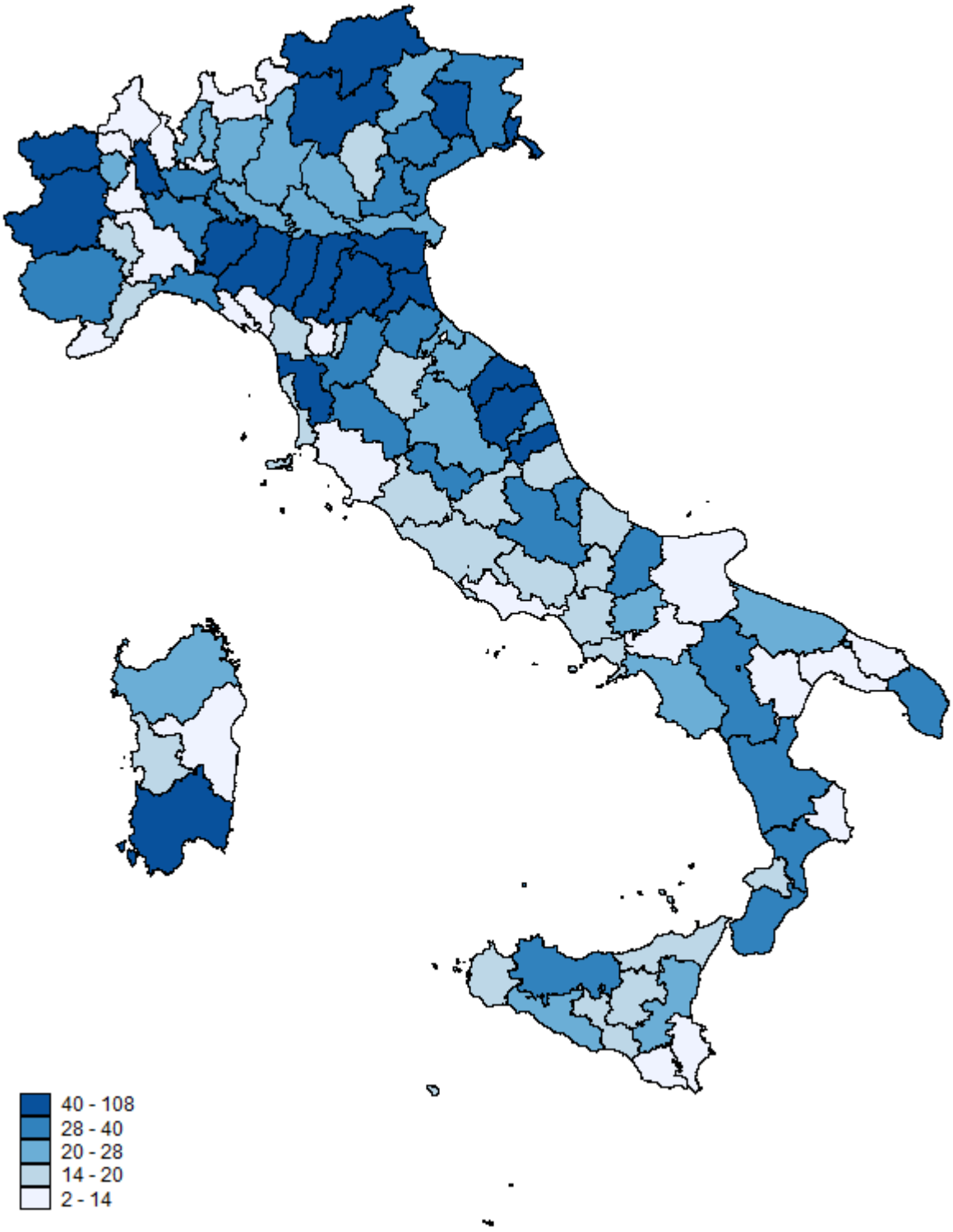
Chart 2.8 Ranking of the top twenty provinces for innovative startups per ten thousand joint-stock companies



Source: based on Infocamere data

Apart from the particularly positive performance of some smaller territories, the data regarding the major metropolitan cities shows that these vital areas of the country still have substantial potential for the creation of new innovative companies.

Chart 2.9 The number of innovative startups per ten thousand joint-stock companies by Italian province



Note: the territorial breakdown does not take into account the following provincial boundaries: Barletta-Andria-Trani, Carbonia-Iglesias, Medio Campidano, Ogliastra, Olbia-Tempio.

Source: based on Infocamere data

CORRELATION BETWEEN THE DISTRIBUTION OF INNOVATIVE STARTUPS AND PATENTS

An analysis of the degree of technological innovation conducted at regional level with the most recent data confirms the persistence of an innovation gap between the Centre-North and the South. It also allows an analysis to be made as to whether there is a correlation with the location of innovative startups.

Lombardy in particular, with 172 patents and trademarks per 100,000 inhabitants, is in first place in the rankings, followed by Emilia-Romagna (about 145 patents and trademarks), Lazio (140) and Piedmont (about 138). There is a significant gap compared to with the southern regions, with Calabria having just 20 patents and trademarks per 100,000 inhabitants, the lowest region in the ranking.

The comparison between 2003 and 2013, however, shows a widespread innovative effort, especially by the southern regions. The indicator on patents and trademarks in all the southern regions shows a significant increase while two northern regions (Lombardy and Piedmont) have seen a decrease in the ratio of patents compared with the number of inhabitants.

Considering three other indicators regarding the degree of competitiveness/innovation of a country (exports as a percentage of GDP, ratio of companies using services with their website over the total number of companies with more than 10 employees, and finally graduates in science and technology per thousand inhabitants), significant and widespread improvements at regional level can be seen during the period specified above. The latest data confirms the gap between the northern and southern area although it is worth noting the effort made by the southern regions that, with the exception of Molise and Calabria, have an increased propensity to export, and all of them show an increase in the number of computerised companies and science and technology graduates.

Table 2.2 The degree of innovation in the Italian regions

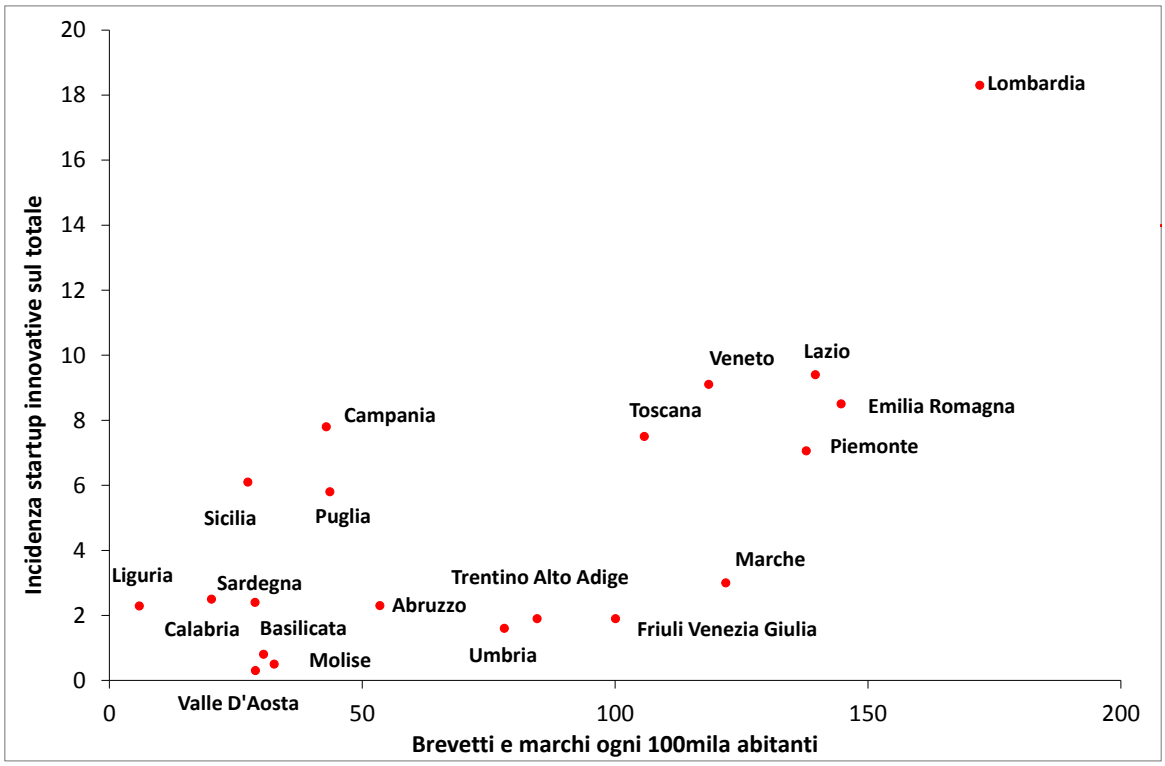
	2003	2013	2003	2013	2003	2013	2003	2013	2015	
	Patents and Trademarks (per 100,000 inhabitants)		Exports over GDP ratio		Services companies with a website		Graduates in science and technology (per thousand inhabitants)		Total number of Innovative Startups	Percentage of total innovative startups compared with the total for Italy
North-West										
Liguria	21.9	59.4	9.6	15.5	41.8	54.3	10.2	16.4	60	2.29
Lombardy	288.1	172.1	27.5	32.6	48.6	75.4	8.2	16.6	865	18.3
Piedmont	214.1	137.8	27.0	31.9	54.7	64.6	8.6	16.7	285	7.06
Valle D'Aosta	5.8	28.9	10.6	13.4	47.5	59.6	0.1	2.4	11	0.3
North-East										
Emilia-Romagna	62.4	144.7	27.0	35.1	49.7	72.3	11.3	18.8	476	8.5
Friuli Venezia Giulia	39.2	100.1	26.7	31.9	48.9	70.6	8.1	16.5	115	1.9
Trentino Alto Adige	26.8	84.6	16.7	19.5	56.8	83.1	9.7	9.3	133	1.9
Veneto	75.5	118.5	30.5	34.9	47.4	71.2	7.7	11.8	293	9.1
Centre										
Lazio	233.7	139.6	7.4	10.6	46.2	57.9	9.2	18.4	381	9.4
Marche	35.0	121.9	25.0	25.7	42.2	65.3	7.2	15.2	166	3.0
Tuscany	25.9	105.8	23.0	30.6.	47.0	70.1	12.1	18.0	246	7.5
Umbria	8.6	78.1	12.9	18.3	43.7	62.5	6.1	13.2	51	1.6
South										
Abruzzo	9.1	53.5	21.6	23.0	39.1	59.2	6.5	10.7	76	2.3
Basilicata	1.3	30.5	16.3	11.0	34.8	53.2	3.1	5.3	25	0.8
Calabria	3.5	20.2	1.1	1.1	29.7	50.1	4.8	10.9	94	2.5
Campania	10.3	42.9	8.1	9.9	43.3	55.3	6.1	10.7	232	7.8
Molise	1.9	32.6	9.2	5.9	24.1	57.9	0.6	4.5	16	0.5
Apulia	11.4	43.6	9.1	12.6	46.4	59.8	3.7	6.9	158	5.8
Sardinia	5.7	28.8	8.7	19.3	35.9	62.9	5.5	8.8	113	2.4
Sicily	2.3	27.4	6.8	15.4	32.8	53.6	4.7	8.0	168	6.1

Source: based on Infocamere, Istat and MiSE data

When data related to innovative startups (in terms of regional startups as a percentage of the total) is cross-referenced with that for patents and trademarks per 100,000 inhabitants, a high correlation is observed (the correlation coefficient is equal to 0.69). The startup phenomenon is especially focused on the more "innovation-oriented" regions (Lombardy, Lazio, Veneto, Emilia-Romagna) confirming that good infrastructural facilities and technology tends to facilitate the creation of new and highly innovative entrepreneurial companies. In addition, cross-referencing the ratio of innovative startups over the total number of startups with the other variables confirms a high degree of correlation.

There are, however, two exceptions regarding the regions of Campania and Sicily, which are characterised by a moderate incidence of innovative startups in a production system that, despite the changes between 2003 and 2013, is still modest in terms of innovation.

Chart 2.10 Correlation between the incidence of innovative startups and patents and trademarks



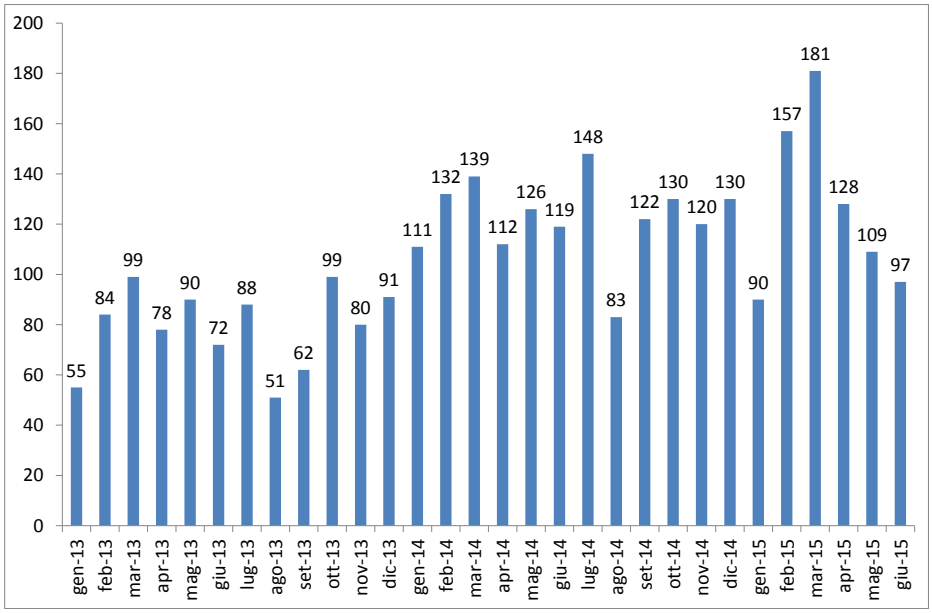
Source: based on Infocamere, Istat and MiSE data

TRENDS IN REGISTRATIONS

Turning, finally, to the analysis of data on the trend of innovative startup registrations, we note that – excluding the initial peak of early 2013 shortly after the law came into force – an almost linear growth has been recorded during the last two years, which were marked by a serious and widespread recession.

The phenomenon of growth of startup companies thus appears in contrast to the overall establishment of Italian companies, which in recent times has seen a slow but steady decrease. Since the policy came into force, the average number of registrations has passed from 79 per month in 2013 to 122.7 in 2014 and 127 in the first half of 2015.

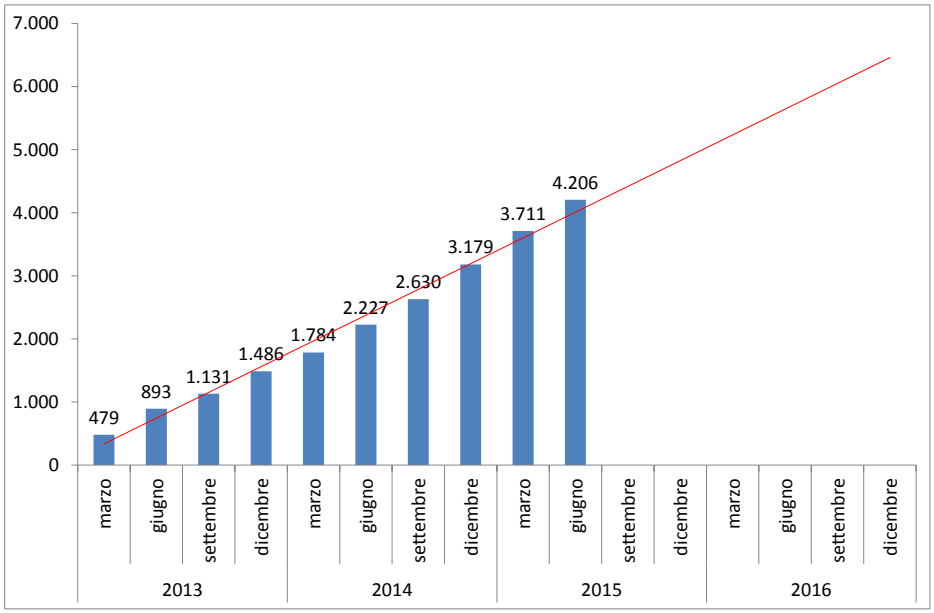
Chart 2.11 Monthly registration trends in respect of innovative startups (January 2013 – June 2015)



Source: based on Infocamere data

If this rate of growth continues in the second half of 2016, the number of Italian innovative startups could exceed 6,000 units.

Chart 2.12 Total number of innovative startups at the end of each quarter (March 2013 – June 2015)



Source: based on Infocamere data

2.1.2 Startups – Registrations and Closures

REGISTRATIONS AND CLOSURES IN 2014

An essential component of the analysis of the startup phenomenon regards the measurement of the trend in closures, which may be a significant indicator of the rate of innovation in companies and their appetite for risk.

The population of innovative startups increased appreciably in 2014. The positive balance between registrations and closures was 1,643 units and the growth rate in the number of registered companies is 111.2% compared to 2013.

In 2014, there were 1,699 new registrations, a result that was higher than that of the previous year. Of these, 1,180 (70%) were firms established in 2014.

There were just 56 deletions from the special section of the register, of which 25 were due to the cessation of trading (45%). The rest of the companies lost the requirements for innovative startups as defined by Decree-Law 179/2012.

The number of companies at year-end stood at 3,120 units compared to 1,477 in December 2013. Of these, 1,421 confirmed their registration of the previous year (46% of the total).

In 2014, all areas of the country showed a positive balance compared to 2013, the largest in absolute terms was the North-West (511 more), followed by the South (411 more). The highest growth rate in startups was recorded in the South (154.3%). The rate was slightly above average in the North-West (114.1%). The figures for the North-East and Centre were below the national average.

The sectors that, more than others, contributed to the growth of the number of startups concerned services. In absolute terms, the biggest increases were, in fact, related to services (1,241 more), followed at a considerable distance by industry (304 more). The growth rate of startups, however, was higher than average in other sectors, such as agriculture and tourism (225%), trade (135.8%) and industry (113.3%).

Table 2.3-Innovative startups - Registrations and Closures – 2014

	TOTAL	NORTH-WEST	NORTH-EAST	CENTRE	SOUTH	INDUSTRY	SERVICES	TRADE	OTHER SECTORS
NUMBER OF STARTUPS AT THE END OF 2013	**1,477**	**447**	**425**	**340**	**265**	**264**	**1,148**	**53**	**12**
REGISTERED	**1,699**	**523**	**412**	**346**	**418**	**303**	**1,292**	**77**	**27**
- ESTABLISHED IN 2014	*1,180*	*345*	*290*	*247*	*298*	*195*	*912*	*51*	*22*
- ESTABLISHED EARLIER	*519*	*178*	*122*	*99*	*120*	*108*	*380*	*26*	*5*
DELETED FROM THE SPECIAL SECTION	**56**	**13**	**26**	**8**	**9**	**4**	**47**	**5**	**0**
- CLOSED	*25*	*4*	*17*	*1*	*3*	*0*	*22*	*3*	*0*
- LOSS OF THE REQUIREMENTS	*31*	*9*	*9*	*7*	*6*	*4*	*25*	*2*	*0*
NUMBER OF STARTUPS AT THE END OF 2014	**3,120**	**958**	**809**	**677**	**676**	**568**	**2,389**	**122**	**41**
DIFFERENCE	**1.643**	**511**	**384**	**337**	**411**	**304**	**1241**	**69**	**29**
GROWTH RATE (*)	**111.2%**	**114.1%**	**90.8%**	**99.4%**	**154.3%**	**113.3%**	**108.4%**	**135.8%**	**225**
CONFIRMED	*1,421*	*435*	*397*	*331*	*258*	*260*	*1,101*	*48*	*12*

(*) The growth rate is the ratio between the difference between registrations and closures recorded in the period and the number of startups on the register at the beginning of the period considered.

Source: based on Infocamere data

STARTUPS ESTABLISHED AND CLOSED IN THE FIRST HALF OF 2015

The innovative startups system continued growing at great speed in the first six months of 2015. Compared to the end of 2014 the positive difference between startups established and closed was 1,086 units, representing a growth rate in the number of registered companies of 34.8%.

In the first half of 2015, there were 1,249 new registrations in the special section of the Register, of these 748 (60%) were established from January to June 2015.

There were 163 deletions from the special section of the Register, although only 34 were due to a cessation of business (21%). The rest of the companies lost the requirements for innovative startups defined by Decree-Law 179/2012.In particular, 77 companies established between 20 October 2008 and 19 October 2009 were deleted from the lists held by the Chambers of Commerce.

There were 4,206 startups as of 30 June 2015 compared with 3,120 in December 2014, of these, 2,957 confirmed their registration.

In the first half of this year all the areas of the country registered a positive difference compared to 2014, the largest in absolute terms was in the North-West (318), followed by the North-East (284). The highest growth rate for startups was recorded in the South (38.6%). The rate was slightly above average in the North-East (35.5%). The figures for the North-West and Centre were below the national average.

The service sector was the sector that contributed most to the growth of the number of startups. The biggest differences in absolute terms were in the services sector (817), followed at a considerable distance by industry (195 units). The growth rate of startups, however, was higher than the overall average in the trade sector (54.1%) and in other sectors such as agriculture and tourism (51.2%).

Table 2.4 - Innovative startups - Registrations and Closures – First half of 2015

	TOTAL	NORTH-WEST	NORTH-EAST	CENTRE	SOUTH	INDUSTRY	SERVICES	TRADE	OTHER SECTORS
NUMBER OF STARTUPS AT THE END OF 2014	**3,120**	**958**	**809**	**677**	**676**	**568**	**2,389**	**122**	**41**
REGISTERED	**1.249**	**360**	**338**	**260**	**291**	**221**	**933**	**72**	**23**
- ESTABLISHED IN 2015	*748*	*216*	*206*	*158*	*168*	*132*	*565*	*35*	*16*
- ESTABLISHED EARLIER	*501*	*144*	*132*	*102*	*123*	*89*	*368*	*37*	*7*
DELETED FROM THE SPECIAL SECTION	**163**	**45**	**51**	**37**	**30**	**32**	**123**	**6**	**2**
- CLOSED	*34*	*6*	*10*	*10*	*8*	*2*	*30*	*1*	*1*
- LOSS OF THE REQUIREMENTS	*129*	*39*	*41*	*27*	*22*	*30*	*93*	*5*	*1*
NUMBER OF STARTUPS AT 30 June 2015	**4,206**	**1,276**	**1,093**	**900**	**937**	**763**	**3,206**	**183**	**54**
DIFFERENCE	**1,086**	**318**	**284**	**223**	**261**	**195**	**817**	**61**	**13**
GROWTH RATE (*)	**34.8%**	**32.9%**	**35.5%**	**32.9%**	**38.6%**	**33.3%**	**33.9%**	**54.1%**	**51.2%**
CONFIRMED	*2,957*	*916*	*755*	*640*	*646*	*536*	*2,266*	*116*	*39*

(*) The growth rate is the ratio between the difference between registrations and closures recorded in the period and the number of startups on the register at the beginning of the period considered.

Source: based on Infocamere data

The number of innovative startups that have been closed down appears to be modest: just 59 in the last year and a half. This is in sharp contrast with the indications in the literature (Kauffman Foundation) and a recent survey conducted by Confindustria and Cerved (Southern SMEs Report 2015, June 2015) which shows that, three years from establishment (between 2009 and 2012), the survival rate of companies in Italy is equal to 44.2% (48.3% in the South).

The low number of innovative startup closures could be attributable, in addition to the influence of the policy, to the fact that many of these companies are establishing their various lines of business without having yet actually entered the market. It could also be understood as an indicator of reduced propensity to innovation and risk. The recent nature of the policy and its empirical manifestations do not, at present, allow an unequivocal conclusion. These aspects will be discussed further in a qualitative survey on innovative startups that will be carried out in the coming months and whose main results will be presented in the Minister's report to Parliament next year.

2.1.3 Alternative innovation requirements

To be classified as an innovative startup, as well as satisfying a number of cumulative conditions (Article 25, Section (2) b) to g) of Decree-Law 179/2012), a company must also meet at least one of the following "Alternative" requirements, aimed at specifically identifying how innovative the company's activities are (Article 25, Section (2) h):

a. a minimum of 15% of expenditure on R&D on the greater figure between turnover and total annual costs;

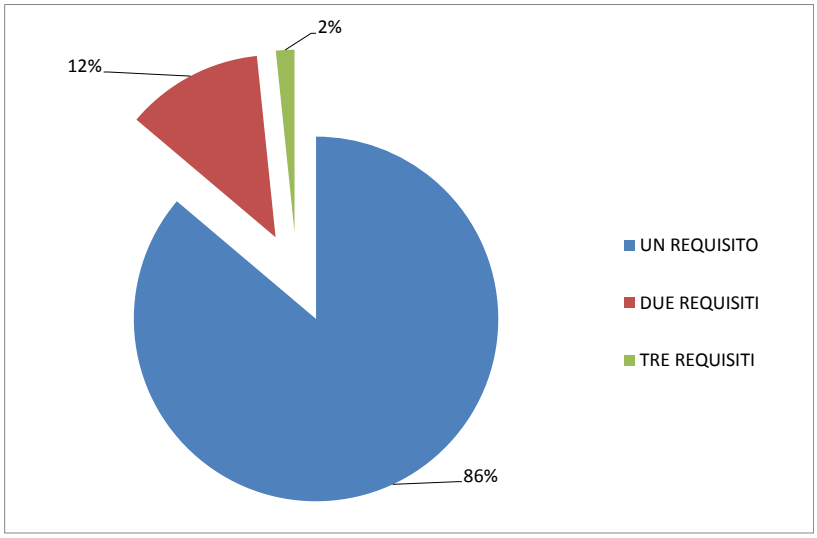
b. 1/3 of the workforce (employees in any capacity) composed of PhD students, post-docs and researchers with at least three years' research experience or 2/3 of the workforce composed of people in possession of 5-year degrees;

c. a company that is the proprietor, custodian or licensee of a patent or industrial property rights or the proprietor of registered software.

Analysing the data from Infocamere updated at the end of June 2015 relating to self-certifications submitted by innovative startups, 86% stated that they complied with one requirement, 12% two requirements and only 2% comply with all three innovation requirements.

The number of companies with at least two of the three innovation requirements may be lower than expected. For example, a corresponding presence of highly educated staff would be expected in companies that have a substantial investment in R&D. The results do not support this assumption, even if, on the other hand, the fact that the legislation has established the possession of one of the requirements as a sufficient threshold for recognition may have prompted employers not to select a higher number.

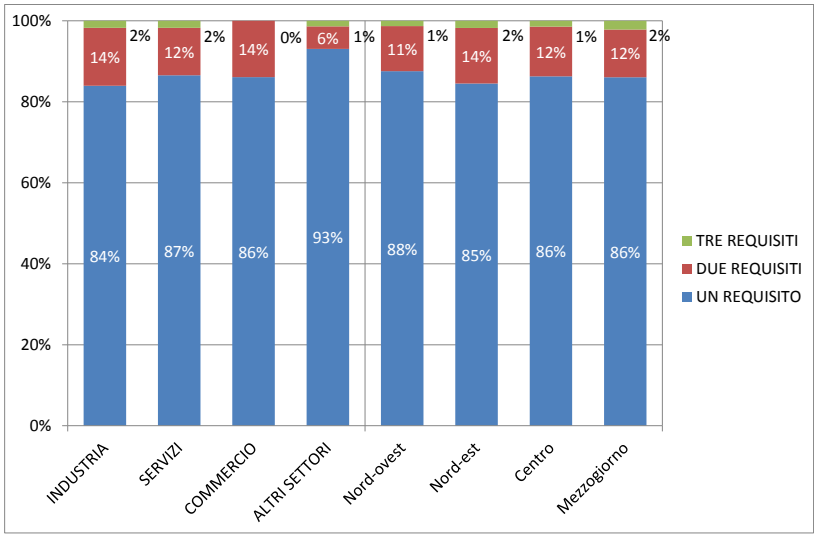
Chart 2.13 Innovative startups per number of requirements



Source: based on Infocamere data

The distribution by number of requirements has no significant differences based on macro-economic sectors and geographical areas.

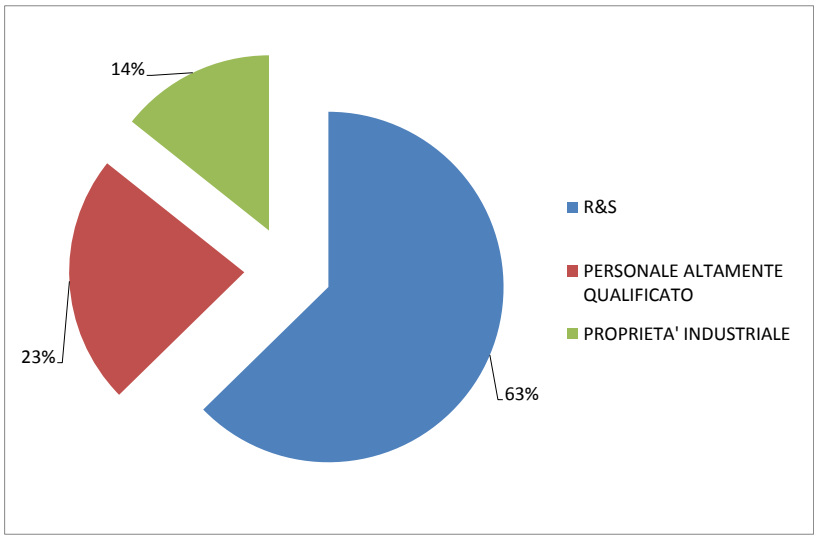
Chart 2.14 Innovative startups per number of requirements, industry and geographical area



Source: based on Infocamere data

Of the companies that only satisfied one requirement, in 63% of cases, these spend over 15% of their turnover or total costs on R&D, 23% employ sufficiently highly qualified staff to exceed the thresholds set by the legislation. In 14% of cases, they possess industrial property rights or registered original software.

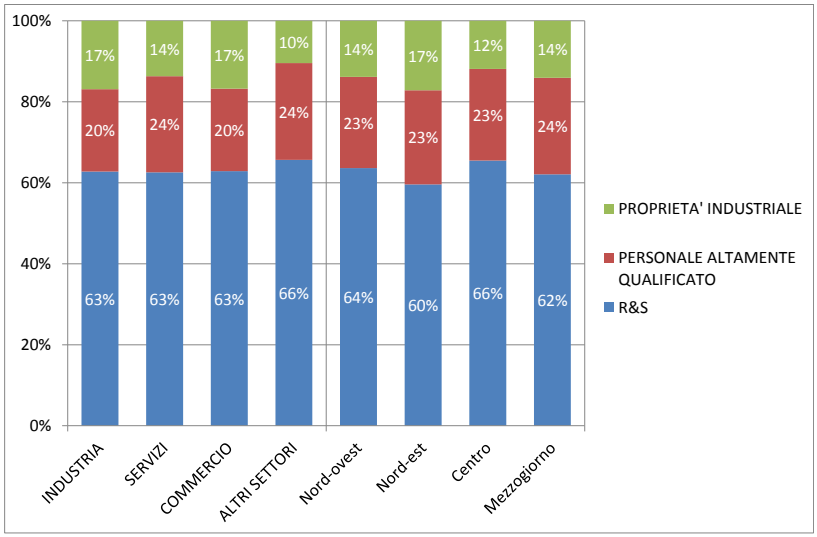
Chart 15.2 Innovative startups that satisfy one requirement



Source: based on Infocamere data

The ratio of companies in possession of industrial property rights or software is relatively higher in industry and commerce, and, at regional level, in the North-East, where the incidence of the companies investing more than 15% of turnover in R&D is lower than in the rest of Italy.

Chart 2.16 Innovative startups that satisfy one requirement per sector and geographical area

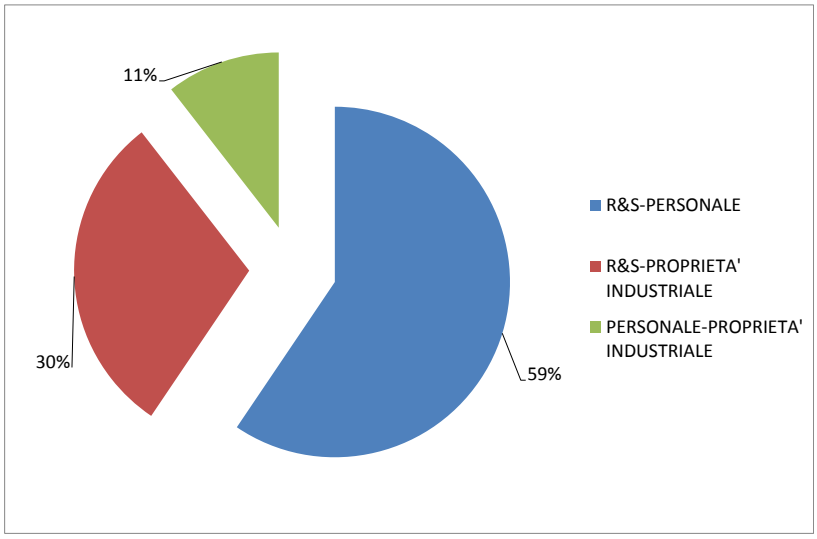


Source: based on Infocamere data

Of the companies indicating they satisfied two requirements, 59% spend over 15% of turnover on R&D and also employ highly skilled staff. 30% exceed the thresholds of expenditure on research and are in possession of industrial property rights or registered original software. The remaining 11% of cases have qualified staff and at least one industrial property right.

In 90% of cases, these companies exceed the minimum requirement for spending on research, 70% comply with the thresholds for qualified personnel, and 40% have at least one industrial property right or registration of original software.

Chart 2.17 Innovative startups satisfying two requirements

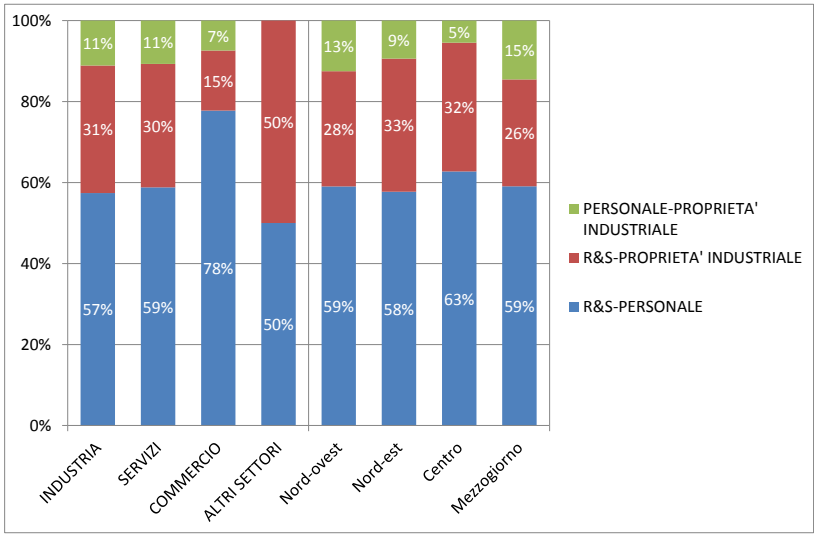


Source: based on Infocamere data

At the sectoral level, the percentage of companies that spend over 15% of turnover on R&D and at the same time employ highly qualified staff is higher in the trading sector, while the ratio of companies that have significant research expenditure and are in possession of an industrial property right or original software is significantly lower.

At national level, the percentage of companies that spend over 15% of turnover on R&D and at the same time employ highly qualified staff is relatively higher in central Italy, where there is a slightly lower ratio of companies with qualified staff and at least one industrial property right.

Chart 2.18 Innovative startups satisfying two requirements per sector and geographical area



Source: based on Infocamere data

Finally, 69 companies have self-certified possession of all the above innovation requirements. 52% of these are located in the North (25% in the North-West, 28% in the North-East), 29% in the South and 19% in the Centre of Italy. 80% are involved in the services market, 19% in industry.

A study recently conducted by the Office for Harmonisation in the Internal Market – the EU agency responsible for administering the Community trade mark and Community registered designs and models – highlights how, in Europe, companies with patents perform better than companies without patents in terms of labour productivity, employment and wage levels.[17]

It is therefore worth pointing out that among the 4,206 innovative startups registered up to June 30 there is a large number of companies (782) that declared ownership or licenses of tools to protect intellectual property, selecting the third requirement exclusively or combined with one or two of the other alternative innovation requirements.

[17]Office for Harmonisation in the Internal Market, "*Intellectual property rights and firm performance in Europe: an economic analysis*", June 2015.

2.1.4 Innovative startups with a social goal or high technological value in the energy sector

The definition of innovative startups Decree-Law 179/2012 (Article 25, Section (2) does not provide for limitations related to business sectors, because the main aim of the scheme is to promote technological innovation in all productive sectors.

The only prescribed differentiation in the definition covers innovative startups with a "social goal" (SIAVS). Pursuant to Article 25, Section (4), SIAVS have the same requirements as other innovative startups, but they operate in certain specific areas that Article 2, Section (1) of Legislative Decree 155/2006, which governs social enterprise, considers to have significant social value.

Since SIAVS by definition pursue goals related to the welfare of the community, as well as having a business logic, they may be less "attractive" on the market, which results in a return on investment that is lower than that generated by other companies. To correct this asymmetry, Article 29 of Decree-Law 179/2012 has awarded increased tax benefits for operators investing in this particular type of innovative startup.

Together with innovative startups with a social goal, another type of innovative startup is provided with the same particularly advantageous tax benefits. These are the companies that exclusively develop and market innovative products or services of a high technological value in the energy industry.

While this second type of startup is identified by checking whether its main and secondary activities are included in a restricted list of relevant Ateco 2007 codes (Italian version of the European nomenclature, NACE Rev. 2),[18] recognising SIAVS requires a more flexible procedure, adapted to the needs of businesses that are taking on a double feature: they undertake activities which not only make use of technological innovation, but also pursue social goals.

WHY ESTABLISH AN AD-HOC PROCEDURE TO IDENTIFY INNOVATIVE STARTUPS WITH A SOCIAL GOAL?

Circular 3677/C issued by the Ministry of Economic Development on 20 January 2015 introduced a new structured procedure for recognition of SIAVS.

Technology is often associated with impersonality, with indifference to the effects produced on individuals and the community. The encouragement of recognition of innovative startups with a social goal is aimed at weakening this old cultural stratification and highlighting that even new high-tech companies can positively impact on the welfare of a community, or by examining the issue from another perspective, that social enterprises do not have a monopoly on activities with a social impact.

Indeed, it should be stressed that, although they refer to the list of sectors drawn from legislation on social enterprises, the legal concept of SIAVS does not also require registration in the register of social enterprises. However, their connection to the world of social

[18] The Decree of 30 January 2014 of the Ministry of Economy and Finance, in consultation with the Ministry of Economic Development, defined the scope of application of the increases in favour of innovative startups that develop and market innovative products or services exclusively with a high technological value in the energy industry, with an attached list of Ateco 2007 codes.

entrepreneurship is clear, and the new procedure was also designed to inspire the Legislature, which is currently engaged in redefining the regulations for social enterprises.

It is necessary to ensure that SIAVS and operators who decide to invest in their activities can benefit from an adequate level of certainty about the presence or omission of this special status. However, as mentioned above, a recognition system based on correspondence with a given list of Ateco 2007 codes, as it is the case for high technology innovative startups operating in the energy sector, does not seem the most appropriate solution. Not surprisingly, the implementing decree on incentives for startups does not provide a list of strict Ateco codes for SIAVS: in fact, these enterprises often operate across the board, generating "hybrid" activities that focus on different areas, defying rigid classifications.

For example, "Pedius", an innovative startup which provided the first example of how to of complete the "Social impact description document" in compliance with the new procedures (see the last pages of the completion guide), has the following Ateco code: "J61 Telecommunications". This codification, which is not in any of the areas listed in Article 2, Section (1) of Legislative Decree 155/2006, would have excluded the applicability of its status as a SIAV. However, when the activities carried out by Pedius are examined in more detail, it turns out that they relate to a mobile application that allows deaf people to make normal telephone calls. By using vocal synthesis and recognition technology, which converts text to speech and speech to text, the company in question operates in the field of technological innovation, like all innovative startups, and at the same time has an impact on the community.

The procedure created in January 2015 may help to bring to light many other possible "false negatives" hidden in the special section of innovative startups. They can then give an account of their own identity as companies that generate a social impact by operating in one of the areas covered by legislation on social enterprises, adherence to which, as we have seen, is a requirement inherent in the legal concept of SIAVS.

At the same time, the completion by the enterprise of a document describing the expected or actual social impact may facilitate the activities pursued under Article 31, Section (5) of Decree-Law 179/2012 in relation to the checking of the requirement to operate in one or more of the fields covered by Legislative Decree 155/2006. This is necessary for the attribution of SIAV status and for the lawfulness of any increased benefits granted to the investors.

As is obvious, the procedure aims to lubricate the mechanisms of interaction that develop between companies entitled to benefits and the authorities involved in supervisory functions concerning the legality of these benefits, using a simple and flexible communication tool like the one described below.

Simple: since it is not too burdensome for the company called upon to comply with it.

Flexible: by being adaptable to the specific case, not subject to rigid and unchanging parameters.

A FLEXIBLE PROCEDURE, BASED ON A DESCRIPTION OF THE SOCIAL IMPACT

Going into detail on the new procedures for recognising SIAV status, this consists first of all of a self-certification, through which the enterprise:

1. declares that it is operating exclusively in one or more of the sectors listed in Article 2, Section (1) of Legislative Decree 155 of 24 March 2006;
2. identifies the sector or sectors in question;

3. declares that it is pursuing, whilst working in that area/those areas, an aim that is in the public interest;
4. undertakes to provide evidence of the social impact that it generates.

This last point is embodied in the drafting, once a year, of a "Social impact description document", to be completed in accordance with the guidelines provided in the aforementioned guide.

SIAVS are required to draft and electronically transmit, to the competent Chamber of Commerce, the "Social impact description document", upon submission of the self-certification referred to and, in subsequent years, on the occasion of the annual confirmation of the requirements of Article 25(15) of Decree-Law 179/2012.

The "Social impact description document" covers:

- an expected impact in the case of startups or in any case not yet achieved at the time the first financial statements are filed;
- an impact generated in the case of enterprises that have already filed their first financial statements.

It needs to be clarified that, in any case, what is required is accountability and measurement, not a performance obligation.

The procedure thus constructed is therefore able to associate flexibility – a self-certification mechanism that leaves the entrepreneur to illustrate the social impact generated – and solvency – the authorities can count on a documentary basis to verify the existence of the requirement. Companies are strongly encouraged to publish the document produced on their official websites.

Describing the social impact of an organisation means assigning wider and long-term effects in relation to the activities undertaken, effects meaning the potential benefits or changes that the intervention generates in the community in terms of knowledge, attitudes, status, life-style conditions and values. At the same time, these results must be provided in measurable terms.[19]

The impact is the last step of what is called the impact value chain, and that is a methodology to analyse the activity of an organisation by identifying the resources used (input), the products or services provided (output) the results (outcome) and, finally, the impact, that is, the broader and long-term change. By breaking the work down into its individual components, it is easier to clarify the fundamental distinction between the immediate results of an intervention (such as the number of participants in a vocational training event) and its ability to trigger lasting change, the impact (increased level of "employability" of the beneficiaries).

The operator called upon to draft the Social Impact Description Document should always be guided by the ultimate purpose of this statement, or give an account of the activities conducted by the company and their impact on the various stakeholders, which legitimates its SIAV status.

In view of the foregoing, the information provided by the guide for drafting the social impact description document, drafted in collaboration with the Ministry of Education and the main

[19] A definition adapted from the work carried out by EVPA, GECES Sub-group on Impact Measurement and others.

Italian social entrepreneurship players, is intended to be illustrative and not prescriptive, because mandatory imposition of the use of a single procedure would not lead to an effective outcome.

STATISTICAL DATA

The new procedure for recognising SIAVS has so far been held back by the delayed adjustment of procedures for data transmission from the Chamber of Commerce system peripheral to the special section of the register at central level, so that at 30 June 2015 there were only 5 SIAVS.

The decree of the General Director for the market, competition, the consumer, monitoring and the Technical Regulations of the Ministry of Economic Development of 22 June 2015, "Technical specifications for the implementation of procedures for the register of companies (REA)", will overcome this problem allowing a rapid increase in the number of companies with an approved social goal.

At the end of June 2015, there were 482 startups that develop and market innovative products or services exclusively of a high technological value in the energy industry (11.5% of total): almost 60% are located in the North, equally distributed between the west and east, 21% in central Italy and 21% in the South. Almost 90% are involved in private services, the rest are instead involved in industry.

2.1.5 Analysis of the main economic indicators

INTRODUCTION

Development of the information system for startups identified a comprehensive list of all the undertakings, outlining the structural characteristics such as location, type of company and business sector. These attributes were presented for all innovative startups.

The next step, presented in this section, is to enhance knowledge about startups considering their employment rates and their economic performance. This type of analysis must, however, take into account both the period of formation of startups – for example, many were only established in 2014 – and the frequency for updating economic information (see the section on the information system's data sources in the appendix).

Generally, it was possible to obtain information related mainly in regard to the period 2012-2013 for a subset of heterogeneous companies. An attempt was therefore made to present the results in a standardised format, compared, for example, to all joint-stock companies, in order to make the analysis interpretable from an economic point of view. In accordance with the time required to obtain data from the sources, for 2014 it was possible to present a study on the dynamics of the number of employees and of the number of shareholders.

The results shown below indicate that the average size of business startups, in terms of employees, recorded an increase between 2013 and 2014.

Startups also involve a significant number of shareholders on average, mostly natural persons but also legal persons (among the 1,369 where, with reference to the year 2014, it was possible to identify the presence of shareholders, there were more than 5,500 shareholders who were natural persons and about 1,100 who were legal persons).

Compared to the economic data, there are some macro-sectors (R&D, consultancy, management consultancy, architecture and engineering) where the startups maintain a certain level of competitiveness compared to companies already on the market, also in terms of turnover. Also, as expected, the average levels of profitability of startups are lower than those of companies already on the market, but at the same time the levels of solvency and liquidity are quite competitive.

However, in relation to the latter, the dynamics (2013 compared to 2012) of startups shows that about half of the solvent and liquid companies tend to suffer a contraction (settling down) of solvency levels compared with the previous year, which is a less significant phenomenon for companies already on the market.

EMPLOYMENT AND THE NUMBER OF SHAREHOLDERS

For 2013, it was possible to reconstruct employment information regarding 1,443 out of 1,486 companies registered at 31 December, for 2,630 employees in total (staff employed in any capacity, including self-employed workers). The breakdown by economic sector shows the importance of service activities and in particular software and research and development activities.

Table 2.5 Number of employees and innovative startups by sector of economic activity – 2013

Business sectors	number of companies	number of staff	% of the companies	% staff
B +C +D +E +F-Other Industry and Construction	214	433.6	14.8	16.5
C-Machinery;	58	92.3	4.0	3.5
G +H +I-Trade, transport, accommodation, catering	97	148.6	6.7	5.7
OTHER SERVICES	133	204.2	9.2	7.8
J-Software	425	941.7	29.5	35.8
J-Data Processing	90	170.5	6.2	6.5
M-Management consultancy	43	76.3	3.0	2.9
M-Architects and engineers	52	81.2	3.6	3.1
M-Research and development	224	322.9	15.5	12.3
M-Specialised design	18	20.0	1.2	0.8
M-Other consultancy activities	55	79.2	3.8	3.0
N -Other business support services	34	59.4	2.4	2.3
Total	**1,443**	**2,629.8**	**100.0**	**100.0**

Source: Istat

Of these companies, 634 included employees among its collaborators (1,554). In 2014, the number of companies with employees significantly increased: 2,725 staff were employed in 1,010 of the 3,179 registered companies.

The increase in the number of companies with employees was accompanied by an increase in the average number of employees from 3.2 to 3.4.

Table 2.6 Average staff of innovative startups by geographical area – 2013-2014

Breakdown	2013	2014
North-West	3.3	3.8
North-East	2.7	2.9
Centre	2.7	3.2
South	4.1	3.6
Total	**3.2**	**3.4**

Source: Istat

The increase in the average size is nearly uniform throughout Italy and in relation to economic sector. The exception is the South, where the number of startup companies doubled over the period while growth in other areas was approximately 50%. The substantial increase recorded in the South was probably attributable to new companies that, in the initial stage, had a small number of employees.

An increase in average size occurred in most business sectors. The reduction in the design sector was due to the small number of companies involved.

Table 2.7 Average size by sector

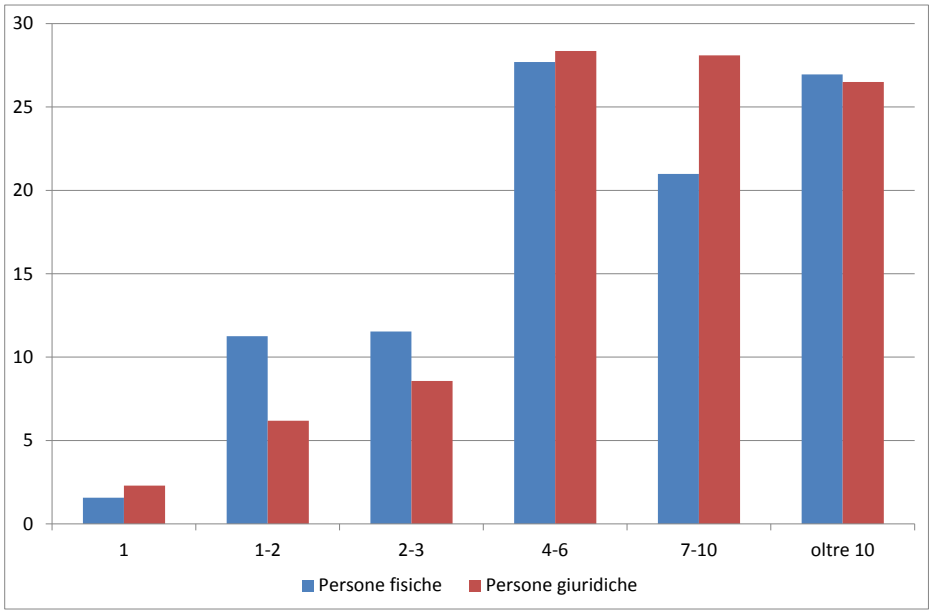
Business sectors	2013	2014
B +C +D +E +F-Other Industry and Construction	3.2	3.7
C-Machinery;	2.6	3.4
G +H +I-Trade, transport, accommodation, catering	2.7	3.5
OTHER SERVICES	2.9	3.1
J-Software	3.7	3.9
J-Data Processing	3.2	2.8
M-Management consultancy	3.8	4.0
M-Architects and engineers	2.8	2.7
M-Research and development	2.6	2.7
M-Specialised design	2.4	1.4
M-Other consultancy activities	2.1	3.1
N -Other business support services	2.8	3.3
Total	**3.2**	**3.4**

Source: Istat

The increase in average size is even more significant when viewed in relation to companies that had employees in both 2013 and2014. Of over 600 companies monitored, the average size increased from 3.2 to 4.5 employees.

The composition of the number of shareholders, natural persons and legal persons was analysed for 2014. The startup companies (1,369 units) for which it was possible to reconstruct the number of partners had just over 6,600 shareholders, including 5,500 natural and 1,100 legal persons. In particular, startup companies are mainly composed of more than 4 shareholders. In addition, more than 25% of the shareholders, whether they are natural or legal persons, are in companies with more than 10 shareholders.

Chart 2.19 Distribution of the number of shareholders per category – 2014



Source: Istat

PRODUCTIVITY ANALYSIS

- **Added value and production**

Of the indicators considered to be strategic, added value is the one that best summarises the data regarding company productivity levels. Obtained by deducting the negative items on the income statement from the positive ones, it expresses the company's ability to remunerate the factors of production.[20] In 2013, the situation regarding innovative startups for which it was possible to obtain accounting data shows that:

the average value added per enterprise was about €35,000, compared to about €280,000 for all joint-stock companies;[21]

considering the value added per employee, in other words productivity, the differences are less, even if they remain in favour of joint-stock companies (€19,000 compared to €53,000);

in regard to innovative startups, the sector with the highest level of productivity is architecture and engineering (€35,000 per employee), followed by the consultancy sector, with approximately €31,000 per employee;

negative performance was recorded for the data processing sector, where overall, the added value of innovative startups was less than zero.

Overall, startups have lower productivity levels than enterprises that have already been established for years. Indeed, in one case (the data processing sector) added value was below zero.

[20] The value added at factor cost, including contributions, net of tax, is taken into account in this case.

[21] Joint-stock companies with up to 100 employees were considered in order to ensure a consistent comparison with innovative startups, made up of small businesses.

Encouraging data emerges from analysing productivity developments. By using the value of production[22] for the years 2012 and 2013, the production value per employee ratio was calculated, both for startups and for joint-stock companies.

Table 2.8 Dynamics of production per employee, in regard to startups and joint-stock companies overall – 2012 and 2013

Business sectors	Joint-stock companies overall			Innovative startups			Innovative startups compared with joint-stock companies overall
	2012	2013	2013 compared with 2012	2012	2013	2013 compared with 2012	2013 compared with 2012
Other industries and construction	244,226	252,436	1.034	85,013	127,349	1.498	1.449
Machinery	208,722	208,721	1.000	68,856	139,119	2.020	2.020
Trading, transport, accommodation, catering	329,093	320,963	0.975	103,847	121,642	1.171	1.201
Software	141,075	144,456	1.024	56,910	79,665	1.400	1.367
Data processing	91,587	90,009	0.983	32,606	54,941	1.685	1.715
Management consultancy	179,470	193,237	1.077	42,684	68,549	1.606	1.492
Architectural and engineering firms	240,544	220,576	0.917	62,800	120,835	1.924	2.098
Research and development	185,977	149,901	0.806	71,314	101,011	1.416	1.757
Specialised design	142,431	130,110	0.913	54,063	63,325	1.171	1.282
Other consultancy activities	166,415	156,988	0.943	71,128	93,648	1.317	1.396
Other services	238,847	185,767	0.778	61,316	93,853	1.531	1.968

Source: Istat

The change in the value of production per employee (last column) is always greater than 1, indicating a higher value in startups compared with joint-stock companies. In particular, in some sectors, such as architecture and engineering, industry, and other services, the growth in the period 2012-2013 was double that of companies in the same sectors, if joint-stock companies are considered in overall terms.

[22] The value of production is used as a proxy for value added, since the latter has negative values in some cases

- **Economic and financial analysis of profitability, liquidity and solvency**

In order to highlight the level of competitiveness of innovative startups in relation to joint-stock companies overall, economic performance for the years 2012 and 2013 were analysed using the key financial indicators.

Particular emphasis was given to the study of three specific areas of performance, relative to the level of profitability, solvency and liquidity, for which a selected number of indicators were summarised:

1. two indicators were summarised in regard to liquidity (which expresses the ability to cover short-term liabilities with current assets – inventories, receivables and cash):
   - the liquidity ratio[23] = (cash + receivables) / current liabilities
   - the current ratio[24] = (cash + inventory + receivables) / current liabilities
   - a summary liquidity indicator was then calculated using the following equation:

     liquidity summary = 0.5 * liquidity ratio + 0.5 * current ratio

     which it is considered satisfactory if greater than 1 (indicating full coverage of short-term liabilities).
2. in regard to solvency (which expresses the quality of the company's sources of financing and the level of debt, indicating the ability to stay in business over time, even in adverse market situations), it was summarised by two indicators:
   - leverage[25] = debt capital/equity
   - coverage of fixed assets with lasting sources[26] = (own capital + non-current liabilities)/assets
   - a summary solvency indicator was then calculated in accordance with the following equation:

     solvency summary = 0.5 * (1/leverage) + 0.5 * coverage of fixed assets with lasting sources

     which it is considered satisfactory if greater than 1 (indicating full coverage of short-term liabilities).
3. In regard to profitability, both ROE and ROI were calculated. ROE summarises the financial results of a company's transactions and is given by either of the following equations:
   - ROE = net profit / equity
   - ROE = [overall ROI * LEVERAGE (ROI – i)] * extraordinary items and taxes ratio

     ROI instead expresses the operating profit (revenue minus operating costs) over the overall capital invested:

[23] A value equal to or greater than 0.8 is considered a normal value.

[24] A value equal to or greater than 1.2 is considered a normal average value.

[25] A value of less than 2 is considered a normal value; beyond this threshold, the level of exposure towards third parties is high.

[26] A value greater than 1 is considered a normal value, excluding the use of short-term borrowings to finance fixed assets.

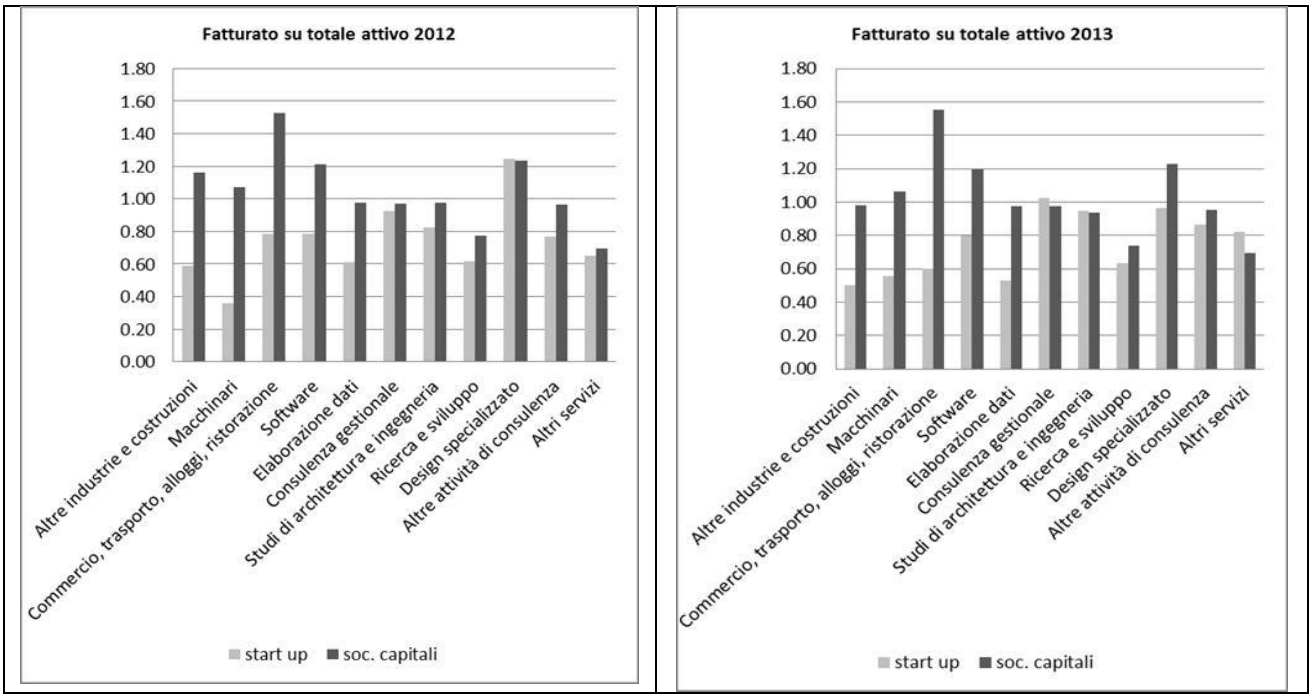
- ROI = operating revenue / capital employed

As a first analysis, the ratio between turnover and overall investment (sales turnover) was calculated for both startups and joint-stock companies, in order to identify access problems for companies that are getting involved in the market for the first time.

In certain macro sectors (other consultancy activities, specialised design, research and development, management consultancy, architects and engineering firms and other services) the gap between newly established companies and those already on the market seems rather small, while in others (trading, transport, accommodation, catering, data processing, other industry and construction, machinery and software) it is more evident.

This indicates that in return for an initial investment, the innovative startups of the first segment (other consultancy activities, specialised design, research and development, management consultancy, architects and engineering firms and other services) achieve a return in terms of sales in line with competitors already on the market, while in other areas the competitive advantage of companies already on the market is higher.

Chart 2.20 Turnover of innovative startups and of joint stock companies overall (2012 and 2013)



Source: Istat

In terms of performance, it is noted that the profitability of innovative startups is less than that of companies already on the market, although some macro-sectors such as other consultancy activities, research and development, management consultancy and architects and engineering firms, have positive profitability levels. In terms of solvency and liquidity, however, startups generally have good levels of performance, on average higher than those of existing companies do. It can be assumed that startups start from a rather low level of debt and fully able to deal with short-term liabilities, compared with a level of activity that is not fully operational.

Table 2.9 Performance in terms of profitability, liquidity and solvency in innovative startups (average values, 2012 and 2013)

Business sectors	2012			2013		
	ROI	Summary Solvency	Summary Liquidity	ROI	Summary Solvency	Summary Liquidity
Other industries and construction	-5.34	0.80	1.10	-2.34	0.80	0.91
Machinery	-1.26	0.80	0.99	-7.34	0.93	1.11
Trading, transport, accommodation, catering	-14.92	1.17	1.29	-17.99	0.97	1.22
Software	-2.66	1.05	1.29	-4.86	1.26	1.47
Data processing	-18.64	3.32	3.79	-18.71	2.06	2.31
Management consultancy	9.75	0.75	1.03	4.54	1.38	1.22
Architectural and engineering firms	4.20	0.87	1.14	3.76	0.80	1.12
Research and development	2.56	1.01	1.35	3.13	1.25	1.59
Specialised design	-17.35	0.96	1.22	-4.70	0.74	1.09
Other consultancy activities	5.15	0.86	1.08	-1.38	1.17	1.36
Other services	-12.16	1.19	1.41	-8.15	1.18	1.42
Total	**-3.96**	**1.01**	**1.29**	**-4.61**	**1.05**	**1.28**

Source: Istat

Table 2.10 Performance in terms of profitability, solvency and liquidity of joint stock companies (average values, 2012 and 2013)

Business sectors	2012			2013		
	ROI	Summary Solvency	Summary Liquidity	ROI	Summary Solvency	Summary Liquidity
Other industries and construction	11.10	0.94	1.07	3.31	0.97	1.10
Machinery	4.91	1.02	1.06	5.40	1.03	1.07
Trading, transport, accommodation, catering	2.35	0.46	-0.01	3.22	0.82	1.00
Software	8.20	0.97	1.18	7.57	0.93	1.16
Data processing	7.22	0.98	1.28	6.58	1.00	1.30
Management consultancy	8.45	0.76	0.94	8.14	0.91	0.90
Architectural and engineering firms	7.19	1.10	1.12	6.06	1.05	1.09
Research and development	2.58	0.96	1.19	2.48	0.97	1.18
Specialised design	8.42	1.19	1.39	8.72	1.05	1.29
Other consultancy activities	7.40	0.97	1.27	7.28	1.02	1.33
Other services	3.49	0.99	1.05	-0.57	1.01	1.07
Total	**5.83**	**0.76**	**0.77**	**2.50**	**0.91**	**1.07**

Source: Istat

If the analysis of the average level of profitability shows a substantial gap between startups and companies already on the market, the analysis of the distribution of individual companies within the sample showed the presence of macro-sectors in which startups manage to be more competitive.

The following table shows the distribution of the companies with positive profitability (ROE) (i.e. companies making a profit) that showed an improvement or deterioration in performance in 2013 compared to 2012. The same distribution is indicated for companies making a loss.

Table 2.11 Distribution of companies in terms of profitability (2012 and 2013)

Business sectors	Startups (%) with:				Joint-stock companies (%) with:			
	positive profit		negative profit		positive profit		negative profit	
	growth	decrease	growth	decrease	growth	decrease	growth	Reduction
Other consultancy activities	26.1	30.4	13.0	30.5	35.1	35.3	5.9	23.7
Specialised design	40.0	20.0	0.0	40.0	35.8	35.4	5.6	23.2
Research and development	37.1	30.5	9.5	22.9	36.1	31.9	7.3	24.7
Other services	27.9	27.9	11.8	32.4	34.3	29.8	10.2	25.7
Trading, transport, accommodation, catering	26.3	23.7	13.2	36.8	35.1	34.5	7.7	22.7
Management consultancy	34.8	34.8	8.7	21.7	35.6	35.9	5.9	22.6
Data processing	25.0	9.4	12.5	53.1	34.2	41.7	4.7	19.4
Other industries and construction	28.1	22.5	13.5	35.9	34.7	34.3	7.5	23.5
Machinery	33.3	19.0	0.0	47.7	38.0	39.1	5.1	17.8
Software	26.4	28.7	11.5	33.4	34.4	39.5	4.9	21.2
Architectural and engineering firms	45.5	18.2	6.1	30.2	32.7	37.4	5.4	24.5
Total	**30.4**	**26.0**	**10.7**	**32.9**	**34.8**	**33.4**	**8.1**	**23.7**

Source: Istat

The analysis shows that in some sectors like specialist design, research and development, management consultancy and architecture and engineering firms, the percentage of companies making a profit in 2013 increased compared to 2012. This percentage was higher in the startups than in the joint-stock companies already on the market (these sectors thus confirm a good level of competitiveness, already highlighted in the turnover analysis).

Table 2.12 Distribution of companies in terms of solvency (2012 and 2013)

Business sectors	Startups (%)with:				Joint-stock companies (%) with:			
	positive solvency		negative solvency		positive solvency		negative solvency	
	growth	decrease	growth	decrease	growth	decrease	growth	decrease
Other consultancy activities	26.1	56.5	8.7	8.7	50.3	25.7	10.0	14.0
Specialised design	40.0	40.0	20.0	0.0	48.8	27.5	9.5	14.2
Research and development	43.8	25.7	8.6	21.9	47.5	26.0	9.9	16.6
Other services	35.3	32.4	8.8	23.5	42.5	22.9	16.0	18.6
Trading, transport, accommodation, catering	26.3	28.9	7.9	36.9	44.3	22.6	14.5	18.6
Management consultancy	39.1	21.7	13.0	26.2	49.6	26.0	9.6	14.8
Data processing	34.4	31.3	6.3	28.0	52.2	24.1	9.6	14.1
Other industries and construction	18.0	32.6	15.7	33.7	44.4	23.4	13.8	18.4
Machinery	28.6	19.0	14.3	38.1	46.3	25.4	11.9	16.4
Software	43.1	35.1	6.3	15.5	46.2	26.4	10.6	16.8
Architectural and engineering firms	39.4	15.2	15.2	30.2	52.2	27.9	7.3	12.6
Total	**35.7**	**31.0**	**9.7**	**23.6**	**44.3**	**23.3**	**14.3**	**18.1**

Source: Istat

Table 2.13 Distribution of companies in terms of liquidity (2012 and 2013)

Macrosectors	Startups (%) with:				Joint-stock companies (%) with:			
	positive liquidity		negative liquidity		positive liquidity		negative liquidity	
	growth	decrease	growth	decrease	growth	decrease	growth	decrease
Other consultancy activities	39.1	43.5	4.3	13.1	43.9	33.9	8.5	13.7
Specialised design	20.0	40.0	30.0	10.0	42.5	33.7	9.3	14.5
Research and development	42.9	28.6	2.9	25.6	40.8	32.7	8.9	17.6
Other services	38.2	27.9	8.8	25.1	35.4	25.4	17.2	22.0
Trading, transport, accommodation, catering	23.7	34.2	5.3	36.8	32.6	21.3	20.4	25.7
Management consultancy	39.1	26.1	8.7	26.1	44.3	32.7	8.8	14.2
Data processing	37.5	34.4	0.0	28.1	43.2	36.3	8.6	11.9
Other industries and construction	20.2	29.2	18.0	32.6	35.1	24.6	16.8	23.5
Machinery	19.0	19.0	33.3	28.7	34.5	23.3	17.7	24.5
Software	42.0	38.5	5.7	13.8	41.2	33.6	10.2	15.0
Architectural and engineering firms	24.2	36.4	9.1	30.3	44.3	35.0	7.8	12.9
Total	**34.9**	**32.8**	**8.6**	**23.7**	**35.1**	**24.6**	**17.3**	**23.0**

Source: Istat

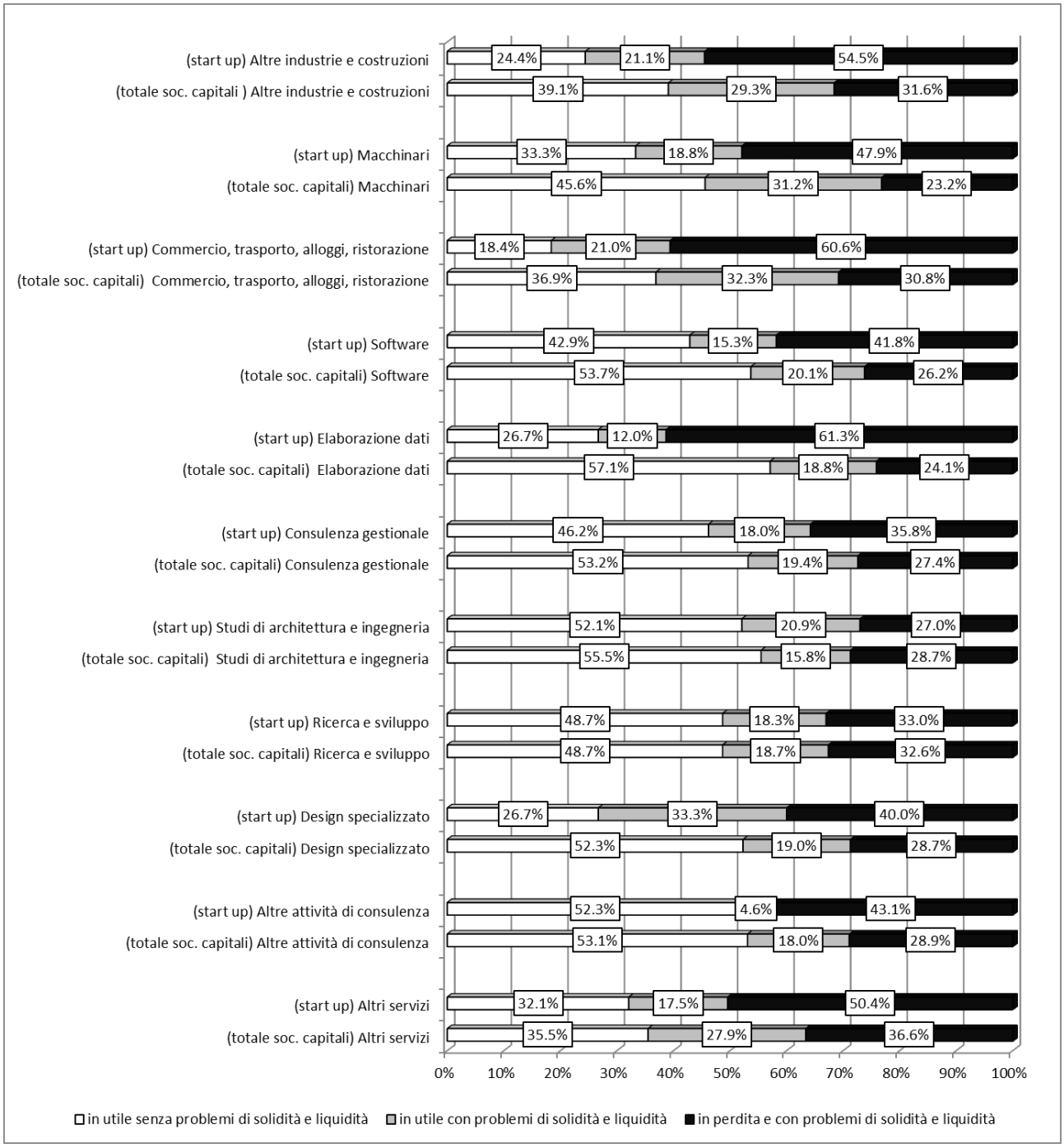
Undertaking the same analysis for solvency and liquidity, it is evident that the overall ratio of startup companies with positive performance is in line with that of companies already on the market. The percentage of solvent companies is 67%, for both categories, while in regard to liquidity, the percentage of companies with liquidity is 67% in startups and 60% in companies already on the market. Moreover, in 2013 about half of the solvent and liquid startups show a decrease compared to their performance in 2012, indicating a reduction in performance that was much lower in existing companies.

Ultimately, for the year 2013, the companies in the two categories were divided into three groups:

- The "healthy" companies with a positive level of performance, both in terms of profitability (a positive ROE) and solidarity (a solvency summary ratio of more than 0.75), as well as liquidity (a liquidity summary ratio of more than 1);
- companies with positive profitability but solvency or liquidity problems;
- companies with negative profitability and solvency or liquidity problems.

The results show that in some areas like research and development, other consultancy activities, architectural and engineering firms, management consulting, the percentage of "healthy" companies, in other words those making a profit, is quite similar for both startups and joint-stock companies already on the market. On the contrary, in some sectors such as construction and other industries, trading, transport, accommodation, catering, equipment, specialised design, software and data processing, the percentage of "healthy" companies was much lower in startups than joint-stock companies already present on the market. In these sectors, in particular, the percentage of loss-making companies with solvency and liquidity problems was quite high for startups.

Chart 2.21 Distribution of healthy companies and companies with problems in terms of profitability, solvency and liquidity per macro-sector (2013)



Source: Istat

2.2 Certified incubators

A second pillar of this policy is focused on promoting the development of certified incubators. These are companies that host, support and accompany the development of entrepreneurial startups from conception to early development by providing training, operational and management support, providing tools and work locations and favouring contacts between investors and business ideas believed to have a high financial return potential, but which are not yet attractive enough for the capital market. By providing entrepreneurs with their experience and preparation, managers of certified incubators help innovative companies launch their own business on the market efficiently and, above all, quickly.

The purposes of incubators may be manifold: economic development of a disadvantaged area, job creation, the establishment of startups in innovative sectors, the diffusion of entrepreneurship and the marketing of technology. The range of services provided may vary considerably: support for new companies is often carried out through the provision of assistance and support in the formulation of business and commercial development plans, the development of the entrepreneurial team, the search for sources of financing and access to specialised professional services. It is often accompanied by the provision of physical infrastructure (space, research laboratories, etc.) and other facilities. The idea that business initiatives are supported for a limited period of time, after which startups must become self-sufficient or fail, is common to most organisations.[27]

At the end of the consultation process, which involved about a hundred public and private entities present throughout the country, the requirements for the authorisation of these entities were defined in detail.[28] These requirements consist of the provision of adequate accommodation, equipment and a technical-managerial organisational structure of a recognised experience level, as well as the existence of regular working relationships with universities, research centres, public institutions and financial partners. The regulations also require incubators to have an adequate level of experience in supporting innovative startups. The aim of this certification is to support the gradual growth in size of the incubators, enhancing structures of excellence in the country that are capable of assisting the strong development of the production system.

Some of the facilitating measures provided for startups are also extended to certified incubators, which are required to register in the special section of the Register of Companies and provide periodic updates.

In 2014, the Ministry of Economic Development initiated activities to verify compliance with certified incubator requirements. Note that possession of the requirements is self-certified by the incubators, with a declaration signed by the legal representative, when they are registered in the special section of the Register of Companies. All companies that have just been registered in the special section of the Register as certified incubators are subject to verification from January 2015. A total of eight companies were selected for self-certification verification.

At the end of June 2015, of the 30 certified incubators (Business Innovation Centres – BICs, university incubators, private independent incubators and private incubators dependent on large companies), almost 3/4 were located in the north, about 25% in the centre and only one

[27] For more information: Auricchio et al. (2014).

[28] Decree of the Minister of Economic Development of 22 February 2013 – Requirements for innovative startup incubators.

in the South (in Sardinia). They employed a total of 322 employees, corresponding to an average of 11 employees per company, with a maximum of 71 employees.

Last year's production value (the 2013 or 2014 figures, depending on the case) shows that the certified incubators had an average turnover of €1.6 million, with a maximum of nearly €7 million. The share capital of these companies was €1.9 million on average, with a maximum capitalization of nearly €10 million.

Precise information on certified incubators can be found in the aforementioned website of the Chambers of Commerce, updated weekly by Infocamere and available free and in an open format.

On average (the median values are shown) the 30 incubators certified by the Ministry had an area dedicated to the startup of 1,000 square metres, used by a technical consultancy (employees and professionals working with continuity) composed of 4 equivalent full-time units, with just under 40 years' overall experience in enterprise and innovation. On average, incubators assist 12 innovative startups, which in turn employ 50 employees on average. Last year, 3 innovative startups completed their accompaniment phase in each incubator. An average of 3 patents and patent applications was generated by incubated startups.

As also evidenced by the aforementioned survey of the Bank of Italy, the nature of incubators in Italy is quite varied, with very different organisational structures, business models and abilities in regard to attracting innovative ideas. The selection of innovative startups to be incubated mainly takes place by means of a continuous "open assistance" process managed in most cases by the incubator. Incubators are primarily involved in the preliminary stages of the definition of business ideas, while their involvement is very low in capital raising and business development support.

Table 2.14 Certified incubators by region at 30 June 2015

Region	certified incubators
Lombardy	9
Friuli Venezia Giulia	4
Lazio	3
Piedmont	3
Veneto	3
Emilia-Romagna	2
Marche	2
Tuscany	2
Sardinia	1
Trentino-Alto Adige	1
North-West	**12**
North-East	**10**
Centre	**7**
South	**1**
Italy	**30**

Source: based on Infocamere data

Table 2.15 List of incubators certified by the Ministry at 30 June 2015

Enterprise name	Municipality	Initials of the Province	Website
ALMACUBE	BOLOGNA	BO	www.almacube.com
BIC FRIULI VENEZIA GIULIA INCUBATORS	TRIESTE	TS	www.incubatori.fvg.it
BIC LAZIO	ROME	RM	www.biclazio.it
BOOX	MILAN	MI	www.boox.it
COMO NEXT	COMO	CO	www.comonext.it
DIGITAL MAGICS	MILAN	MI	http://www.digitalmagics.com
D-NAMIC	SAN ZENO NAVIGLIO	BS	www.d-namic.it
ENLABS	ROME	RM	www.luissenlabs.com
FILARETE SERVICES	MILAN	MI	www.fondazionefilarete.com
FRIULI INNOVAZIONE	UDINE	UD	www.friulinnovazione.it
H-FARM ITALIA.	RONCADE	TV	www.h-farmventures.com
I3P- TURIN POLYTECHNIC INCUBATOR	TURIN	TO	www.i3p.it
INCUBATOR OF THE NOVARA INNOVATION CENTRE	NOVARA	NO	www.enne3.it
UNIVERSITY OF TURIN INCUBATOR	TURIN	TO	www.2i3t.it
INNOVA	ROME	RM	www.innova-eu.net
INNOVATION FACTORY	TRIESTE	TS	www.innovationfactory.it
JCUBE	JESI	AN	www.jcube.org
M31 ITALIA	PADUA	PD	www.m31.com
NANA BIANCA	FLORENCE	FI	www.nanabianca.it
POLIHUB SERVIZI	MILAN	MI	www.polihub.it
POLO NAVACCHIO (NAVACCHIO CENTRE)	CASCINA	PI	www.incubatoreimpresa.it
POLO TECNOLOGICO DI PORDENONE (PORDENONE CENTRE OF TECHNOLOGY)	PORDENONE	PN	www.polo.pn.it
REGGIO EMILIA INNOVAZIONE	REGGIO EMILIA	RE	www.reinnova.it
TALENT GARDEN MILANO	MILAN	MI	milano.talentgarden.org
THE HIVE	ANCONA	AN	www.the-hive.it
THE HUB	MILAN	MI	milan.impacthub.net
THE NET VALUE	CAGLIARI	CA	www.thenetvalue.com
TIS-TECHNO INNOVATION SOUTH TYROL	BOLZANO	BZ	www.tis.bz.it
VEGA-PARCO SCIENTIFICO-TECNOLOGICO DI VENEZIA (SCIENTIFIC-TECHNOLOGY AREA OF VENICE)	VENICE	VE	www.vegapark.ve.it
WORKING CAPITAL-TELECOM ITALIA	MILAN	MI	www.workingcapital.telecomitalia.it

Source: Infocamere

2.3 Innovative SMEs

At 31 August 2015, and therefore five months after the conversion into law of the Investment Compact (24 March) and two and a half months after the creation of the dedicated online portal (15 June, pminnovative.registroimprese.it), there were 31 small and medium companies registered in the special section of the Chambers of Commerce register.

This is a small group concentrated in 12 regions, more than 60% in the North (19 companies, including 6 in Lombardy and 6 in Friuli Venezia-Giulia) with the rest equally divided between the centre (6 companies) and South (of the 6 companies located in this geographical area, Apulia stands out with 4).

The most common type of company is that of limited liability companies (Srl) (21 companies), followed by public limited companies (SpA) (9). There was also one cooperative.

19 innovative SMEs are involved in services (including 11 in the production of software, consultancy, etc.) and 12 in industry (including 4 in the manufacturing of machinery and equipment).

11 companies have a capital of at least €500,000, and 4 have at least 50 employees.

Finally, with regard to the age of innovative SMEs, 9 of them were established in 1996, 2 in 1999, 1 in 2000, 2 in 2002, 1 in 2005, 2 in 2006, 3 in 2007, 1 in 2008, 4 in 2009, 1 in 2010, 1 in 2011, 2 in 2012 and 2 in 2014.

Table 2.16 Innovative SMEs by region – information updated at 31 August 2015

Regions	Number	%
Lombardy	6	19.4%
Friuli Venezia Giulia	6	19.4%
Apulia	4	12.9%
Emilia-Romagna	3	9.7%
Tuscany	3	9.7%
Liguria	2	6.4%
Marche	2	6.4%
Abruzzo	1	3.2%
Lazio	1	3.2%
Piedmont	1	3.2%
Sardinia	1	3.2%
Valle d'Aosta	1	3.2%
North-West	**10**	**32.2%**
North-East	**9**	**29.0%**
Centre	**6**	**19.3%**
South	**6**	**19.3%**
Italy	**31**	**100.0%**

Source: based on Infocamere data

References

M. Auricchio, M. Cantamessa, A. Colombelli, R. Cullino, A. Orame, E. Paolucci, *Enterprise incubators in Italy*, Bank of Italy QEF no. 216, April 2014.

M.G. Colombo, L. Grilli. *Founders' Human Capital and the Growth of New Technology-based Firms: a Competence-based View*, Research Policy, 34, pp. 795-816, 2005.

L. Grilli, *High-tech Entrepreneurship in Europe: a Heuristic Firm Growth Model and Three "(Un-) Easy Pieces" for Policy Making,* Industry and Innovation, 21, pp. 267-284, 2014.

M. Muffatto and M. Sheriff, *New innovative companies. Italy 2014*, University of Padua, June 2015.

Office for Harmonisation in the Internal Market, *Intellectual property rights and firm performance in Europe: an economic analysis*, June 2015.

D. Sesana, *Innovative startups in Italy: an evaluation of the intervention policy in reference to the human capital of the founding partners and startup size*, Thesis at Milan Polytechnic in 2015.

3. The main facilitating measures in favour of innovative startups

Not all the measures introduced by Decree-Law 179/2012 in favour of innovative startups allow, considering the current available sources and data collection methods, a quantitative measure of performance. In particular, the analysis below does not include the following measures:

- exemption from the regulations on shell companies;
- subsidies for the settlement of losses;
- increasing the VAT credit threshold from €15,000 to €50,000, beyond which it is triggered an obligation to affix the compliance visa in order to obtain horizontal compensation;
- recruitment flexibility using temporary employment contracts;
- ability to remunerate employees and contractors with equity incentive plans, subject only to capital gains tax;
- removal from the bankruptcy rules and subjection to the legislation governing the management of difficulties due to over-indebtedness – applicable to persons given immunity from bankruptcy (fail-fast).

3.1 Reduction in costs related to starting business activities

The first type of benefit provided for innovative startups and certified incubators regard launching companies. Once they are registered in the special section of the register of companies, innovative startups and certified incubators "*... are exempted from the payment of stamp duty and the administrative fees in accordance with obligations concerning registration in the register of companies, and as well as from payment of the annual fee due to the Chambers of Commerce*"(Article 26, section 8 of Decree-Law 179/2012, converted by Law 221/2012).

With reference to the exemption from the payment of Unioncamere administration fees, on the basis of an express request from the Ministry of Economic Development (Note of 18 April 2014), it was clarified that the exemption must be interpreted "in the broadest possible manner". In keeping with this guideline, the Italian Revenue Agency, in its aforementioned Circular 16/E of 11 June 2014, made it clear that the exemption from payment of stamp duty is to be interpreted as a general exemption in relation to all acts carried out by innovative startups and certified incubators, even after registration in the register of companies, such as subsidised increases in capital.

These regulations specify that this exemption is "*dependent on the maintenance of the requirements provided by law for the acquisition of innovative startup or certified incubator status, and lasts until the fifth year of registration at the most*".

The loss of the requirements for innovative startup or certified incubator status involves deletion from the special section of the register of companies and, therefore, the obligation to pay the amount due for the purposes of stamp duty and administration fees *"to stay registered in the ordinary section of the Register of Companies*".

The above benefits translate into significant savings, especially for smaller companies. Limiting the analysis to the 888 innovative startups, companies already in existence at 18 December 2012, i.e. before the entry into force of the law converting Decree-Law 179/2012, it is estimated that, if they could have benefitted from these such since they were established,

they would have achieved savings of €525 each, on average, in the first year of registration in the Register of Companies, and €435 in the following four years.[29]

[29] The annual fee for each company was estimated based on the class of the value of production; three Chamber of Commerce procedures performed each year were considered (the procedure of first registration, an amendment procedure, the procedure of filing financial statements). Half-yearly and annual self-certification of requirements procedures were not considered, since they are obligations relating solely to innovative startups, as defined by law.

3.2 Access to tax credits for hiring highly qualified staff

The Ministerial Decree of 3 October 2013 from the Minister of Economic Development, issued jointly with the Ministry of Economy and Finances, came into force on 22 January 2014 and laid down implementation rules regarding tax credits for hiring highly qualified staff ("CIPAQ"), introduced by Article 24 of Decree-Law 83/2012 "Urgent measures for the growth of the country", converted with amendments by Law 134/2012.

The subsidy consists in a tax credit equal to 35% of the company cost incurred for a maximum period of one year and an annual maximum limit of €200,000 for the recruitment of highly qualified staff. The business costs are the actual costs of salaries, including gross pay (pre-tax), compulsory contributions, childcare and family contributions.

All parties receiving income from a company are entitled to it, and it applies to indefinite term contracts, even in the event of conversion of temporary contracts into indefinite term contracts, for staff with qualifications such as a PhD or University degree in a technical or scientific subject. In the latter case, the staff must be employed in basic research, industrial research or experimental development.

Two specific reserves are added to the general financial measures. The first, in the amount of €2 million, dedicated to innovative startups and certified incubators, the second dedicated to companies with headquarters or local units in the areas affected by the earthquake in Emilia on 20 and 29 May 2012.

Subsidies are granted to innovative startups and certified incubators under a *de minimis* system.[30] Innovative startups and certified incubators may also benefit from the general measures without asserting their prerogatives.

In fact, the costs related to indefinite term contracts on an apprenticeship basis are also applicable for these two types of company. Moreover, application for access to the incentive is written in a simplified form compared with other companies.

The only constraint for companies is that the jobs must be maintained for at least two years.

Applications may be submitted through the specific CIPAQ platform, following the procedures and by completing the relevant application form, which is subject to the specific communications from the Ministry of Economic Development.

The inclusion in the system of applications for new staff hired from 26 June to 31 December 2012 was possible from 15 September until 31 December 2014. As of 12 January 2015, the system is accepting applications in respect of the recruitment of qualified staff that occurred between 1 January 2013 and 31 December 2013. From January 2016, it will be possible for applications regarding the recruitment of qualified staff that occurred between 1 January 2014 and 31 December 2014 to be accepted. This tax credit applies to staff hired before 31 December 2014.[31]

---

[30] With reference to applying the limits prescribed by the guidelines on aid, the so-called "de minimis" aid, it should be noted that since 1 January 2014, the new Regulation (EU) No. 1407/2013 of the Commission of 18 December 2013 has been in force, which replaced the previous Regulation (EC) No. 1998/2006 of 15 December 2006, in force until 31 December 2013. According to this, the maximum amount in aid that a company can receive over three years is €200,000.

[31] Through the Stability Law 2015 (Law no. 190 of 23 December 2014) the Government introduced an exemption from payment of the total pension contributions by employers, with the exception of premiums and contributions due to INAIL, for a maximum period of thirty-six months with a limit of €8,060, on an annual basis, regarding all newly hired staff with indefinite duration employment contracts, with the exception of apprenticeship contracts and contracts for domestic work, beginning on 1 January 2015 and signed by 31 December 2015.

In regard to staff hired between 26 June and 31 December 2012, after an initial investigation that excluded one company, the Ministry of Economic Development has granted the provision of credits, sending this information to the Italian Revenue Agency, on behalf of 12 innovative startups (8 in the North, three in the Centre, 1 in the South). 9 of these applied for access to the reserve dedicated to this type of company. 10 were operating in the services sector (almost all in the production of software) and 2 in the manufacturing of computers and electronic products. No certified incubator has so far submitted an application.

In the relevant period, these companies hired 17 highly qualified employees on indefinite term contracts, requiring loans of €160,000 overall (about €13,300 per company).

The average annual cost per employee amounted to almost €27,000. The average age was 34 years, with a minimum of 28 and a maximum of 45. The new employees included 15 males and only 2 females, holding a PhD. The 15 males all held a science degree, 9 in electrical engineering or computer science, 4 in computer science and two in mathematics.

3.3 Free and direct access to the Guarantee Fund for SMEs

The credit crunch that has been felt since 2008 in the economies of European countries continues to have a negative effect on Italy's growth. The high number of SMEs, the undercapitalization of Italian companies, together with the low number of borrowing methods and coverage of investment as an alternative to bank loans, help spread the depressive effects associated with a reduction in the number of loans from the banking system.

The Guarantee Fund for SMEs for small and medium-sized companies referred to in Article 2, Section (100) a) of Law 662/96 was greatly strengthened in the last five years and more strongly in the last two years, in order to counter these effects.

The Fund grants guarantees directly to the lending banks (direct guarantee) and counter-guarantees consortia and other guarantee funds, First Instance guarantors of the lending banks (counter-guarantee).

Simplified criteria and procedures have been defined to allow innovative startups and certified incubators to obtain the intervention of the Guarantee Fund for SMEs. The aim of this measure was to encourage these companies to find the financial resources necessary for their development.[32]

The procedure allowing the guarantee fund to aid innovative startups and certified incubators has been significantly simplified. The only requirement is that the funder must not acquire any guarantees, whether real, insurance or banking in relation to the transaction. The guarantee is granted free of charge; furthermore, applications relative to these types of companies are given priority in the phase involving preparation and submission to the Management Committee. The guarantee is granted without an evaluation of financial statements, for all types of transactions, even in the absence of an investment programme. Nor is it a requirement for the grantee to provide a minimum amount of the sums in question.

The measure fixed the overall maximum guarantee amount at €2.5 million, to be used if necessary in a number of transactions up to the established limit, since there is no maximum limit for the number of transactions. The Fund covers up to 80% of the loan, in the event of a direct guarantee, or 80% of the amount guaranteed by Confidi or other guarantee fund in relation to counter-guarantees.

The analysis showed a significant volume of business, with a strong growth of operations, in particular with reference to last year.

660 applications for support from the Fund in favour of innovative startups were submitted from 26 July 2013[33] to 30 June 2015. 14 of these were rejected, while 646 were successful.[34] The Fund has thus granted almost €156 million in guarantees, which in turn have enabled about €198 million in credit for innovative startups. 461 innovative startups have used the

[32] The implementation procedures were defined by the Ministerial Decree of 26 April 2013of the Minister of Economic Development, in consultation with the Minister of Economy and Finance, which entered into force on 26 June 2013.

[33] Date on which the management of the Fondo Banca del Mezzogiorno – Medio Credito Centrale issued Circular No. 652, which fixed simplified criteria and access procedures in favour of innovative startups and certified incubators

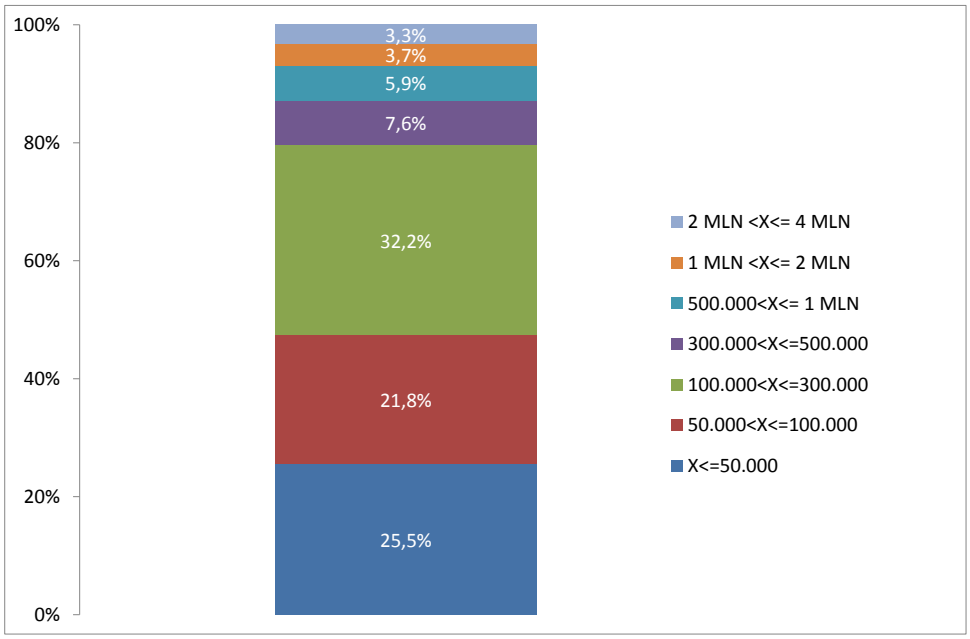
[34] The calculation included applications with a positive outcome (conditional and unconditional) and the partial resolutions of the Management Committee.

Fund, of which 110 (24% of the total) have used it several times while they have been in business.

The average share of funding granted to innovative startups totalled €306,000 per transaction, a value much higher than that recorded in 2014 for all the SMEs put together (€134,000). In the first half of 2015, the average funding had a negative trend, falling to €227,000.

The most representative size category for the entire period under review is that for loans with a monetary value of between €100,000 and €300,000 (32.2% of the total). Loans exceeding €500,000 were 13% of the overall loans guaranteed by the Fund, and 7% are for more than €1 million.

Chart 3.1 Distribution by category of funded value of the Fund's interventions in favour of innovative startups that have just started trading – data updated on 30th June 2015



Source: Based on Banca del Mezzogiorno and Medio Credito Centrale data

With regard to the types of intervention by the Fund, the direct guarantee was used in 84% of cases, with counter-guarantee interventions for the remaining 16%, mostly concentrated in Tuscany, Lombardy and Emilia-Romagna. Recent years have seen a reorganisation of the procedure away from counter-guarantees in favour of direct guarantees, due to many factors of a various kinds. In the first place, the high level of activity of consortia in the years of the economic recession has exposed them, more than others, to enforcement orders and a reduction in their worth, gradually reducing their ability to act. Second, the need to counter the credit crunch for companies has necessitated an intervention by policy makers (the "Salva Italia" Decree in terms of coverage, maximum amount guaranteed and transaction costs) that, while it has facilitated access to credit for SMEs has, on the other hand, made it more appropriate to operate the concession procedure through direct guarantees.

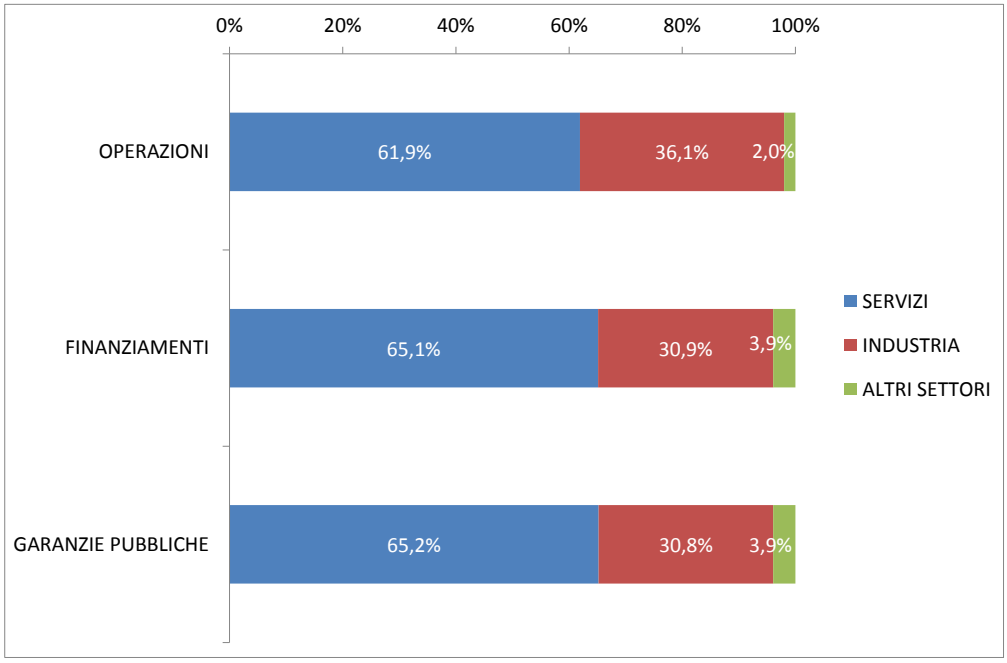
The prevailing financing transactions are medium to long term ones (over 18 months), which are 74% of the transactions and have an average level of funding significantly higher than that of short-term interventions (€380,000 versus €94,000). The average duration of bank loans granted to innovative startups is 56 months.

Another aspect that is useful to describe in more detail is the pattern of secured loans and guarantees provided by the Fund. This is shown by the distribution with respect to macro-economic sectors, identified according to Ateco 2007 classification criteria.

The services sector is the one with the highest proportion of accepted applications (400 transactions, which is 62% of the total), followed by industry (233 transactions, 36.1% of the total), construction (7 transactions), trade (5) and agriculture with just one transaction.

The sectoral distribution is similar both in terms of the total amount of funding and public guarantees granted.

Chart 3.2 Sectoral distribution of the Fund's interventions in favour of innovative startups that have just started trading – data updated on 30th June 2015



Source: Based on Banca del Mezzogiorno and Medio Credito Centrale data

Most of the applications accepted relate to startups located in the North (449 transactions, which is approximately 70% of the total, almost equally distributed between the North-West and the North-East). 97 transactions were completed in the Centre of Italy, 15% of the total; 100 applications were submitted from Southern Italy (15.5%).

Startups located in the North had 73.6% of the total funding, with 11.3% in the Centre of Italy and 15.2% in the South.

The average financing awarded to innovative startups now stands at €440,000 for transactions in the North-West, a value much higher than the national average (€306,000). The value is below average in other areas of the country.

Regionally, startups in Lombardy used the fund 164 times, a quarter of the total, requesting funding for almost €87 million, 43.9% of the national total. This was followed by a much smaller number by companies in Emilia-Romagna (74 transactions, for €17.4 million, 8.8% of the total) and those in the Veneto (72 transactions for €12.8 million, 6.5% of the total). Basilicata was the only region where the Fund was not used by innovative startups.

The average value is higher than the national average in five regions: Umbria, Abruzzo, Lombardy, Apulia and Liguria.

Table 3.1 Geographical distribution of Fund interventions in favour of innovative startups that have started trading – data updated on 30th June 2015

Regions	Transactions	Funding	%	Public guarantee	Average funding
Lombardy	164	86,830,534	43.9%	68,939,303	*529,454*
Emilia-Romagna	74	17,440,438	8.8%	13,695,550	*235,682*
Veneto	72	12,808,851	6.5%	10,231,081	*177,901*
Lazio	42	10,439,783	5.3%	8,322,226	*248,566*
Abruzzo	14	9,160,000	4.6%	7,206,400	*654,286*
Friuli Venezia Giulia	43	8,929,640	4.5%	7,094,112	*207,666*
Piedmont	50	8,713,048	4.4%	6,838,327	*174,261*
Trentino-Alto Adige	34	7,033,000	3.6%	5,566,400	*206,853*
Campania	31	6,895,052	3.5%	5,516,042	*222,421*
Sicily	23	5,470,180	2.8%	4,346,144	*237,834*
Apulia	11	5,175,000	2.6%	4,140,000	*470,455*
Tuscany	29	4,811,180	2.4%	2,502,104	*165,903*
Umbria	5	4,210,500	2.1%	3,368,400	*842,100*
Liguria	9	3,595,000	1.8%	2,876,000	*399,444*
Marche	21	2,861,125	1.4%	2,249,700	*136,244*
Calabria	12	1,625,590	0.8%	1,300,472	*135,466*
Sardinia	5	1,145,000	0.6%	906,400	*229,000*
Molise	4	510,000	0.3%	408,000	*127,500*
Valle D'Aosta	3	200,000	0.1%	160,000	*66,667*
NORTH-WEST	**226**	**99,338,582**	**50.2%**	**78,813,630**	***439,551***
NORTH-EAST	**223**	**46,211,929**	**23.4%**	**36,587,143**	***207,228***
CENTRE	**97**	**22,322,588**	**11.3%**	**16,442,430**	***230,130***
SOUTH	**100**	**29,980,822**	**15.2%**	**23,823,458**	***299,808***
ITALY	**646**	**197,853,921**	**100.0%**	**155,666,661**	***306,275***

Source: Based on Banca del Mezzogiorno and Medio Credito Centrale data

In the reporting period, the Fund also intervened in support of three certified incubators, with 6 medium and long term direct guarantee transactions for a total of €5.3 million, which in turn enabled €7 million in bank credit.

It was mainly the banks of the largest five national groups that supported the projects of these companies (innovative startups and certified incubators). A significant contribution also came from smaller banks, especially the local BCCs (Co-operative credit banks).

Table 3.2 Distribution by size of bank in respect of the Fund's interventions in favour of innovative startups and certified incubators since they began trading – data updated on 30th June 2015

Types of bank	Transactions	Funding	Public guarantee
Top 5 groups	457	112,267,967	88,121,814
Other large or owned by large Groups	46	13,608,563	10,484,850
Small	18	2,170,000	1,668,000
Minor	131	76,807,391	60,641,997
Total	**652**	**204,853,921**	**160,916,661**

Note: the classification of banks into groups of a certain size is sourced from the Bank of Italy.

Source: Based on Banca del Mezzogiorno and Medio Credito Centrale data

In the first half of 2015, there was a strong acceleration in the Fund's operations. The number of funding transactions for innovative startups rose from 98 to 342 in the first six months of 2014 (up 249%); the total amount of guaranteed loans increased by 41.5%, in line with the trend of the guarantees granted (39.6%).

The rise mainly concerned counter-guarantee transactions and those for loans of up to 18 months.

The funding of companies in the industry sector increased more than the average compared with other sectors. The most significant increases were in the Centre-South and North-East.

Table 3.3 Trends in the Fund's interventions in favour of innovative startups in the first half of 2015 (% change compared to the first half of 2014)

	Transactions	Funding	Public guarantee
Direct guarantee	209%	35.1%	35.6%
Counter guarantee	771%	745.0%	646.0%
Short-term loans	444%	291.7%	265.1%
Medium and long term loans	205%	32.5%	31.7%
Industry	211%	105.1%	105.4%
Services	269%	25.6%	23.5%
North-East	162%	90.5%	88.3%
North-West	311%	29.4%	29.9%
Centre	436%	151.1%	142.3%
South	175%	120,0%	120.4%
Total	**249%**	**41.5%**	**39.6%**

Source: Based on Banca del Mezzogiorno and Medio Credito Centrale data

3.4 Tax incentives for investments in equity

Historically, Italian SMEs have had to face structural problems such as under-capitalization and their small size. These factors limit investment opportunities and, ultimately, produce a negative impact on the innovative potential of the business system.

Private equity and venture capital are the main alternative to bank loans in order to grow companies. The venture capital investment market is a form of financing frequently used in many countries, involving transactions regarding the temporary acquisition of shares in companies in order to sell them over the medium/long term, thereby creating a capital gain. In Italy, this pattern is less pronounced. In 2014, the total amount of investments in private equity remained significantly below the levels recorded in countries such as France, Germany, Spain and the United Kingdom. Italy's contribution to the European total is 1.7%, down from 3.1% last year, compared to 35% in the UK, 21.5% in France, 13.8 % in Germany and 2.3% in Spain.[35]

In particular, the weakest link in Italian capital investments is venture capital – which concerns risk capital for companies in the startup phase or consolidation capital in sectors with high growth potential. Italy's contribution to the European total in this particular market segment in the last year was 0.9%, down from 1.3% in 2013.

In 2014, there were only a few dozen companies involved in venture capital investments in Italy, compared with 866 German, 461 French, 388 British and 86 Spanish companies. Considering the overall amount of investment in relation to GDP, the Italian market is five to twenty times lower than that of our main competitors.

According to data provided by AIFI[36] (Italian association of private equity and venture capital), early stage funding (seed and startup) showed a slowdown both in terms of the number of transactions, which reduced from 158 in 2013 to 106 in 2014 (a decrease of 33%) and in the amount invested, which decreased by 48% (€43 million in 2014 against €81 million in the previous year). The average investment fell by 21% to €406,000, compared to €513,000 in 2013.

An important role in the venture capital market is covered by 'angel investing', which is the first link in the chain of financing venture capital. Angel investors are individuals who directly invest part of their assets in the early stages of starting a business project, also assuming management responsibility alongside the project's protagonist. Compared to early stage and venture capital operators, business angels invest smaller amounts, but more quickly, intervening at the earliest stages of business.

The Italian market is lagging way behind France and Spain, the European countries that are more similar to Italy in terms of culture and experience in industry. The number of startups involved in investment transactions is from 6 to 9 times lower and the number of authorised business angels is from 3 to 6 times lower.[37]
According to data provided by IBAN (Italian Business Angel Network)[38], after a few years with virtually no change, 2014 saw strong growth in investment by business angels in Italian startups, up 45% compared to 2013 for a total of €46 million, with 135 transactions. The total

[35] EVCA, *2014 European Private Equity Activity*, May 2015.

[36] AIFI *Il mercato italiano del Private Equity e Venture Capital nel 2014*, March 2015.

[37] EBAN, *Statistics Compendium 2014.*

[38] IBAN, *Summary Survey 2014,* June 2015.

number of transactions was reduced – 135 in 2014 against 324 in 2013 – but the average investment increased by more than three times – €351,000 compared to €98,000 last year: following a trend that is more and more widespread; investors tend to group together to increase the amount of funding and reduce the risk.

The Venture Capital Monitor Report 2014 shows more encouraging signs[39], produced by the Venture Capital Monitor – VeM™, which operates at LIUC – Cattaneo University and at the AIFI, which outlines an improved scenario in the regard to investments in new companies. According to the figures in the report, in 2014 there was a new peak for investment activity in the early stage segment in this country.

Policies to encourage the growth of the venture capital market have been introduced in Italy in recent years, both in terms of the players operating in this field and as regards available capital and employees.

In particular, in order to strengthen the propensity for investment activities in the seed capital segment and increase the ability of startups to attract private capital, in 2012 the authorities opted for the use of leverage by introducing tax incentives of a temporary nature, for the three-year period 2013-2015.[40]

Article 29 of Decree-Law 179/2012 provides that natural persons who invest, with cash contributions, in innovative startups, are allowed a deduction from gross income tax equal to 19% of the amount invested, up to a maximum amount of €500,000. Companies, on the other hand, are allowed a deduction from taxable income of 20% of the amount invested in share capital, subject to a maximum amount of €1.8 million.
The deduction rate for natural persons increases to 25% and the rate for companies is increased to 27% for investments in innovative startups with social goals, or which exclusively develop and market innovative high technology products or services for the energy industry.

These tax incentives are valid for both direct investments in startups, and indirect investments, through Collective Investment Entities (UCI) or other companies that invest primarily in this type of business.

A limit has been set on investment eligible for the tax concession for each individual target company. The total amount of contributions made in each relevant tax year must not exceed €2.5 million per individual innovative startup. Should a startup, in a subsidised tax period, have received cash investments for a total amount exceeding the threshold, none of the shareholders who have made the relevant investments and are thus potentially eligible for the tax concession is entitled to deduct any amount for tax purposes.

The benefits are not granted to innovative startups and certified incubators or mutual funds or other companies that invest primarily in innovative startups to avoid encouraging fictitious duplications of investments, as well as ensuring the introduction of new capital in innovative startups. The exclusion from access to the tax concessions in respect of persons who exercise

[39] LIUC AIFI Venture Capital Monitor – Italy Report 2014. The aim of the report is to collect and analyse a structured set of detailed information relating to venture capital transactions carried out in Italy. To this end, the following were taken into account: "initial" investments made by institutional investors in private risk capital and other categories of operators active in the market (angel investors, angel investing operators, seed capital funds) classified as early stage transactions (seed capital and startups).

[40] Decree-Law no. 76/2013, converted with amendments by Law No. 99/2013 (the so-called Work Decree) extended the tax benefits originally planned for the period 2013 to 2015 to 2016. This extension is subject to specific notification of the European Commission.

a significant influence on innovative startups either directly or indirectly through subsidiaries, or jointly with family members, is also provided for.

On 6 December 2013, following notification by the Ministry of Economic Development, this State aid measure was authorised by the European Commission, because it is compatible with the internal market under Article 107(3) c) of the TFEU.

The decree that establishes the procedures for implementing the tax concession was signed on 30 January 2014 by the Minister of Economy and Finance, together with the Minister of Economic Development, and published in the Official Gazette, General Series No. 66 of 20 March 2014.[41] The Italian Revenue Agency Circular No. 16/E dated 11th of June 2014 provided all taxpayers with a detailed clarification summary concerning the correct use of this instrument.

Revenue Agency data in tax returns for the 2013 tax period, acquired via the 2014 tax returns, show that 338 innovative startups directly or indirectly received investments in venture capital from natural persons. 32 intermediaries were also funded, namely mutual funds or other investment companies specialised in startup investments.

Investments directly or indirectly related to startups amounted to a total of €13.6 million, on average just over €40,000 per startup. The minimum investment in a registered company was €99, with the highest amount being almost a million.

Indirect investments aimed at mutual funds or other specialised investment companies reached just over €900,000. On average, €28,200 was granted to each intermediary.

Overall, in 2013, the first year of application of the tax benefit, taxpayers who are natural persons directly or indirectly invested a total figure of €14.5 million in innovative startups.

Direct investments represented a share of 94.2% of total contributions. With regard to the innovative startups that received investments, there were 2 investors per startup on average, ranging from a minimum of 1 to a maximum of 17.

13.1% of investments involved 40 innovative startups with social goals or that exclusively develop and market innovative products or services with high technological value in the energy industry.

47.1% of the overall amount of the investment benefitting from this tax concession involved startups in the North-West (35.5% in Lombardy), followed at a distance by startups in the North-East, with 25.9% (9% in Piedmont companies, 8.6% in Friuli Venezia Giulia), the Centre of Italy followed with 20.4% (12.5% of startups in Lazio). Innovative startups in the South managed only 6.6% of the contributions (3.1% in Campania). The average investment per target company was higher than the average in the North-West (€47,000) and in the North-East (€43,500). The most significant incentivised investments at regional level were realised in Friuli Venezia Giulia (€129,000). 78.7% of the target companies operated in the services sector and 70.5% of the contributions involved this type of company, while 27.5% went to industrial companies, which represented 16.3% of the 338 companies, but which received an average of €68,000 of subsidised investment against €36,000 in service companies.

The 717 people who invested in startups invested a minimum of €99 to a maximum of €500,000, an average of about €20,200 each. Of these, 69 also or exclusively made indirect

[41] A draft decree was notified to the European Commission on 25 August 2015. It substituted the existing decree, which extends the duration of the incentives to the tax year 2016 and introduces some changes to the implementation methods, implementing the new Community guidelines on state aid to promote investment in risk financing (2014/C 19/04, published in the Official Journal of the European Union C 19 of 22 January 2014).

investments, with an average of €16,100 each, while there were above average investments (about €20,500) by the 652 people who made direct investments. Only 3 taxpayers made both direct and indirect investments.

In total almost €2.9 million, on average of €4,000 per taxpayer, was granted in deductions from taxable income.

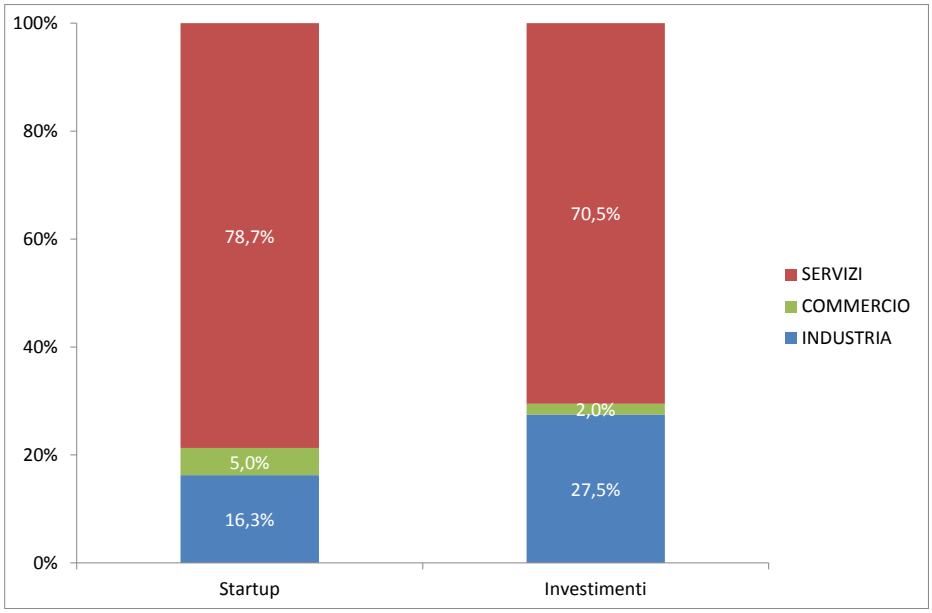
Table 3.4 Incentivised direct investments by natural persons in 2013 by region in which target innovative startups were located[42]

Regions	Startups	Investments	%	Average investment
Lombardy	93	4,831,977	35.5%	51,957
Lazio	37	1,699,701	12 5%	45,938
Piedmont	33	1,351,110	9.9%	40,943
Veneto	33	1,229,478	9.0%	37,257
Friuli Venezia Giulia	9	1,165,410	8.6%	129,490
Emilia-Romagna	27	875,453	6.4%	32,424
Tuscany	22	853,892	6.3%	38,813
Campania	15	423,591	3.1%	28,239
Trentino-Alto Adige	12	255,578	1.9%	21,298
Liguria	9	176,541	1.3%	19,616
Sardinia	8	169,150	1.2%	21,144
Marche	13	142,074	1.0%	10,929
Sicily	11	138,694	1.0%	12,609
Apulia	7	120.003	0.9%	17,143
Umbria	1	83,700	0.6%	83,700
Valle D'Aosta	1	38,000	0.3%	38,000
Abruzzo	3	24,750	0.2%	8,250
Calabria	2	14,750	0.1%	7,375
Basilicata	1	1,413	0.0%	1,413
Molise	1	1,300	0.0%	1,300
North-West	**136**	**6,397,628**	**47.1%**	**47,041**
North-East	**81**	**3,525,919**	**25.9%**	**43,530**
Centre	**73**	**2,779,367**	**20.4%**	**38,074**
South	**48**	**893,651**	**6.6%**	**18,618**
Italy	**338**	**13,596,565**	**100.0%**	**40,227**

Source: Based on Italian Revenue Agency data

[42] The table does not include indirect investments when the target investment is not an innovative startup.

Chart 3.3 Incentivised investments by natural persons in 2013, by the business segment of the target innovative startup[43]



Source: Based on Italian Revenue Agency data

Tax returns data for the 2013 tax period acquired from the tax returns of limited companies presented in 2014 show that there were 126 innovative startups that have received direct or indirect investments in venture capital from companies. 15 intermediaries were also funded, these were mutual funds or other investment companies specialised in startup investments.

Incentivised investment reached the sum of €12.2 million, an average of €97,000 per startup (although the median value was €20,600): the minimum investment in a registered company was €141, while the highest was €1.8 million.

Indirect investments focused on mutual funds or other investment specialised companies amounted to almost €1.5 million. Each intermediary received €99,200 on average.

In 2013, the first year of application of the tax benefit, joint-stock companies invested €13.7 million in innovative startups overall.

The number of investors for startups ranged from a minimum of 1 to a maximum of 3.

Indirect investments had a 63.7% share of the total (divided into 43.1% invested through other companies that mainly invest in innovative startups and 20.6% by UCIs). Direct investments were in the minority (36.3%).

24.4% of investments went to 22 innovative startups with a social goal or that exclusively develop and market innovative products or services with high technological value in the energy industry.

47.3% of the total amount of subsidised investment aided involved startups in the North-East (38.4% in Emilia-Romagna), followed by startups in the North-West with 30.2% (25.9% in companies in Lombardy), a lot more than in the Centre with 18.3% (almost all in startups in the Lazio region). Innovative startups in the South received just 3.8% of the contributions (1.2% in Apulia).

[43] The table does not include indirect investments since the target investment is not an innovative startup.

The average investment per target company was considerably higher in the North-East, where it exceeded €175,000. The most significant incentivised investments at regional level involved the Emilia-Romagna region (averaging €361,000). Startups in Abruzzo, Basilicata and Valle d'Aosta did not receive any subsidised investments from joint-stock companies.

Despite the fact that 76.2% of the target companies were service sector companies, only 42.8% of the contributions went to this type of company, while 54.4% went to industrial companies, with an average subsidised investment of €333,000 versus €55,000 for service sector companies.

The 127 joint-stock companies invested a minimum of €100 to a maximum of €2 million, about 108,000each on average, even though the median was just over €17,000.

Of these, 65 completed indirect investment transactions, on average of approximately €138,000 each, while for the remaining 62 companies that made direct investments, the average was lower (€77,100). There were no investors who carried out both direct and indirect investment transactions.

21 companies invested in startups with a social goal or operating in sectors with high technological value in the energy industry, with a value per investor of €142,000, higher than the overall average.

Altogether, almost €3 million of deductions from taxable income were granted, on average €23,300 per investor.

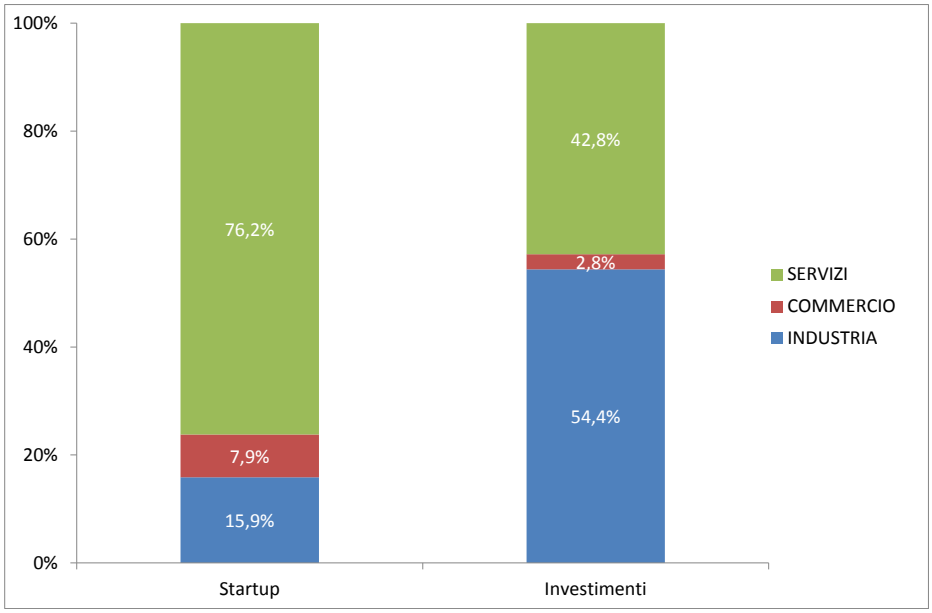
Table 3.5 Incentivised investments by joint-stock companies in 2013 by region where target innovative startups are located[44]

Regions	Startups	Investments	%	Costs Medium
Emilia-Romagna	13	4,699,166	38.4%	361,474
Lombardy	37	3,173,620	25.9%	85,774
Lazio	16	1,780,671	14.5%	111,292
Veneto	14	505,460	4.1%	36,104
Piedmont	9	499,477	4.1%	55,497
Tuscany	11	476,417	3.9%	43,311
Trentino-Alto Adige	3	295,614	2.4%	98,538
Friuli Venezia Giulia	3	295,003	2.4%	98,334
Apulia	2	146,500	1.2%	73,250
Campania	5	123,225	1.0%	24,645
Molise	1	90,000	0.7%	90,000
Sicily	2	72,235	0.6%	36,118
Sardinia	5	35,974	0.3%	7,195
Liguria	1	28,388	0.2%	28,388
Marche	2	17,250	0.1%	8,625
Umbria	1	4,000	0.0%	4,000
Calabria	1	2,500	0.0%	2,500
North-West	**47**	**3,701,485**	**30.2%**	**78,755**
North-East	**33**	**5,795,243**	**47.3%**	**175,613**
Centre	**30**	**2,278,338**	**18.6%**	**75,945**
South	**16**	**470,434**	**3.8%**	**29,402**
Italy	**126**	**12.245.500**	**100.0%**	**97.187**

Source: Based on Italian Revenue Agency data

[44] The table does not include indirect investments since the target investment is not an innovative startup.

Graph 3.4 Incentivised direct investments by joint-stock companies in 2013 by business sector of target innovative startups[45]



Source: Based on Italian Revenue Agency data

To conclude, in 2013 there were a total of 844 investors (natural persons and companies) who directly or indirectly invested in innovative startups with funds amounting to €28.2 million:

- In particular, investments from natural persons amounted to €14.5 million (of which €0.9 million as indirect investments) and involved 338 innovative startups. Deductions from IRPEF taxable income for almost €2.9 million were granted;
- Companies made subsidised investments for the overall amount of €13.7 million (€1.5 million of which as indirect investments) which involved 126 innovative startups. Deductions from IRES taxable income for almost €3 million were granted;

Furthermore, according to AIFI data, in 2013 early stage segment investments amounted to €81 million; the share of investments subsidised by this measure was almost a third of the market's total.

[45] The table does not include indirect investments when the target investment is not an innovative startup.

References

AIFI, *Il mercato italiano del Private Equity e Venture Capital nel 2014*, March 2015.

EBAN, *Statistics Compendium 2014*

EVCA, *2014 European Private Equity Activity,* May 2015.

IBAN, *Sintesi Survey 2014*, June 2015.

LIUC, AIFI, *Venture Capital Monitor – Italy Report 2014*.

3.5 Equity crowdfunding

2014 was the first year of implementation for the legislation on equity crowdfunding, introduced by Decree-Law 179/2012 and governed by the Consob in accordance with delegated Regulation No. 18592 of 26 June 2013.

Italy was the first country in the world to regulate equity crowdfunding. While this followed the US legislation introduced with the Jumpstart Our Business Startups Act (JOBS Act), the SEC has, however, not yet, followed up on this with secondary legislation under its responsibility. This was to leave room for individual state laws with regard to offers made in their respective territories.

After Italy, other EU countries have adopted national legislation on crowdfunding, concerning both crowdfunding investment (equity or bonds) and loan based crowdfunding (peer to peer lending). In particular, this subject is regulated by specific provisions in the UK, France, Germany and, most recently, in Austria, while other countries like Spain and Finland are considering the introduction of specific rules[46].

However, crowdfunding as an alternative means of funding for companies or individual productive initiatives is taking place in almost all EU countries, even in the absence of specific legislation.

The statistics about this show an average annual growth of equity-based crowdfunding in Europe (excluding the UK) of 116% (€18.4 million in 2012; €47.5 million in 2013; €82.6 million in 2014) while in the UK alone the estimated equity capital raised in 2014 amounted to approximately €111 million with an average growth of almost 200% per year, starting in 2012.[47]

The following table shows the equity capital raised (in million Euro) for the year 2014 in the European countries that are the most active countries in the field:

ITALY	SCANDINAVIA	SPAIN	NETHERLANDS	FRANCE	GERMANY	GREAT BRITAIN
1.3	3.7	10.5	11.2	18.9	29.8	111

However, it seems clear that the coexistence of non-harmonised national rules or a lack of regulations may be an obstacle to the development of initiatives that can make a decisive contribution to the financing of the economy, thus limiting the potential of the Internet for raising capital even beyond national borders.

With the intention of analysing the existing regulatory framework applicable to crowdfunding transactions and with the aim of achieving greater regulatory and supervisory convergence in the European Union, the ESMA (European Securities and Markets Authority) published an

[46] For a full review of the current regulation regarding crowdfunding in Europe, North America and Israel, see ECN Review of Crowdfunding Regulation 2014.

[47] For a full dimensional analysis regarding the development of alternative finance in the UK and in other continental European countries, please see the study *"Moving mainstream – the European Alternative Finance Benchmarking Report"*, University of Cambridge and EY, from which the data in question was drawn. Specific data on alternative finance in the UK is also available in "*Understanding Alternative Finance – The UK alternative Finance Industry Report, 2014*", NESTA and University of Cambridge.

Opinion by the competent National Authorities and Advice to the European institutions in relation to investment-based crowdfunding (acquisition of equity or debt), which identified crowdfunding as one of the potential areas for financial market regulation in the coming years.

The potential and risks of the phenomenon were also considered by the European Commission in its Communication "Realising the potential of crowdfunding",[48] which was followed by the establishment of study groups among operators and experts in the field and the publication of a "Guide for SMEs. What is Crowdfunding?". Most recently, the Green Paper on the Capital Market Union also drew attention to crowdfunding as a tool for the possible development of the real economy in Europe.

ANALYSIS OF THE EMPIRICAL EVIDENCE

Since the entry into force of the Regulations, many operators of online portals have shown interest in the phenomenon requiring commercial registration of portals maintained by the Consob, to support innovative startups that, through the portals, can directly collect venture capital, thus increasing the financing channels at their disposal. However, the impact of the tool is still limited in terms of capital raised and the companies involved.

For the purposes of this report, the data is presented in two ways. On the one hand, in order to preserve the relevance of the information, the latest available data is shown, updated to 31 August 2015 by Milan Polytechnic's Crowdfunding Observatory. On the other hand, in order to investigate the phenomenon in depth, ample space is given to the analysis performed by Consob on information dating back to 31 March 2015, the acquisition date of the annual reports on the activities carried out by operators of portals during the previous year.

DATA ANALYSIS AS OF 31 AUGUST 2015

As of 31 August 2015, there were 17 portals entered in the Register, including 16 authorised by Consob and registered in the "ordinary section" and 1 operating under its entitlement pursuant to current legislation and recorded in the "special section of the Register" (which can be accessed, in accordance with the law, by banks and investment firms authorised to provide investment services) following the prescribed notification to Consob. Of the 18 registered portals, 8 of them have notified their start of operations and published offers on their portals.

A total of 25 offers were displayed on the operating portals. On average, the capital requested amounted to approximately €342,000 per project, with a minimum of €80,000 and a maximum of €750,000. The average share of venture capital on offer was 23.74%.

Of the 25 available services, 8 ended up operating successfully (36.4%), while, of the other 17, 14 had closed without success and 3 were still in progress. The total funds requested by startups that have published their offers through the portals amounted to €8,545,976, while the figure for those actually finalised, which is a first estimate of the potential for capital raising through online portals, amounts to little more than €2.3 million, equal to 33.3% of the overall capital raised by the completed offers.

[48] COM (2014) 172 final of 27 March 2014.

Below is a brief description of 8 startups that successfully closed their equity crowdfunding campaign:

Diaman Tech (Marcon, Venice) was founded as a spin-off of Diaman Holding Group's technological activities and software. It has become one of the leading suppliers of financial software. It developed "Ex-ante" and "Bond Selector", two software programs incorporating new generation statistical indicators. In three months, it raised €157,780 from 50 shareholders for 20.31% of its capital through the Unicaseed platform (campaign concluded in March 2014).

Cantiere Savona (Savona Shipyard) (Gonnosfanadiga, Medio Campidano): studies innovative solar energy technologies applied to boating. In particular, it designs and markets a new concept of eco-friendly yachts. The starting point is to rationalise consumption and emissions, while reducing costs for the owner and for future generations. It raised €380,000 through the StartUp platform from 44 investors for 20.02% of the capital (July 2014).

Paulownia Social Project (Rome): its activities concern tree plantations with rapid growth: the raw material it gets is intended to be included in the Italian and international wood supply chain. The company raised €520,000 in 56 days from 12 investors for 86.67% of the capital through Assiteca Crowd (August 2014).

Nova Somor (Rimini): its mission is the realisation of a specific product: a low temperature solar thermal power engine for the recovery of water. Electricity can be replaced with sunlight in many areas through the careful and innovative application of thermodynamics at low temperature. Moreover, in other situations, the heat that is lost, and hence wasted, can be used to increase the efficiency and ecology of existing systems without making changes that are too demanding. The company is developing a range of products to offer to the market. It raised €250,000 for 16.67% of the share capital through the StartUp platform (December 2014).

ShinSoftware (Lesa, Novara) developed a computing platform, SHOWin3D, which allows the conversion of CAD files (essential for the production of any object) into interactive 3D renderings, which anyone can visualise in a truly intuitive manner and without any knowledge or computer skills, using the main browsers on a computer, tablet or smartphone. It raised €402,000 in five months through Assiteca Crowd, involving 19 investors who invested €21,000 each on average for a total of 34% of the share capital (in March 2015).

BIOerg (Jesi, Ancona): this company produces dextran, a versatile natural synthetic polymer that is currently only used in the pharmaceutical industry due to its high sales price. The company has isolated a microbe that is hyper-productive of dextran and has optimised its growth medium, considerably reducing production costs and therefore its market price. In this way, it has opened the way to new applications such as cosmetics, the food industry, healthcare sector and the recovery of wastewater. It raised €452,000 for 44% of the share capital from 56 members in 65 days via the Next Equity platform (April 2015).

Cynny Spa (Florence): this company creates interactive videos that adapt to those who are watching them. The footage generated by the app changes at the moment it is seen, adapting to the tastes and characteristics of the audience. The contents are defined by the manufacturers, but they are directed by those who watch them. It raised €54,288 for 0.17% of the share capital in a month and a half through the StartUp platform (June 2015).

OpenTail Srl (Milan) developed TocTocBox, a collaborative platform which connects those who need to ship goods and all kinds of products with carriers travelling over any distance. It raised €96,294 for 47% of the share capital from 32 investors in 170 days through the Crowdfundme platform (August 2015).

DATA ANALYSIS AS OF 31 MARCH 2015

The following is a preliminary analysis on the operation of equity crowdfunding portals on the Consob register since its establishment, based on the information available on 31March 2015, the date on which Consob acquired the annual reports on the activities by management portals during the previous year.

As of 31 March 2015, there were 6 operating portals, of which 5 were authorised by the Consob and registered in the "ordinary section" of the register, and one operating portal operating as of right. Overall, there were 15 authorised portals at that date.

The relationship between licensed operators and operators entitled as of right is much higher than could be expected (14) and of the 14 licensed operators only 5 (35%) were operational at the time of the survey, while only 3 (21%) had published successful offers.

Of the 3,883 innovative startups registered at 4 May 2015 in the specific section of the Companies Register, only 18 (0.46%) opted for funding through online portals. The number of companies is not particularly large, although it is growing, and it seems, at present, little interested in opening its capital through equity crowdfunding. This assessment, however, remains partial and temporary, since the number of companies with access to equity crowdfunding is being enlarged by the legislative changes introduced by the Investment Compact, which also includes innovative SMEs as parties who may offer their securities through online portals.

MAPPING OFFERS

The range of offers available on online portals is still quite limited. Up to 31 March 2015, as just pointed out, a total of 18 offers have been displayed on the portals. On average, the capital requested amounted to approximately €342,000 per project, with a minimum of €80,000 and a maximum of €750,000.

Of the 18 offers on display, 4 ended successfully (in one of the three cases, the amount raised was even slightly higher than the amount requested); while of the remaining 14, 7 were unsuccessful while 7 were still in progress.[49] The total funds required by startups that have published their offers through the portals amounted to €8,545,976, while the figure for those actually finalised, which is a first estimate of the potential for capital raising through online portals, amounts to little more than €2.3 million, equal to 33.3% of the overall target capital to be raised by the concluded offers.

With reference to the offer period, the data shows that the range varies between 2 and 6 months (three months on average).

In order to understand the real extent of the phenomenon as a tool for raising venture capital from innovative startups, an evaluation of economic data relating to those that have so far been concluded can be performed.

The issuing companies are rather varied in regard to the capital already subscribed at the time of the offers. Of the 11 companies that had offers completed by 31 March, 6 had a share capital of between €10,000 and €25,000, whilst the remaining 3 were at around a 10 times

[49] At 30 June 2015, there were 25 published offers in all, of which 7 were concluded successfully, with total sales of €2.3 million (Source: Milan Polytechnic University - Observatory on Crowdfunding).

higher level (€80,000, €90.000 and €112,000). The average capital (about €40,500) is therefore not very representative.

As for capital requested online, it does not appear to be directly related to the amount of pre-offer capital. The relationship between the two amounts indicates the impact that offers have on the ownership structure, and the intensity with which the founder has invested in the project before turning to the market. The amount of capital raised was €238,763 on average. Smaller companies (€10,000 – €25,000 of share capital), as one might expect, are the ones that set lower targets for capital raising (between €99,000 and €250,000) compared to the other three which were significantly more capitalised, and requested €520,000, €250,000 and €380,000. However, it can be argued that the less well-capitalised issuers have been the most "ambitious", considering the magnitude of the demand compared with the share capital. They "asked" for crowdfunding of €10, €15 and even €20 per share, while the ratio for the other three drops to €7 for the company with €80,000 in capital, and€3 for the two more capitalised businesses.

INVESTOR CHARACTERISTICS

An analysis of subscribers is essential to check that their characteristics adhere to those envisaged when the new regulations were introduced. In theory, equity crowdfunding is based on direct investment, in very small amounts, by a wide range of investors, based above all on emotional components that lead to "belief" in the promoter of the project being financed as well as in its potential, and where the operator of the portal plays the role of facilitating the meeting between funding demand and supply. The widespread nature of the funding also avoids the risk of a change of control after the offers.

When the number of investors is reduced, or when the average amount of subscriptions is increased, the structure of the investment becomes similar to a 'club deal'. This is a mode of corporate acquisition by a group of angel investors and private equity firms, who join forces to share the high risk involved in the development phase of a startup. A club deal is usually characterised by elements of opacity (needed to make certain investment opportunities) that renders it not entirely comparable to the dynamics of crowdfunding.

However, in a constantly changing financial system, to describe the model that emerges from the initial data collected, it is useful to use the image of "private equity online" or "club deal online", a small number of shareholders making offers of substantial amounts. This still allows the issuer to exploit the potential benefits offered by the internet, by submitting offers on specialised portals to expand the opportunities for raising capital.

The available data involves a restricted set of cases, and therefore, general conclusions cannot be based on them; instead, they provide evidence of the introductory phase of equity crowdfunding in Italy, which will certainly be re-evaluated in a broader sense and with a more complete base database. However, for the moment it is possible to highlight the small number of subscribers who made successful offers: 134 parties[50] of which 16 were legal entities, with an average of 33 investors (approximately) per offer, with a minimum of 3 and a maximum of 75 subscribers.

The range of subscriptions helps us to understand better the medium to large size of the subscriptions for shares. The smallest investment of the 134 considered amounted to €400, whilst the highest was €150,000. The average value of a single subscription, obtained by

[50] Two of which subsequently withdrew their subscriptions.

dividing the total amount raised (€1,307,780) by the number of investors (132, taking withdrawals into account), was close to €10,000 (€9,907.42).

One last matter of importance concerns the contribution of funds from small investors. To identify these investors, the distribution of investors compared to the threshold of €500 (€5,000 for legal entities) was taken into account, as identified in the Regulations on equity crowdfunding (Article 17, Section (4)) for application of the assessments required by MiFID by intermediaries responsible for executing orders. In the light of the available data, it is possible to highlight how sub-threshold investments involved a number of parties (67 out of 134) with a "weighting" of less than 4% in terms of the amounts subscribed.[51]

A final element in the assessment concerns the role of institutional investors. Based on data collected, they represent 4.4% of total subscribers (6 out of 134 parties, including one incubator[52]). In terms of value, on average 12.42% of the target capital to be raised was subscribed, reaching a value almost three times higher than the requirement imposed by the Regulations on equity crowdfunding (5%).

THE ENVIRONMENT

Finally, available data made it possible to undertake initial assessments on indicators of correctness of the activities carried out by crowdfunding operators. In this regard, it is noted that as of 31 March 2015:

- no interim measures had been adopted or sanctions brought against the operators;
- no complaints had been lodged with Consob in connection with crowdfunding;
- the value of subscriptions for which the cancellation option was exercised was equal to €10,499, corresponding to less than 1% of the capital raised;
- no complaints had been received by operators about the unlawful exercise of their activities;
- there was no evidence of fraud to the detriment of investors through equity crowdfunding.

These factors, which must certainly be assessed on the basis of more complete data, are, at present, an initial encouraging sign regarding the conduct of portal operators and the creation of a reliable environment for investors.

CONCLUDING CONSIDERATIONS

The analysis of operations for the first year of implementation of the legislation on equity crowdfunding shows that the market has not yet found a way to ensure meaningful development.

The Investment Compact has increased the services provided to the equity crowdfunding

[51] In particular, with regard to natural persons, there were 57 subscriptions of less than €500, for a total subscribed amount of €27,022, compared with 59 "above-threshold" subscriptions amounting, in terms of value, to €758,570. However, if we consider legal persons alone, there were 10 "sub-threshold" subscriptions totalling €23,169 and 5 "above-threshold" subscriptions totalling €249,019.

[52] In addition, a bank foundation subscribed to an offer that did not have a positive outcome.

market as well as admitting innovative SMEs, UCIs and companies that invest mainly in startups and innovative SMEs, the latter being an extension that enables investment portfolios.

An intervention appears to be necessary in respect of the regulation of equity crowdfunding to implement these changes, as well as an intervention in respect of the framework, which, about two years after its launch, appears restrictive in operating terms.

To this end, on 19 June 2015, Consob published a "Consultation Document" on its website, with a questionnaire attached, which was designed to acquire assessment elements, supported by evidence, from all of the stakeholders in this phenomenon (portal operators, issuers, investors, incubators, scholars, etc.) regarding the charges and effectiveness of the regulations, which will be evaluated in the forthcoming review.

References

European Crowdfunding Network, *ECN Review of Crowdfunding Regulation 2014*, December 2014.

NESTA and the University of Cambridge, *Understanding Alternative Finance – The UK Alternative Finance Industry Report, 2014*, November 2014.

University of Cambridge and EY, *Moving mainstream – the European Alternative Finance Benchmarking Report*, February 2015.

3.6 Internationalisation services of the ITA and ItaliaRestartsUp

The Italian Trade Agency (ITA)[53] – the agency for the promotion abroad and internationalisation of Italian companies – supports startups as part of its institutional mission, as specified by Article 30, Sections (7) and (8) of Decree-Law 179/2012. In regard of this legislation, reference is made to Resolution 84 of 2013 from the ITA Board of Directors, which provides for a 30% reduction in the costs of services rendered to innovative startups included in the registers kept by the Chambers of Commerce. Whilst implementing the law, ITA offers selected startups the opportunity to take part in certain promotional events free of charge, depending on the availability of human resources and funds. The main activities carried out in 2014 are explained below, with brief details on those still pending or carried out in 2015.

2014 EVENTS

The Office for supporting strategic planning, studies and the international network, in line with the provisions of the new organisation and operating regulations approved by the inter-ministerial decree of 28 December 2012, managed certain informational, support and promotional activities for the benefit of Italian innovative "startups" that were deemed worthy of special incentives for development and promotional activities in foreign markets. To this end, an innovation and startups unit was formed, composed of four officials who have been entrusted, amongst other things, with the activities described below.

Participation with innovative startups in foreign fairs

The participation of Italian innovative startups in numerous international fairs was organised. They were essentially matchmaking initiatives, aimed at facilitating meetings between startups and venture capitalists, private equity funds and research and development.

A total of 51 innovative startups were involved:

- Mobile World Congress, Barcelona 24-27 February 2014. This is the most important global event in the mobile phone industry. The Agency presented 6 startups.
- CeBIT, Hannover, 10-14 March 2014. This event is one of the most prestigious trade fairs dedicated to ICT. 8 innovative startups were involved in this event.
- Game Connection USA, San Francisco 17-19 March 2014. The biggest international event for gaming. Three startups were involved in this event.
- GEC, Moscow 17-20 March 2014. This is a world-renowned event for promoting public policy and debate on innovation and entrepreneurship. 6 startups were involved in this event.
- ECCM16, Seville, 22/26 June 2014. The event was defined as a science and technology workshop dedicated to composite materials. Two innovative startups were involved in this event.

[53] The Italian abbreviation for the ITA is the ICE. Since 2011, its full name is 'ICE - Agenzia per la promozione all'estero e l'internazionalizzazione delle imprese italiane'

- Webit, Istanbul 1-2 October 2014. This is an event for digital technologies with a global reach. Seven startups were involved in this event.
- Pioneers Festival, Vienna, 20-30 October 2014. An important international event for technology startups and venture capital investors. Twelve innovative startups were involved in this event.
- Game Connection Europe, Paris 29-31 October 2014. This is the European edition of Game Connection. Four innovative startups were involved in this event.

ItaliaRestartsUp

The "ItaliaRestartsUp" initiative was held in Milan and other cities on 9 and 10 December 2014, and was organised in collaboration with the Ministry of Economic Development.

An independent committee composed of professional investors chose 69 currently expanding startups from over 200 candidates, with the aim of achieving investment plans for developing their innovative projects.

The first day involved a conference focused on the characteristics of the national innovation ecosystems. This was followed by specialist panels aimed at international investors about investment opportunities in Italy in four strategic areas (digital and media, software and electronics, life sciences, green technology and renewable energy). There were also B2B meetings between more than 50 international investors chosen by the ITA offices abroad in 23 countries, plus the Italian startups admitted to the event.

The second day involved guided tours for international investors from 4 regional ecosystems: Rome, Turin, Milan and Rovereto, one from each of the four thematic areas discussed by the vertical panels.

A new website dedicated to ITA initiatives for the internationalisation of innovative companies: www.innovationitaly.it was also launched during these two days.

The initiative was a great success according to the participants: responses to a customer satisfaction survey about the results of the investment, collected 7 months after the event, showed that in some cases, the contacts made during the event had continued, highlighting the strong interest of the participants in a new edition of ItaliaRestartsUp in 2015. In particular, only 6 of the 21 foreign investors who responded did not maintain contact with any Italian startups; 10 had developed relationships with a number of startups from 1 to 5, 2 between 6 and 10 and 2 with more than 10 businesses.

Bio International Convention 2014

The Bio International Convention is the largest biotechnology fair in North America. In collaboration with Federchimica-Assobiotec, ITA organised the participation of 3 Italian innovative Startups at the edition held in San Diego between 23 and 26 June 2014.

Innovation and high technology exchange – 2014 edition

BIAT – the Innovation and High Technology Lab is a measure funded by the Exports Plan for the Convergence Regions (Pesrc), in other words Calabria, Campania, Apulia and Sicily, of which ITA is the management agency on behalf of MiSE. It was developed to support

companies in enhancing, marketing and exporting the results of innovative research, in relation to patents or products with a high technological content.

Through this new promotional format, which happens on an annual basis, intangible property, particularly patents, are considered as codified knowledge that can be exported like other products.

The aim is to develop systematic opportunities for industrial applications, from which both Italian and foreign entrepreneurs can benefit.

The first edition of BIAT, held in Naples at the end of 2014, made it possible to match business and technology supply and demand between inventors (startups, micro, small and medium-sized innovative companies, universities, technology centres) and their foreign counterparts (large companies, venture capitalists and others). The focus sectors considered were aerospace, nano-biotechnology, environment, renewable energy, information and communication technologies and mechanical engineering.

174 innovative projects were identified in the four regions in question, relating to a representative sample of companies and clusters with more than 15,000 employees, who achieved a turnover of about €700 million in 2013.

A platform was therefore created to capture foreign demand, which enabled foreign counter-parties to view projects and arrange meetings with the companies in which they were interested.

For the purposes of intellectual property protection, all of the projects were validated by the Italian Patents and Trademarks Office, to avoid compromising future patents. An educational exercise aimed at Italian companies was also undertaken to introduce the use of non-disclosure agreements prior to B2B activities.

The international character of BIAT was also demonstrated by the presence of 102 foreign delegates, selected from the categories of investors, venture capitalists and large companies, from the 15 foreign countries that had the highest level of technological development.

Over two days, the Italian and foreign parties held 1,050 meetings, which generated numerous contracts and agreements.

On the sidelines of the event, sessions were organised to promote innovative projects and selected regional areas of excellence in which there are technological districts.

Mission for Italian ICT startups in California, 19-25 October 2014

The aim of the initiative was twofold. On the one hand, it was to allow a selected number of innovative Italian ICT startups to present their products or software solutions (applications, programs etc.) to potential US investors (venture capitalists, investment funds, high-tech incubators and companies). On the other hand, it was to promote an exchange of technology and the creation of joint ventures and partnerships with university laboratories or incubators, science centres and universities from the two countries.

In the vast ICT environment, this initiative focused on information technologies for which there is a greater potential demand in the United States. These were cyber-security, innovative medical tools and technologies, life sciences, wireless communications, clean tech, the internet of things, IT solutions for institutions and companies provided as services, distributed manufacturing, plug-ins for are market leading web platforms, domestic and industrial robotics, augmented reality, and biological engineering integration.

The mission, which was attended by 9 startups from across Italy, was held between 19 and 25 October 2014, in two stages (San Francisco and Los Angeles) which included the following:

- a preparatory mission orientation meeting,
- two investors' arenas with company pitches,
- bilateral and networking meetings,
- visits to several companies that are symbolic of Silicon Valley, like VMware, Yahoo and Google, with company pitches,
- visits to startup incubators,
- meetings with successful Italian startups in California
- meetings with two specialist legal firms.

Italian startups had the opportunity to participate in 8 rounds to present their pitches and to establish contacts with the highest possible profiles, obtaining privileged access to the ecosystem of Silicon Valley and Silicon Beach, the two areas of California with the highest level of concentration in the ICT sector.

INITIATIVES UNDERTAKEN IN THE FIRST HALF OF 2015

Two promotional initiatives were undertaken in the first half of 2015, namely the participation of innovative startups at the Game Developers conference in San Francisco between 4 and 6 March 2015, and at the Mobile World Congress in Barcelona between 2 and 5 March 2015. There was also the preparation of meeting spaces for startups and investors with ancillary services at the Global Entrepreneurship Congress held in Milan between 16 and 19 March.

The three innovation help desks set up at the ITA offices in Hong Kong (China), Mumbai (India) and Los Angeles (United States) have been a long-standing feature. The help desks, which made their debut in 2014, consist of staff hired locally with the experience and skills needed to assist innovative companies and research centres in relation to the Agency's promotional activities, or to provide services upon request.

Two of the three help desk activities were confirmed in June 2015 and the creation of two other help desks in London (UK) and Singapore (Singapore) were initiated. It was not deemed appropriate to refinance the help desk in Hong Kong. This initiative has a three-year lifespan, with the possibility of extension if the results are positive, and the activity is monitored on a monthly basis. A special section on the website www.innovationitaly.it is currently being realised, to collect and highlight the material produced by the help desks and to enable local and Italian companies to get in touch more easily.

Finally, the innovation and startups unit took part in some stages of the internationalisation roadshow organised by the ITA at the initiative of the Ministry of Economic Development, in collaboration with a large group of national and local partners. This provided detailed information about regulations and business opportunities in foreign markets, and assists the relevant startups, as appropriate, to get in touch with the Agency's offices in the countries they are most interested in.

Investor reception at the BioinItaly Investment Forum, Milan 21-22 April 2015

As part of the technology partnerships in innovative sectors promotion, the Office of industrial partnerships and relations with international organisations, with the support of ITA offices in Los Angeles, Seoul and Tel Aviv, organised the reception of an international delegation to the eighth edition of the BioinItaly Investment Forum & Startup Initiative 2015, an event organised by Assobiotec and Intesa Sanpaolo to benefit the biotechnology sector.

The aim of the reception was the participation of selected and qualified foreign investors from strategic and priority markets for the internationalisation of Italian companies in this sector. The foreign delegations were composed of investors and representatives of industry and research in biotechnology from the aforementioned markets (United States, South Korea and Israel).

The format for the event was the presentation of innovative projects and products by 10 startups involved in biotechnology and six from the biomedical sector, selected by a committee of industry experts.

Newsletter and Start Up Value New York

At the request of the New York office, the training services for the internationalisation Office used promotional funds to set up a newsletter that aims to provide information and training to Italian startups, and is distributed to over 3,140 users every two months.

In April 2015, the New York Office launched a temporary office service for innovative Italian startups. The service involves providing free workstations in a common area at the Office's headquarters, which are located in Manhattan's Upper East Side. Each workstation consists of a desk with electric hook-ups and fast internet connectivity via Wi-Fi. The service is part of the Start Up Value initiative, organised by the Agency offices in the USA to facilitate the approach to the market for Italian innovative startups.

Each workstation is assigned for a maximum period of 15 calendar days after booking depending on availability, and can be renewed only once. A meeting room with seating for 25 people is also available. Full rules for the service and a booking form are available online.

4. Further actions to benefit the innovative startups ecosystem

4.1 The Smart&Start programme

FROM SMART&START TO SMART&START ITALIA

The Decree of the Minister of Economic Development of 6 March 2013 launched a new type of incentive programme for businesses to strengthen the competitiveness of their manufacturing systems, develop the digital economy and promote technology transfer in the regions of Southern Italy.

This incentive programme, called Smart&Start, is run by Invitalia, the National Agency for promoting inward investment and business development. It supports the creation and development of businesses, including high-tech companies in the regions of Basilicata, Calabria, Campania, Apulia, Sardinia and Sicily by pursuing the following main objectives:

- supporting technology transfer;
- exploiting the results of public and private research systems;
- stimulating the return of "brains" from abroad.

The Ministerial Decree of 6 March 2013 and subsequent measures assigned an overall budget of €203 million for this tool, broken down by financial source as follows:

Resources provided PON 2000-2006 SIL (Smart)	€100 million
PON R&C 2007-2013 (Start)	€90 million
FCS Cratere L'AQUILA (L'AQUILA earthquake zone)	€13 million
Total	**€203 million**

Pursuant to Article 13, Section (2) of the Decree of the Minister of Economic Development of 24 September 2014, the online help desk for the first edition of Smart&Start was closed on 14 November 2014. Under the provisions of the said Ministerial Decree of 24 September 2014 and the related explanatory circular No. 68032 of 10 December 2014 on 16 February 2015, it was possible to open the Smart&Start Italia help desk, a new edition of the subsidy measure, which has the following main features:

- it covers the entire national territory;
- it is solely aimed at innovative startups entered in the special section of the Chambers of Commerce register of companies (Article 25 of Decree-Law 179/2012);
- the procedure for accessing the incentive is entirely paperless;
- processing times are not longer than 60 days;
- it finances business projects that provide for expenditure, investment and management of between €100,000 and €1.5 million;
- it grants financial support in the form of interest-free loans for up to 70% of the project cost.

In addition, great attention was paid to issues relating to access to credit for startuppers: in order to facilitate startup investment, on 28 April 2015 the Ministry of Economic Development, Invitalia and the Italian Banking Association signed an agreement allowing recipient companies to request disbursements too, based on non-receipted invoices.

The subsequent Directorial Decree of 20 July 2015 of the Directorate General for Incentives to companies of the Ministry of Economic Development regulated the provision of facilities related to the investment programme, concerning the mode of operation of the escrow account created to handle such invoices.

In addition to financial tools, Invitalia manages a set of tools and services to strengthen the competitive position of innovative firms and support the skills of the project teams:

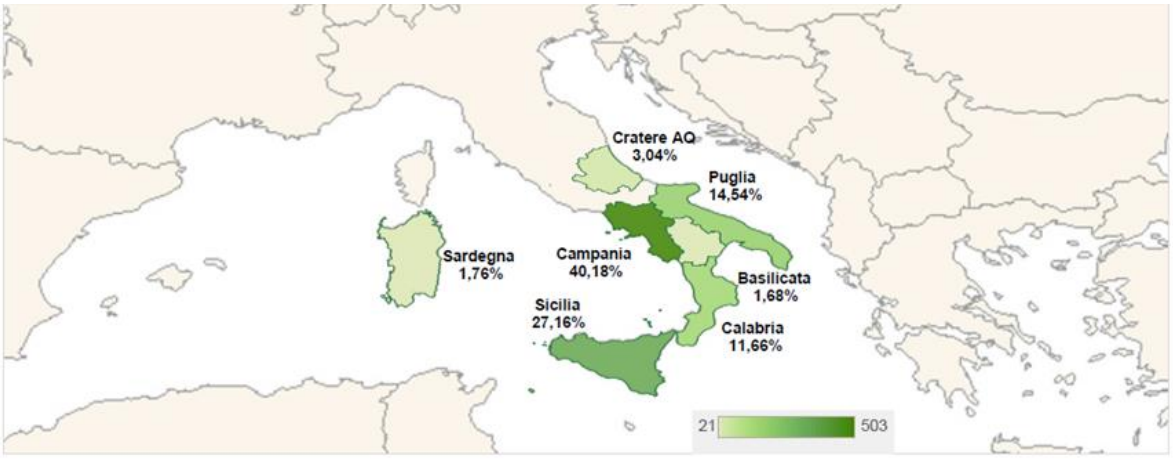
- pre-startup phase: services to assist teams in design activities in the phase preceding presentation of the business initiative, also in online mode (webinar);
- startups: support for businesses in the startup phase via a programme of personalised tutoring, based on the needs of each company. The services are also provided online – via webinars – and in some cases involve information exchanges with best international experiences. Topics range from the use of subsidies, financial planning, and access to the capital market, from marketing to organisation and human resources, innovation management, recording of expenses, and so on.

THE RESULTS OF SMART&START – EDITION 2013-2014

Almost 55% of total applications were received (1,252 total) within the first three months of the help desk opening. The flow of applications remained high throughout the period in which the help desk was open, with a physiological peak of applications submitted in the last two months it was open.

Over 40% of applications came from Campania, reflecting a consolidated knowledge of the Campania entrepreneurs and academics about these incentives.

Chart 4.1 Applications submitted by region



Source: Invitalia

Only 136 applications were received from innovative startups (10.9% of total applications). This figure, definitely below expectations, can be explained by the limited number of innovative startups located in Southern Italy.

Even in the case of startups, most of the applications came from Campania (almost 40%); followed by Sicily (25.7%) and Apulia (19.1%).

Table 4.1 Applications submitted by innovative startups by region

Region	Number	%
Abruzzo	7	5.2%
Basilicata	1	0.7%
Calabria	11	8.1%
Campania	54	39.7%
Apulia	26	19.1%
Sardinia	2	1.5%
Sicily	35	25.7%
Total	**136**	**100.0%**

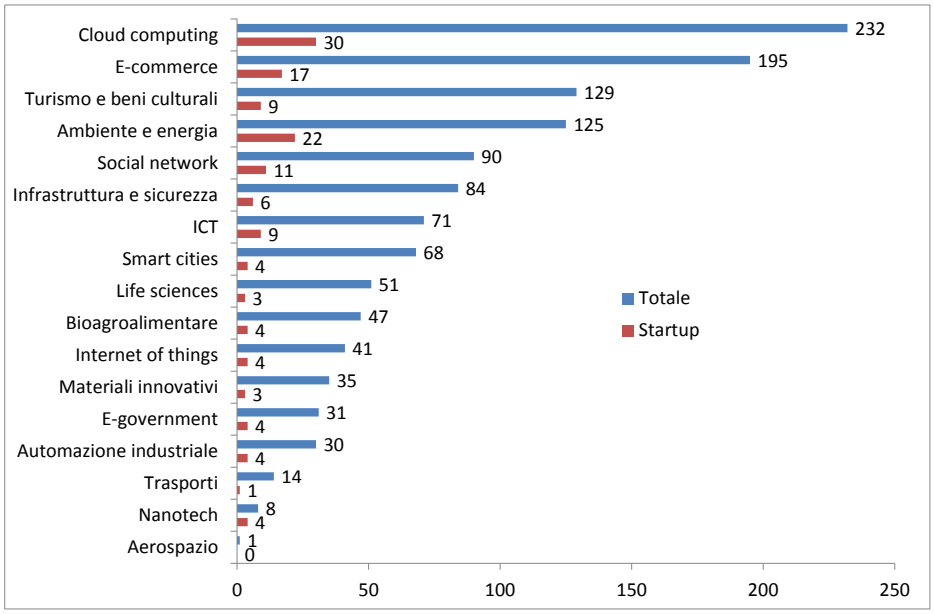
Source: Invitalia

The opportunity given to businesses that had not yet been incorporated to apply, with an undertaking to incorporate within one month from the possible granting of the subsidies, was particularly successful (81% of applications were received from companies that had not yet been established).

This, amongst other things, strengthens the incentive effect that Smart&Start has had on starting new businesses. Over 34% of the applications received belonged to the cloud computing and e-commerce sectors, a sign of how dynamic and attractive this industry is, especially for new entrepreneurs.

Conversely, trailing behind are the two sectors with the most intensive scientific and technical know-how and investment requirements, like nanotechnology and aerospace, which together do not reach even 1% of the applications submitted. The primacy of cloud computing is also confirmed in connection with innovative startups (30 applications out of the 136 total number of applications).

Chart 4.2 Number of applications by sector

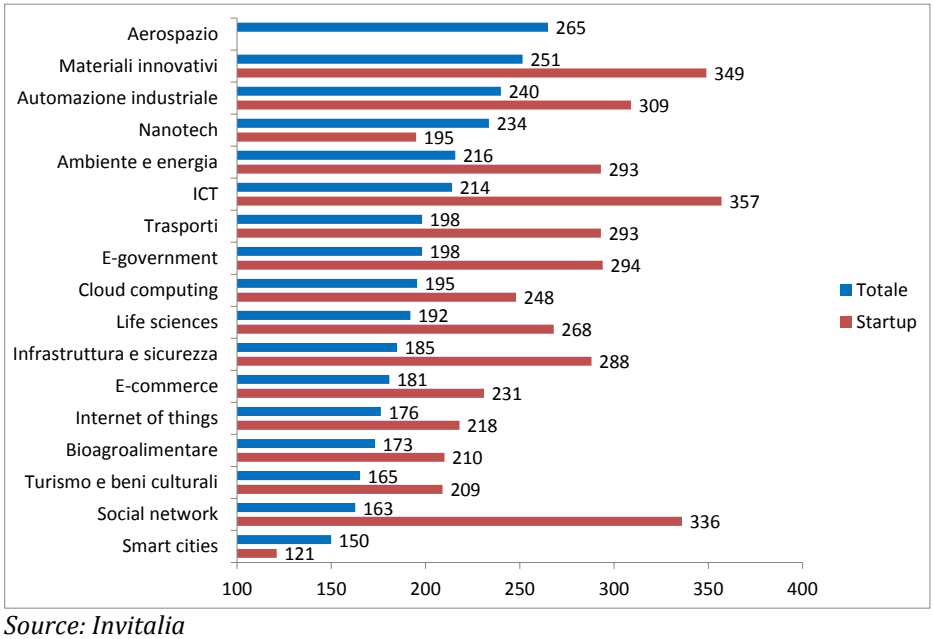


Source: Invitalia

Aerospace and innovative materials are the areas in which there is, on average, a greater demand for subsidies. Sectors that require a lower level of investment, like those associated with the Internet, register the lowest average in terms of requested subsidies.

The mean values for innovative startups are generally much higher; this trend applies to all sectors apart from the nanotech and smart city sectors.

Chart 4.3 Average subsidies requested by sector (in 1,000 Euro)



Source: Invitalia

To summarise, these are the results in relation to the applicants:

Application status	New companies	Innovative startups	Total
Applications accepted	409	33	**442**
Applications rejected	631	90	**721**
Waiver	76	13	**89**
Total	**1,116**	**136**	**1,252**

Source: Invitalia

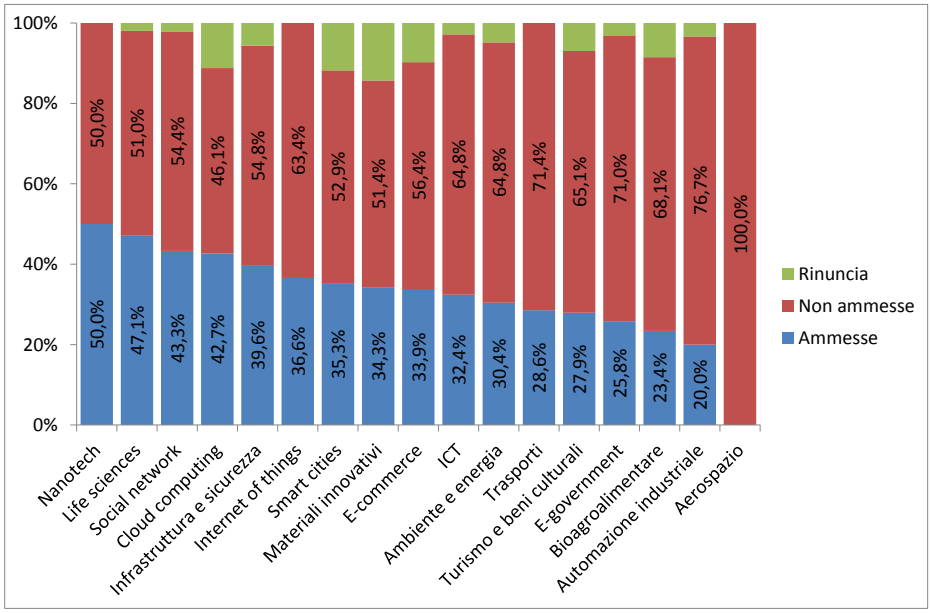
Despite maintaining primacy for eligible applications, Campania also had approval ratings that were slightly below average.

Innovative startups had lower approval rates, a clear sign that innovation is associated with a greater business risk and, therefore, require more attention to the company presentation to demonstrate credibility in terms of market, technological and financial sustainability.

As is reasonable to expect, the better-established companies showed an approval rating (37%) that was higher when compared to those that were not established (35%).

A sectoral analysis of approval ratings demonstrates the success of applications in the life sciences and nanotechnology sectors. The success of applications in the cloud computing and social networking sectors is also interesting.

Chart 4.4 Rate of application approvals by sector



Source: Invitalia

The 442 businesses financed generated investments in the following three areas:

- digital economy: €53.7 million
- exploitation of research: €21 million
- product/service innovation: €11.5 million

The average investment per company was approximately €195,000, for a total of granted subsidies that amounted to €75.4 million.

The 33 financed innovative startups generated the following investments:

- digital economy: €4.3 million
- exploitation of research: €3.8 million
- product/service innovation: €0.03 million

The average investment per company was about €246,000, for a total of granted subsidies amounting to €8.2 million.

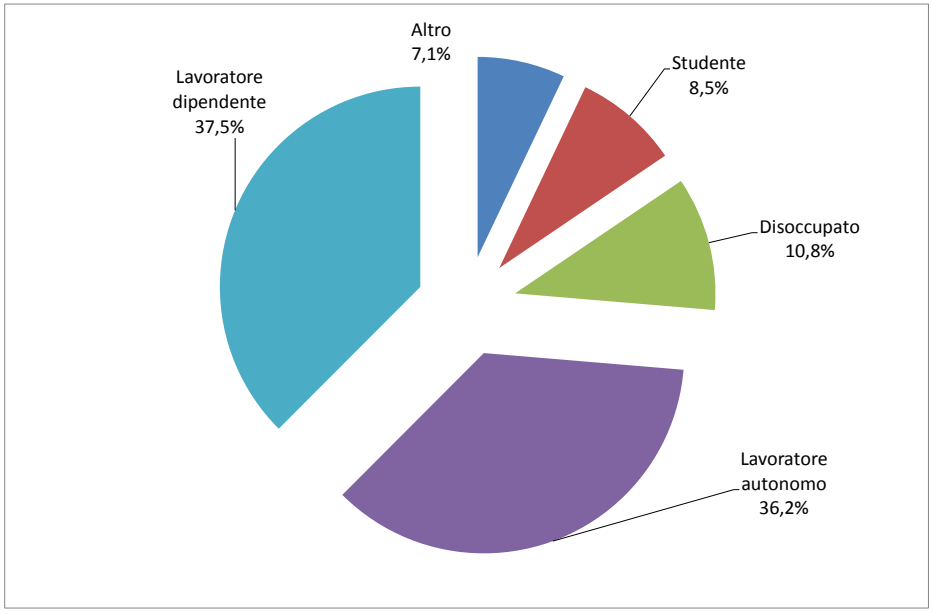
Most entrepreneurs were under 36 years of age (47%; 50% for innovative startups). Also noteworthy is the percentage of people in their forties to fifties who were funded by the programme (41%; 35% for startups).

The percentage of women who were proprietors of their own companies was 22% (17% for startups). This percentage rises to 26% for women who are under 36 years of age. Women therefore continue to have difficulties when starting up companies. This gap is slowly narrowing as the new generation of entrepreneurs enters the labour market.

In terms of employment, it should be noted first that more than a third of entrepreneurial team members come from paid employment: that, on the one hand, demonstrates a strong motivational component, and on the other hand shows added value in terms of self-employment created by Smart&Start.

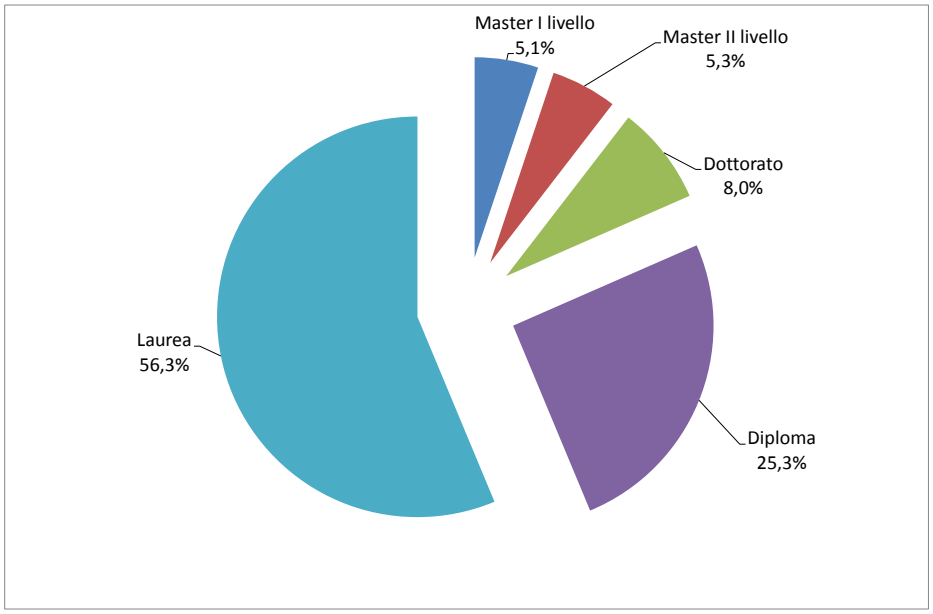
75% of shareholders hold a University degree; 8% hold a PhD. The higher educational background of startuppers is, however, consistent with the type of activities funded.

Graph 4.5 Previous employment status of shareholders



Source: Invitalia

Chart 4.6 Shareholders' qualifications



Source: Invitalia

SMART&START FIRST EDITION SUCCESS STORIES (MINISTERIAL DECREE OF 6 MARCH 2013)

Italrobot The project from this company, based in Marcianise, Caserta, was to standardise and automate the assembly of certain types of electrical panels using robots. The aim was to reduce assembly times, reduce the inefficiencies typical of traditional processes and improve the product's quality standards. This project was the result of research financed by the Ministry of Economic Development with the Fund for Technological Innovation. The company generated an investment of about €1 million.

Robotics Life A startup from Catania which is developing experimental therapy for treating autism in children between 2 and 6 years of age, using a humanoid robot. RoboMate is an educational platform based on customisable software designed in accordance with the edutainment behavioural paradigm. The company was founded by two brothers, Marco and Daniel Lombardo, respectively 37 and 41 years of age, who are both computer experts. Their mission was to bring practical robotics into the world of medicine and neuropsychiatry. The investment was about €44,000.

Sophia High Tech An innovative startup founded in July 2013 to design, produce and market instruments and laboratory equipment for testing innovative materials ("stress tests") in the aeronautics, aerospace, automotive, rail and shipbuilding industries. The company set up an investment of €113,000. The shareholders are five University professors at the University of Naples Federico II, who also hold PhD degrees.

Youbiquo The products are called Talens, a name combining the words talent and lenses. They are smart glasses made by this Italian company, based in Cava de' Tirreni (SA), which develops software for "wearable computers". Youbiquo is the brainchild of two computer engineers with experience in the ICT sector and two experienced marketing professionals. The company set up an investment of €186,000.

Genomix4Life A spin-off of the molecular medicine and genomics laboratory at the University of Salerno, this company was founded and is now run by young experienced researchers in genomics and bioinformatics, with the aim of developing innovative diagnostic tools in the

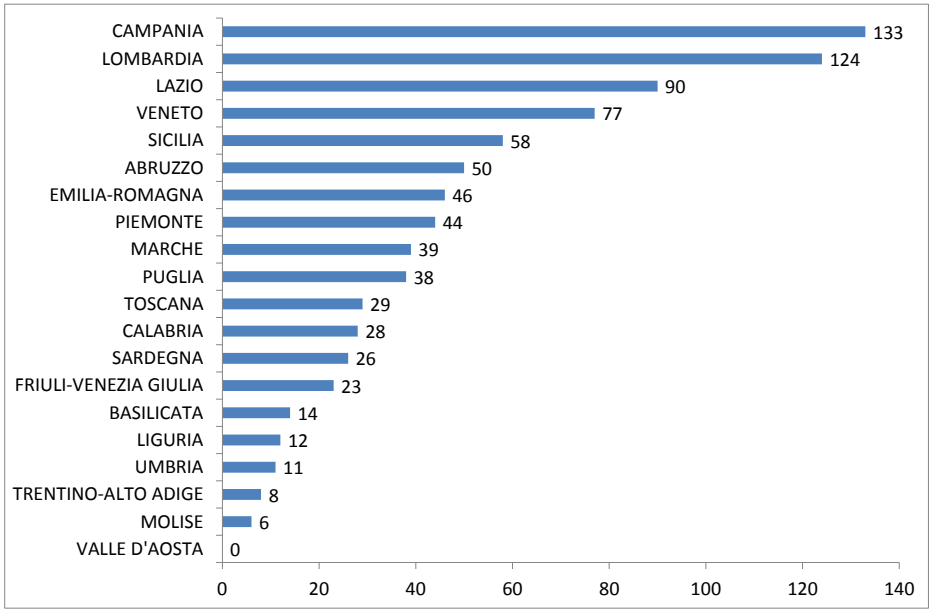
field of cancer. The company offers services in genomics and bioinformatics, targeting all research and industrial sectors that use these technologies, in particular the biomedical, livestock and agri-food sectors. The company set up an investment of around €133,000.

Drone Design A company that has designed an advanced autonomous navigation system for drones, which allows data and information to be collected on reduced timescales at a very low cost. The drone will be equipped with an algorithm that allows the customer to carry out a detection service completely autonomously, without using specialised technical personnel. Drone Design was founded in December 2013 based on an idea from two aerospace engineers and an astronautical engineer with experience in analysing and optimising launch trajectories as part of space missions. The company, based in Ginosa (Taranto), set up an investment of €198,000.

THE FIRST RESULTS OF SMART&START ITALIA 2015 EDITION

From 16 February 2015 to 29 July 2015, 856 requests for subsidies were received. Campania and Lombardy were the most active regions with 15.5% and 14.5% of the applications submitted respectively.

Chart 4.7 Applications submitted by region



Source: Invitalia

52% of applications involved supporting the development of existing innovative startups (businesses already in existence when the applications were submitted).

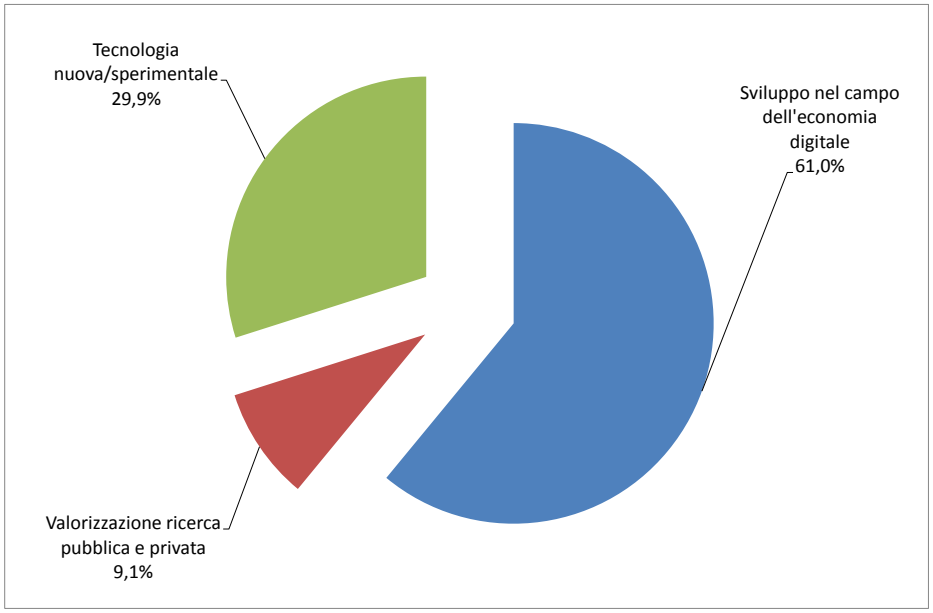
More than €460 million of subsidies were requested, and distributed as follows by geographical area:

- North-Central: €292.1 million
- South: €15.9 million
- L'Aquila earthquake zone: €16.9 million

The applications submitted involved 2,575 people, of whom 21% were female, and covered the following areas of investment:

- Development in the digital economy: 522
- Enhancing public and private research: 78
- New/experimental technology: 256

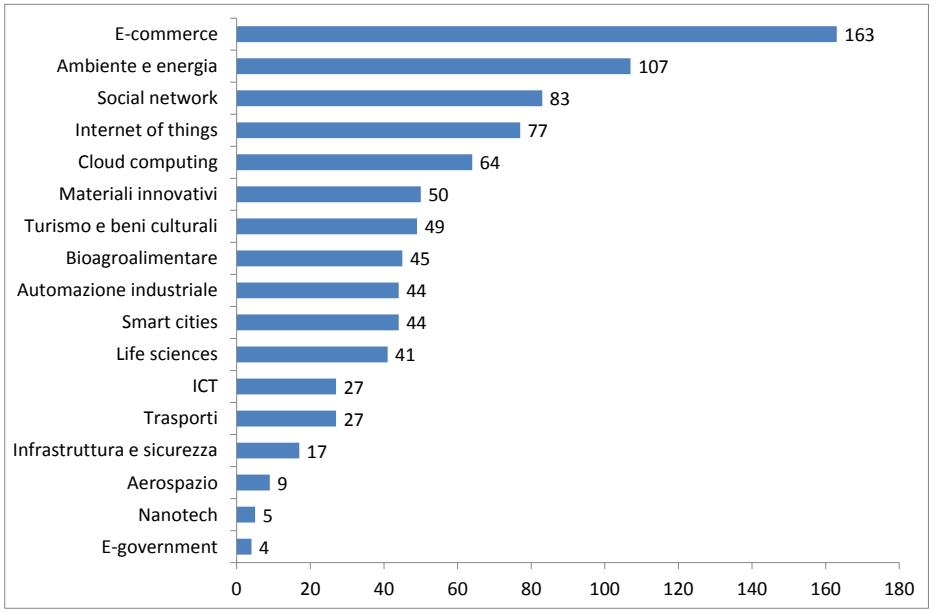
Chart 4.8 Applications submitted by type of investment



Source: Invitalia

Almost 37% of the initiatives involved parts of the e-commerce and green economy (bio-food, environment and energy) sectors.

Chart 4.9 Applications submitted by sector



Source: Invitalia

To date, 625 applications have already been assessed, of which 131 were eligible for subsidies. The 131 applications generated investments of more than €63.2 million and committed subsidies amounting to €65.8 million broken down as follows by geographical area: Centre-North: €49.1 million; South: €16.2 million; L'Aquila earthquake zone€0.5 million.

NEW EDITION SMART&START SUCCESS STORIES (MINISTERIAL DECREE OF 24 SEPTEMBER 2014)

Geofood: this startup, based in Pisa, was founded in September 2014. It comprises a team of two people under forty years of age, an agronomist and an engineer. The application was submitted at the Italian Pavilion of Expo2015. It allows consumers to know the origin of food products by scanning labels using a smartphone or tablet. Data is entered directly by the food companies and consumers through a multisided platform. By using this application, they can obtain information about the origin of ingredients, the location of suppliers, the company's production facilities and outlets for typical food products, as well as the quality and technical characteristics of the latter.

MyMantra: the brainchild of a father and daughter. The company is located in the Lazio region. The aim is to replace animal skin by using and reinventing an ancient material: wood. The love of animals, the need to reduce the environmental impact of factory farming and the tanning industry, as well as an innate passion for fashion and design, led Marcello and Marta to create this new material: soft wood. The material, which has been patented, has been subject to laboratory tests aimed at verifying the level of wearability, water resistance, heat resistance, etc.

Digital Lighting: this company was founded in August 2014 and has been entered in the register of innovative startups in Bolzano. The group currently has employees as well as a director; however, two new employees are expected by the end of 2015. The company provides services and products to promote smart cities. They have designed a multi-sensory device, with new high performance "enabler" technology, allowing: smart lighting control, video surveillance and traffic analysis, WiFi HotSpot internet coverage, variable message signs, charging of electric cars and bicycles, free parking control, waste management, tracking of objects and people, and management of bike-sharing services. Everything happens via the use of a simple object, elegantly designed to be applied primarily to street lighting.

Nice Filler: a spin-off from the University of Salerno, established by three female lecturers in the faculty of engineering. This won the Polymer Challenge 2009 organised by the Nanotech and IMAST Technology Clusters in the Veneto region. Nice Filler has invented and patented a plastic wrap that preserves and enhances the duration of freshness. The product is part of the "active" and "intelligent" packaging category. In fact, by using polymeric materials for active food packaging, it can be used to protect and improve the quality of food products and to reduce preservation treatments. This technology is based on an organic-inorganic compound that can be dispersed into any type of plastic packaging (including biodegradable packaging).

TissueGraft: this Piedmontese team, consisting of four people, including three women and two PhD holders, won the Award for Innovation in 2014. It manages to recreate biological tissue substitutes useful in the field of cardiovascular medicine, in a laboratory. In practical terms, a new method for functionalising decellularised biological tissue with an active

ingredient was invented and patented. The firm produces two main types of products: T-PATC, a pericardium restraining surgical product and T-VESSEL, a vascular substitute.

Brain2Market: a company located in Lombardy, it launched onto the Italian market an application of neurotechnologies for corporate strategies, which aims to the optimisation of decision-making. Integration of neurotechnology allows analysis of the reaction and interaction of target subjects (consumers, users, viewers) in relation to perceptual stimuli (products, advertising, web interfaces, etc.), via the measurement of attention and emotion at a biological, instinctive and unconscious level. Using specific equipment (goggles and helmet) that allow you to record eye movements and the cognitive/emotional reactions burdens associated with perception, it is possible to trace the pattern of experience of the person/user/consumer when they are subjected to a given stimulus.

BClever: located in Veneto, this firm has designed Spider, a printer that can reproduce any digital image on any surface, simply by using a normal printer. This technology is protected by an international patent. Spider can even print onto the surfaces of walls. Prior treatment of the surface allows different effects to be created (photo effect, fresco effect, etc.) The targets are professionals who decorate large surfaces. Spider is currently under development, and is expected to be completed during 2015.

4.2 The performance of innovative startups with regard to the Horizon 2020 SME Instrument

HOW THE H2020 SME INSTRUMENT WORKS

Horizon 2020, one of the EU strategies for development and growth planned for the period 2014-2020, includes the SME Instrument, designed to support innovation and the internationalisation of innovative companies through grants and loans. The Instrument provides a budget of about €3 billion to support European SMEs in the process of introducing highly innovative products and services to the market, and it is divided into three phases:

- **Phase 1 "Idea to concept" (feasibility study, 6 months)**

  This initial phase includes a non-repayable grant worth €50,000 (an amount defined for everyone as a lump sum), as a single solution, to assess the technical feasibility and potential of innovative business models.

- **Phase 2 "Concept to Market-Maturity" (market access and R&D, 1-2 years).**

  At this stage, the Commission may grant co-funding loans on a non-refundable basis of 70% of the investment required for companies to develop and test their proposed innovations. The value of the loan ranges between €500,000 and €2.5 million. Activities included in this phase can be the creation of prototypes and scale models, design development, performance audits, testing, demonstrations and the validation of models for market replication. The results that companies should achieve at this stage are the development of a new product, process or service that is competitive in the global market.

- **Phase 3 "Prepare for Market Launch" (marketing)**

  Companies receive support to facilitate the marketing of innovative products and services through networking initiatives, training, coaching and mentoring, as well as access to private capital.

Startups and innovative SMEs are advised to apply for Phase 1. However, access can be granted in the later stages if the proposals or business models are already at an advanced stage.

THE PERFORMANCE OF ITALIAN INNOVATIVE STARTUPS

The lack of information regarding the third phase should be noted, as this has not yet been started at a European level.

In June 2015, a total of 189 Italian innovative businesses had benefited from the SME Instrument. Of these, 107 were selected for Phase 1 of the loans granted in 2014, whilst 12 obtained access to Phase 2 in the same year. In 2015, 60 companies successfully participated in Phase 1, and 10 in Phase 2.

Among the winners there were 32 Italian innovative startups listed in the special section of the Register of Companies (31 for Phase 1, 1 for Phase 2).

If we examine the geographical distribution, 17 startups were located in the North (12 in Lombardy, 2 in Emilia Romagna, 1 in Liguria, 1 in Piedmont and 1 in Valle D'Aosta (1), 10 in Central Italy (4 in Lazio, 4 in Tuscany, 2 in the Marche) and 5 in the South (2 in Calabria, 2 in Sicily and 1 in Campania).

With regard to macro-sectoral distribution, the services (22) and manufacturing sectors (10) stood out.

If we consider the value of the output of successful innovative startups that have already submitted a budget, 16 produced up to €100,000, 7 between €100,000 and €500,000, 2 from €500,000 to €1 million, and two companies between €2 and €5 million.

Information about employment (relative to the open INPS positions) is only available for 12 startups, as follows: 9 innovative startups from 0 to 4 employees, 1 company from 5 to 9 employees, 1 from 10 to 19 employees and 1 from 20 to 49 employees.

Of the 32 successful innovative startups, none was established in 2015, 11 in 2014, 8 in 2013, 7 in 2012, 4 in 2011 and 2 in 2010.

4.3 Italia Startup Visa and Italia Startup Hub

THE IMPORTANCE OF ENTREPRENEURSHIP IN DEVELOPED OVERSEAS NATIONS AND THE EU INITIATIVES

In his manifesto for the European elections, the President of the Commission, Jean-Claude Juncker compiled a list of 10 priorities[54]. In eighth place was the "Towards a new migration policy" priority, which highlights the need to promote a new European approach to legal immigration, aimed at "filling specific gaps in the labour market and demographic challenges of the European Union". Juncker's stated purpose was "to make Europe at least as attractive as the migration destinations currently prevailing globally, such as Australia, Canada and the United States".

Immigration plays an important role in the entrepreneurial class of developed countries. One only needs to reflect on the fact that 40% of the 500 largest US companies surveyed by Fortune magazine in 2010 were founded by first- or second-generation immigrants.[55] Immigrants set up 28% of US companies in 2011.[56]

Other statistics give a measure of the relevance of the phenomenon. In 7 EU countries[57], the rate of entrepreneurial activity amongst immigrants is higher than amongst the native population[58]. In most OECD countries, immigrants participate in more business startups than locals do. In the same area, between 2007 and 2008, 12.6% of the immigrants were entrepreneurs, compared to 12.0% for local people.[59]

Looking at the figures for Europe, in the decade 1998-2008, the percentage of foreign-born entrepreneurs increased by 3% in the Netherlands, 2% in Austria and 1.3% in Germany. The number of new immigrant entrepreneurs in Germany has almost doubled from 49,000 per year in 1998-2000 to more than 100,000 per year in 2007-2008. Similar dynamics have affected the United Kingdom (45–90,000), Spain (77,000), Italy (46,000) and France (35,000). In the UK, one out of every 7 companies were founded by immigrant entrepreneurs. Here, immigrants account for 14% of the establishment of SMEs,[60] even though they form only 12% of the population.[61]

As regards the source of immigration, it varies from country to country, but a prevailing trend in the OECD area is the prevalence of Asian citizens.[62] In the general absence of regional approaches by member states of the European Union as part of their attraction policies, Belgium, which is focusing exclusively on China, United States and Brazil, stands out.[63]

---

[54] J.C. Juncker, *A New Start for Europe: My Agenda for Jobs, Growth, Fairness and Democratic Change. Political Guidelines for the next European Commission*, 2014.

[55] Partnership for a New American Economy, *The "New American" Fortune 500*, June 2011.

[56] R.W. Fairlie –*Open for business: how immigrants are driving small business creation in the United States*, August 2012.

[57] Belgium, Czech Republic, Denmark, France, Germany, the UK and Hungary.

[58] OECD and the European Commission (2014).

[59] M.V. Desiderio (2014).

[60] L. Johnson, D. Kimmelman (2014).

[61] C. Rienzo and C. Vargas-Silva (2014).

[62] OECD, *International Migration Outlook*, 2011.

[63] European Migration Network (2015).

In OECD countries, immigrant entrepreneurs are often better qualified than their local counterparts (between 30% and 40% are graduates) and in all OECD countries (except Germany) the proportion of highly educated immigrant entrepreneurs is higher than that of locals.[64] Between 2006 and 2012, 24.3% of the engineering and technology companies in the United States had at least one foreign-born founder. In the same period, the ratio equalled 43.9% in Silicon Valley.[65] In addition, 60% of the top 25 technology companies in the United States was founded by immigrants, employing 1.2 million workers in 2012.[66] Of the technology startups in Tech City (London), up to 25% were founded by immigrants.[67]

Compared to other developed regions, the EU has a structural gap in terms of the ability to attract highly skilled immigrants and offer the same the opportunity of establishing a genuine business.[68] The difference in performance compared to the other OECD countries can be traced to differences in policies and approach towards global talent attraction. EU migration policies are largely motivated by humanitarian reasons or for family reunification, rather than by the demand for labour and the wish to bridge skill gaps in the labour market.[69]

Table 4.2 Achievement of higher levels of education amongst entrepreneurs born abroad and over 15 years of age, by country of destination[70]

	Foreign-born and highly skilled (%)
Canada	47
Australia	35
New Zealand	33
United States	30
EU28	22

Source: OECD

To bridge this gap, the Commission is studying a set of policies for attracting highly qualified non-EU citizens who intend to start a high-tech company in Europe.[71]

The initiative is part of the European Agenda on Migration, adopted by the European Commission on 13 May 2015. This is accompanied by a number of other interventions, including:

- a proposal for a directive by the Parliament and the EU Council on the conditions of entry and residence of non-EU citizens for the purpose of research, study and student

[64] OECD, *International Migration Outlook*, 2011.

[65] V. Wadhwa et al. (2012).

[66] M. Meeker, L. Wu (2013).

[67] The Tech London Advocates Blog (2013).

[68] R. Gropas (2013).

[69] M. Luthria, P. Dale (2013).

[70] A. Damas de Matos (2014).

[71] This initiative by the Research Directorate General, conducted in collaboration with Directorate General for Home Affairs, was launched with the consultation of experts from various EU countries in Brussels on 20 May 2015. The Technical Secretariat of the Minister of Economic Development participated, illustrating the experience of the Italia Startup Visa and Hub programs.

exchange, training, charity and au pair work, which aims to integrate and strengthen the two existing directives[72];

- the Startup Manifesto (developed under the European Digital Agenda and, in particular, the Startup Europe initiative), which is aimed at a pan-European startups;
- the "Erasmus for Young Entrepreneurs" scheme, involving young entrepreneurs from some non-EU countries[73] and
- the Review of the Blue Card Directive to facilitate the use of highly skilled nationals from other countries.

THE ITALIAN POLICY FOR ATTRACTION AND RETENTION OF INNOVATIVE ENTREPRENEURS FROM OUTSIDE EUROPE

Anticipating the above-mentioned European initiatives, some member countries have already created national programmes ascribed to the startup visa category. Requirements, procedures and development times vary from country to country, but the common purpose is to facilitate the attraction of non-EU citizens interested in starting new companies.

Launched by the Minister of Economic Development on 24 June 2014 in accordance with the Destination Italy plan, the Italian programme, called "Italia Startup Visa", revolutionised the standard procedure for granting entry visas for self-employment, by introducing a considerable simplification for the benefit of non-EU citizens who intend to set up an innovative startup in our country (official website: italiastartupvisa.mise.gov.it).

The aim of the programme, which is being implemented in collaboration with the Ministry of Foreign Affairs, the Ministry of the Interior and the Ministry of Labour and Social Policies, is to promote the opening, renewal and strengthening of the national innovative entrepreneurship ecosystem by facilitating the attraction of human and financial capital from around the world, in the belief that the ability to attract the global flows of talent is an important indicator of the level of development of a modern economic fabric.

The standard procedure for providing visas for self-employment, still in force outside the scope of innovative startups, states that non-EU citizens should:

- apply to the competent local Chamber of Commerce or entity for clearance in relation to carrying out the business activity;
- submit to the financial parameters, which vary from sector to sector;
- obtain the necessary authorisations, according to the type of activity, in advance; and
- request clearance from the Police by appearing before them in person or via an attorney. All without having to open a channel of communication in the Italian language.

However, in the case of the Italia Startup Visa, the procedure is completely centralised, via the internet and greatly accelerated, so that it ensures a visa is issued within 30 days. Specifically:

- the requirements and obligations are explained in English on the programme's website, which is central to the entire front end of the process;
- there is only one financial parameter, €50,000, which is valid for all candidates

[72] For further information: European Parliament, Third-country nationals: conditions of entry and residence for the purposes of research, studies, pupil exchange, training, voluntary service and au pairing. Recast.

[73] Liechtenstein, Norway, Macedonia, Iceland, Montenegro, Turkey, Albania, Serbia and Israel.

regardless of the designated economic sector;

- assessment of the business plan is performed by the Italia Startup Visa Committee, chaired by the Director General for Industrial Policy, Competitiveness and SMEs and composed of the Presidents of five key innovative entrepreneurship ecosystem associations: IBAN representing business angels, AIFI representing private equity and venture capital, PNICube representing university incubators, APSTI representing science and technology centres and Netval representing technology transfer centres. The Committee works remotely and is centrally coordinated by the Ministry of Economic Development;
- at the back end, this Ministry acts as a proxy for the candidate for the purpose of security checks carried out by the Police;
- communications to and from the candidate are always carried out online and, within 30 days, non-EU citizens get a clear answer, be it positive or negative, about the possibility of receiving a visa;
- if the answer is positive, that is, if the Committee considers the application is practicable in business terms and if the Police do not prohibit entry for security reasons, once the green light is received- and this often takes less than30 days – an applicant must only perform one physical requirement: going to the relevant consulate or embassy to pick up the visa.

In accordance with the European guidelines, which place a particular emphasis on the concept of retention ("*retaining talent*"), as well as the attraction, on 23 December 2014, the Italia Startup Hub programme was launched, based on the Italia Startup Visa model. This programme includes use of the fast-track procedure, which is extended to non-EU citizens already in Italy who have a valid residence permit (for example, one obtained for study purposes) who intend to remain even after the deadline to set up an innovative startup. The Italia Startup Hub programme therefore allows such people to convert a residence permit (which is held by citizens from outside of Europe) which is about to expire into a "permit for self-employment startup" without having to leave Italy, which is subject to the same simplified procedures as those for granting startup visas.

The two programmes are *also opportunities for Italian entrepreneurs* wishing to attract talent from outside of the EU to their innovative startups that are being established or have already been established, as shareholders for a reduced fee (this does not apply to employees if they are not shareholders).

Finally, it is important to emphasise that if the candidate proves to have obtained "willingness to accommodate" status from an incubator, the process is even faster for his/her own future innovative startups because this assesses the merits of the business plan. It is believed, in fact, that approval from a certified incubator is in itself a guarantee of the quality of a proposal.

ANALYSIS OF THE RESULTS:

37 applications were received as of 31 August 2015, and break down as follows:

- 18 were received in 2014, 19 in 2015.
- 28 applicants were males, 9 females.
- Average age: 34 years.

- There were 5 teams (1 Japanese with 4 people, 2 Ukrainian with 2 people each, 2 Russian, of which one with 4 people and one with 2 people) – all applications received from these teams had a positive outcome.
- 18 of the applicants had entrepreneurial experience; 16 of the applicants had a professional background; one applicant had no professional background (this applicant was in a team); one applicant claimed to be a student and another claimed to be a professional artist. Information technology and marketing dominated the professional sectors.
- 11 applicants held a three-year degree; 11 held a master's degree; 8 held a high school diploma; 4 held a doctorate; 3 held post graduate qualifications; information technology, marketing, design and engineering were the main subjects.
- There were 15 countries of origin (the denominator is the total number of nominations per country, the numerator the number of positive outcomes):
    1. Armenia: 1/1
    2. Australia: 1/1
    3. Brazil: 2/2
    4. China: 0/2
    5. South Korea: 0/1
    6. Egypt: 1/1
    7. Japan: 3/3
    8. Israel: 1/1
    9. Lebanon: 0/1
    10. Nigeria 0/1
    11. Pakistan: 0/4
    12. Russia: 8/10
    13. United States: 2/3
    14. Ukraine: 5/5
    15. Uzbekistan: 0/1
- 31 applications involved the establishment of new companies. In 5 cases, a team was involved in innovative startups already established by Italians. In one case, the entrepreneur had already established an innovative startup when applying for a visa, but it was found that the company did not meet the requirements, so it was removed from the special section of the Register.
- Out of 37 applications, 24 were successful (65%) whilst 8 were rejected due to the weakness of the business plan or lack of innovativeness, and 5 were considered inadmissible because they manifestly lacked the minimum financial or innovation requirements.
- Two applications were submitted via a certified incubator.
- Of the 24 clearances granted, 20 resulted in the issuance of visas.
- So far, five innovative startups have been created from scratch (Genuine Education Network S.r.l.; Routes Software S.r.l.; LabQuattrocento Srl; SCdB S.r.l.; Spacialist Ltd.);

there were 3 existing innovative startups that were joined by a partner outside of the EU (Artemest S.r.l.; Lookcast S.r.l.; Connexun S.r.l.). Other cases are evolving and the developments are being monitored continuously.

As for the Italia Startup Hub programme, three applications have been received so far. One of these, a joint application from 2 Korean citizens (one male and one female, 35 and 34 years of age) who were already legitimately in our country for study purpose (both hold a degree). They want to establish an innovative startup in the tech-fashion sector. Another application was made by an Iranian citizen (male, 34 year of age, who holds a degree). He wants to launch an innovative startup for monitoring the underground power grids via an incubator.

After reaching a year and six months of operations respectively, both programmes have shown that despite their strongly innovative character, on a procedural level they are working and ensuring full efficiency and compliance with the defined deadlines,

From a bureaucratic perspective, the processes in question are a challenge: the front office is maintained by the Ministry of Economic Development, but three other ministries (foreign affairs, interior and labour) are involved behind the scenes, as well as embassies and consulates, police stations and the five ecosystem associations called on to assess the applications.

After one year, it is clear that the procedure works smoothly and the recipients of the visas, once in Italy, create innovative startups (e.g. Routes Software S.r.l. and LabQuattrocento S.r.l.), thus developing our ecosystem.

This first year has allowed us to test and fine-tune the process. The Netherlands, which recently launched a similar programme, also showed similar results. Next, we need to grow in terms of quantity and improve the reception of foreign citizens.

When interviewed about the difficulties encountered in accessing the programme, non-EU citizens who had received visas explained that the procedure is simple and clear; the main problems arise after arrival in our country and mainly concern language - spoken English is not very widespread, even among professionals and consultants. Even the media, including the parts specialising in online publications, is almost entirely in Italian. This is a sign that we should take as a warning. To what extent does our innovation ecosystem wish to open itself up to the world? It is an important question, because the main global startup centres – San Francisco, Tel Aviv and London – are first of all crossroads for international talent flows.

Better communication by the authorities involved can help supply the empirical evidence for the programmes, but it is also important to reflect on the contribution made by individuals, whose international ambitions so far appear to have been very modest. The following is an example supporting this view. The Italia Startup Visa procedure provides for further acceleration when a non-EU citizen receives a declaration of hospitality from a certified incubator. In this case, the Committee refrains from assessing the business plan because of the will to accept the foreign entrepreneur manifested by a structure whose competence is considered sufficient evidence to prove the application's credibility. There are 30 certified incubators in Italy - how many have used this mechanism to attract global talent? Only one. A sign that should make us think. Measures such as the Growth Decree 2.0 and the Investment Compact have created a regulatory environment that puts us at the very least on a par with other advanced systems in Europe that are involved in promoting innovative entrepreneurship. However, are we confident that compared with these substantial innovative policies, there is a corresponding demand for innovative policies that is as well supported?

References

A. Damas de Matos, *Immigrant skills, their measurement, use and return: A literature review* In Matching Economic Migration with Labour Market Needs, OECD, 2014.

M.V. Desiderio, *Policies to support immigrant entrepreneurship*, August 2014.

European Migration Network, *Admitting third-country nationals for business purposes*, 2015.

R.W. Fairlie, *Open for business: how immigrants are driving small business creation in the United States*, August 2012.

R. Gropas, *Migration and Innovation: why Europe is failing to attract the best and brightest*? March 2013.

L. Johnson, D. Kimmelman, *Migrant entrepreneurs: building our companies, creating our jobs*, Centre for Entrepreneurs & DueDil, March 2014.

J.C. Juncker, *A New Start for Europe: My Agenda for Jobs, Growth, Fairness and Democratic Change. Political Guidelines for the next European Commission*, 2014.

M. Luthria, P. Dale, *Liberalising the global market for labour: from paralysis to policy innovation*, in *The Global Talent Competitiveness Index*, INSEAD, November 2013.

M. Meeker, L. Wu, *Immigration to America & the growing shortage of high-skilled workers,* May 2013.

OECD, European Commission, *The missing entrepreneurs 2014.Policies for inclusive entrepreneurship in Europe*, December 2014.

OECD, *International Migration Outlook*, 2011.

Partnership for a New American Economy, *The "New American" Fortune 500*, June 2011.

C. Rienzo, C. Vargas-Silva, *Migrants in the UK: An Overview*, The Migration Observatory at the University of Oxford, December 2014.

The Tech London Advocates Blog, *Blanket migration laws threaten the thriving Tech City startup scene,* June 2013.

V. Wadhwa, A. Saxenian and F.D. Siciliano, *Then and Now: America's New Immigrant Entrepreneurs*, October 2012.

4.3 The Fondo Italiano d'Investimento and the Fondo Italia Venture I

FONDO ITALIANO D'INVESTIMENTO

The *Fondo Italiano d'Investimento* (Italian Investment Fund) SGR SpA (FII) was established with the aim of creating, over the medium term, a wider range of medium-sized businesses, and encouraging aggregation processes between SMEs to make them more competitive on international markets.

The draft constitution of the SGR and fund promotion was developed by a steering committee that was set up in December 2009, which includes representatives from the Ministry of Economy and Finance, "sponsoring banks" (UniCredit Group SpA Intesa Sanpaolo Spa, Banca Monte dei Paschi di Siena SpA and Cassa Depositi e Prestiti SpA), Confindustria and the Italian Banking Association.

FII now manages three closed-end investment funds:

- FII UNO – dedicated to investments in closed-end funds or holding companies aimed at:
    - investments in new business initiatives with a high technological content (venture capital funds) and investment in venture capital for small and medium size companies (private equity funds);
    - direct investments in venture capital for small and medium-sized enterprises operating in the fields of industry, trade and services, to accompany them along their path of growth.
- FoF VC – fund of funds dedicated to the venture capital market.
- FoF PD – fund of funds dedicated to the private debt market.

The Italian venture capital market, although still underdeveloped, offers significant growth prospects, but needs the stable presence of venture capitalists with proven professionals capable of attracting new resources for startups. The experience of indirect investment by FII UNO in 2012-2014 has shown the ability to support the creation and development of new funds, and it therefore serves as a reference point for practical development of the venture capital market as well.

The FII strategy for investments in venture capital funds is based on three main elements:

- selecting investment teams with sector-specific experience and a relevant and measurable track record;
- professionalising the venture capital market in Italy by investing in funds that are adequate in size and characterised by a governance based on best international practices;
- proactively providing assistance from the earliest stages in which funds are established, when they are being managed by new teams (the so-called first-time teams/first-time funds) as a cornerstone/investor anchor.

With regard to the investment activities of FII UNO, FII focused primarily on fund investments dealing with round A transactions (investments from €500,000 to €2 million for startups) because this stage of investment provides the capital needed to transform an idea developed by a startup into a business, and requires significant strengthening in relation to the country's system in terms of both available capital and investment skills.

FoF VC is taking this approach, but at the same time, will also invest in funds that focus on investment stages before and after round A transactions, such as seed and late stage/growth capital investments.

On 1 September 2014, FII completed its first closing for €50 million. On 28 April 2015, ICBP and Intesa Sanpaolo signed for €5 million each at the second closing, adding new resources to the €50 million already provided by the Cassa Depositi e Prestiti (Deposits and Loans Fund) for the first closing. The target amount for FoF VC was €150 million. In particular, FoF VC carefully considers funds with investment strategies in stages in the venture capital value chain:

- pre-seeds and seeds, through the selection of funds that finance startups in the early stages, namely to facilitate the evolutionary leap from an idea to a business enterprise. FoF VC investments will allow investments in seed capital more relevant in monetary terms for each opportunity that is more structured and useful to create future business success. In this context, cooperation with the European Investment Fund ("EIF") will be central to the creation of a degree of matching for business angels (called "Caravella");
- round A, which will remain a central issue in investment strategy. Also thanks to the investments made so far by FII UNO, the Italian situation has significantly improved with the creation of funds and teams of specialised operators in this segment; however, the capital available in the market is still limited and there is a great opportunity for development;
- round B and late stage/growth, the segment in which to date there are no specialised Italian operators. These operators (who can invest sums in excess of €5 million for each company in their portfolios) are a key element for the strengthening and development of companies that require a significant contribution of resources to be able to grow and compete on an international scale. In general, these funds are now mainly represented on the Italian market by foreign operators.

It is also appropriate, in order to strengthen the international network of the operating teams and attract other international operators who can invest in Italian startups:

- to consider, on a selective basis, pan-European funds that make significant investments in Italy. This may apply in particular to the biotech segment; and
- to include in the investment strategies of the target funds, even if they are focused on Italian startups, the ability to invest selectively a limited part of the commitment in opportunities based outside Italy (possibly with expansion plans in regard to the Italian market).

In order to maintain the role of reference point and cornerstone/investor anchor in the venture capital market in Italy, FII must:

- be disciplined in the selection of funds, ensuring the implementation of appropriate governance, thereby creating conditions to facilitate investment by other national institutions (such as foundations, family offices, social security bodies) and International institutions (in particular the European Investment Fund (EIF)), as they already did in 2012/2014 with the activities of FII UNO;
- to be able to invest (particularly in situations where VC FOF will be acting as a cornerstone investor) a substantial amount, of at least 15 million, in individual funds. Indeed:

- FoF VC is the main investor in the Italian market, not only in terms of skills but also in terms of available capital;
- it remains essential to invest in funds that have sufficient capital resources to support the development of portfolio companies that could not otherwise express their growth potential without significant risk of dilution;
- the role of cornerstone investor assumed by FII is considered an important signal to other institutions that could invest in these funds.

It is therefore necessary to push the expansion of the investment amount of FoF VC, in order to achieve the target amount of €150 million as soon as possible. This would allow continued support from Italian venture capitalists with adequate financial resources: (i) the creation of funds of a sufficient size and professional management, and (ii) necessary for the development of the companies that have received investments.

An increase in the funds collected should be aimed at involving: (i) selectively, some social security and pension funds, (ii) an increase in the commitment of the Cassa Depositi e Prestiti (deposits and loans fund), and above all, (iii) Italian companies (in any case limited in terms of the amount for each of them).

Table 4.3 Funds held and currently being finalised (July 2015)

Descrizione	Ruolo FII SGR	Settore	Partner	Commitment FII UNO e FEI*	Dimensione tot. Fondo
FII UNO					
Secondo fondo lanciato da 360 Capital Partners, gestore fondato nel 2005 ed il cui *team* è attivo da oltre 10 anni nel VC	L'intervento di FII SGR è risultato di primaria importanza al fine di completare il primo *closing* del fondo nel corso del 2012	*Tech* / Digitale	F. Boni F. Tison E. Levi C. Maifredi	€10 mln FII + €20 mln FEI	€71,7 mln
Settimo fondo gestito da Sofinnova Partners attiva sin dagli anni '70, tra i primi gestori attivi nel VC in Europa con una *leadership* nel mercato dell'*healthcare*	L'investimento di FII SGR è funzionale alla necessità di supportare le imprese italiane innovative operanti nel settore dell'*healthcare*, facendo leva sulle competenze e *network* di Sofinnova	*HealthCare*	A. Papiernik R. Tordjman D. Lucquin M. Soulnier G. Seghezzi H. Richter	€15 mln FII + €40 mln FEI	€240 mln
United Ventures è un veicolo di VC nato dalla fusione dei due team di Jupiter Venture Capital (P. Gesess e S. Zocchi) e di Annapurna Ventures (M. Magrini e M. Mariani)	Su impulso da parte di FII SGR, i team di Jupiter e di Annapurna hanno deciso di unire le proprie forze al fine di dar vita ad un progetto di dimensioni significative nel VC italiano	*Tech* / Digitale	M. Magrini P. Gesess S. Zocchi M. Mariani	€15 mln FII + €20 mln FEI	€60,2 mln (€70,2 mln)**
P101 è un veicolo dalle caratteristiche innovative e uniche sul mercato italiano, che avrà l'obiettivo di investire in *start up* italiane con particolare attenzione alle società create e localizzate presso primari incubatori italiani	Data la rilevanza dell'iniziativa per il sistema e la sua unicità, FII SGR ha assunto il ruolo di *cornerstone investor*, ricoprendo un ruolo proattivo e di supporto operativo sin dalla prima fase di ideazione del progetto	*Tech* / Digitale	A. Di Camillo G. Donvito G. Grazioli	€20 mln FII + €20 mln FEI	€37,5 mln (€70 mln)**
Panakés sarà un veicolo di VC con *focus* di investimento in Italia nel settore del *medtech*. I *Key Partner* dell'iniziativa sono F. Landi (ex CEO Esaote), D. Saraceni (ex Partner 360) e A. Beverina (ex Partner Sofinnova)	FII SGR sta supportando come *sponsor* l'iniziativa il cui primo *closing*, di circa €45 mln, è previsto entro il terzo trimestre 2015	*HealthCare* / *Medtech*	F. Landi D. Saraceni A. Beverina	€20 mln FII da perfezionarsi entro il 3q15	€45 mln*** (*target* €80 mln)
FOF VC					
Innogest Capital II è il secondo fondo lanciato da Innogest SGR, gestore fondato nel 2005 e dedicato alla gestione di fondi di VC	L'intervento di FII consente di aumentare la dimensione del Fondo da €49,5 a €64,5 e di conseguenza i *ticket* medi di investimento	*Medtech* / Digitale	C. Giuliano C. Rumazza S. Molino M. Novelli	€15 mln FII + €20 mln FEI	€64,5 mln
Stark sarà un veicolo di VC dedicato al settore della robotica guidato da *manager* di successo in settori altamente tecnologici.	FII SGR sta supportando come *sponsor* l'iniziativa il cui primo *closing*, di circa €40 mln, è previsto entro il quarto trimestre 2015	*Robotica*	F. Bernabé C. Sironi M. Grillo	€15 mln FII	€40 mln*** (*target* €80 mln)

*Sono inclusi anche i *commitment* già deliberati ma non ancora finalizzati.
**L'ammontare include l'incremento di *commitment* di FII e le ulteriori manifestazioni di interesse ricevute da investitori che finalizzeranno l'investimento subordinatamente alla ricezione dell'autorizzazione di Banca d'Italia in merito all'adeguamento AIFMD.
***L'ammontare include gli investitori che hanno manifestato l'interesse a partecipare al primo *closing*.

Source: Italian Investment Fund

FONDO ITALIA VENTURE I (ITALIAN VENTURE FUND I)

Through the Decree of the Minister of Economic Development of 29 January 2015, the Government funded Invitalia Spa to support investments in venture capital firms with high growth potential. The aim was to set up a venture capital fund, called "Fondo Italia Venture I (Italian Venture Fund I)", managed by Invitalia Ventures SGR, with resources of €50 million from the "Fund for sustainable growth".

The fund will provide risk capital to firms together and simultaneously with private and independent national and international investors. Invitalia Ventures intends to create a network of co-qualified investors, providing its partners with streamlined and transparent governance and a fast and efficient workflow.

Investment in equity is planned for transactions of between €500,000 and €1.5 million up to a maximum of 70% of the overall individual co-investment. The investments are aimed at a target of around 60% innovative startups and 40% innovative SMEs with less than 250 employees and a turnover of less than €50 million, operating in the domestic market (80%) and the international market (20%), in areas such as ICT, logistics and mechatronics, biotech & health, fintech, clean energy, food, social impact and PA. The Fund will ensure continuous monitoring of the performance of companies in which it invests, by verifying the achievement of the objectives set for the duration of direct investments that will, in general, be higher than the market average and, therefore, approximately equal to 5 years.

4.4 Leonardo Startup Award 2014

The Leonardo Italian Quality Committee, in consultation with the Ministry of Economic Development and the Italian Trade Agency, decided in 2012 to sponsor a Special Startup Award, in addition to the already coveted awards conferred each year by the Leonardo Committee[74]: The Leonardo Award, the Leonardo Italy Quality Awards, the Leonardo International Award and the Lifetime Achievement Award.

The award goes to an Italian innovative startup that particularly distinguishes itself in:

- innovation, meaningful progress with regard to knowledge;
- success, qualified in terms of speed of business growth and the positive effect on the rest of the production system;
- internationalisation, meaning the ability to extend the sale of its products or services to foreign markets;
- employment, especially for the young, and in terms of social impact, meaning its contribution to the resolution of problems that concern citizens.

The final choice, by the Leonardo Italian Quality Committee, the Ministry of Economic Development and the Italian Trade Agency, falls on a startup that has distinguished itself in terms of innovation, contribution to building a positive image of Italy abroad, and being an inspiration and testimony for the younger generation. The award is presented annually by the President of the Republic on Italian Quality Day.

The President of the Italian Republic Sergio Mattarella conferred the Leonardo Awards 2014, now in their twentieth edition, on 27 April 2015.

This year the Leonardo Startup award went to Ennova, a recent innovative company that has successfully developed an innovative remote service model for the telecommunications industry.

Ennova was founded in 2010 in the I3P incubator at Turin Polytechnic with the mission to design, develop and release new models for companies in the telecommunications, finance and utilities industries that wanted to streamline their business processes and improve the user experience. In an increasingly digital world, where smartphones and tablets have become inseparable part of life for many, and where the smart home and smart city business is about to take off, simplifying and improving assistance and configuration processes means adding value to customers and helping the sector's operators to achieve a higher turnover. It is in this context that Ennova created SOS Digital. This is an innovative remote service model through which customers can get help and advice for all configuration, usage, security needs, and the protection of their digital devices, since it gives them access to a dedicated competence centre and a specialist who can connect in remote mode and work directly on the customer's device. This service is part of a broader assistance model that the company has certified as the first in Europe for smartphones, tablets or PCs, as well as first in the world that allows remote assistance for all the customer’s digital equipment, with the same technology and operating mode. For example, by using SOS Digital, a customer can, transfer all the contents of his/her old smartphone to a new one completely autonomously.

[74] Created in 1993 from an idea shared by Sen. Sergio Pininfarina and Sen. Gianni Agnelli, of Confindustria (Italian industry association), the ICE and a group of entrepreneurs, with the aim of disseminating and reinforcing Italy's image of excellence throughout the world

Ennova won the award in succession to NISO Biomed, a Medtech Company that won the award in 2013 and Silicon Biosystems, a biomedical company that was the 2012 winner.

4.5 Global Entrepreneurship Congress 2015

The Global Entrepreneurship Congress (GEC) is an event established in 2009 at the instigation of the Kauffman Foundation, a US non-profit foundation that studies and promotes entrepreneurship and seed financing. The main objective of the event is to promote recognition of the economic and social function of companies, as a vehicle for employment, growth and innovation that will have an impact on the welfare of society.

To this end, GEC operates worldwide to:

- foster the exchange of ideas between policy makers, innovative entrepreneurs and investors;
- strengthen the network of startups and help entrepreneurs understand that working with communities scattered in various cities around the world can help them realise their ideas and make them scalable;

The intent is to improve global collaboration and increase awareness of the efforts made at national level to promote entrepreneurship and the economic development of the various territories.

At the international application stage, in order to be awarded the organisation of the GEC 2015, the META Group received a formal endorsement from the Ministry of Economic Development, the Ministry of Foreign Affairs, and the Ministry of Education, University and Research.

The 2015 edition was thus held in Milan over the weekend of 16 to 19 March 2015, involving 20,000 people from 159 countries, including more than 200 investors. The 103 events held within the premises of the MiCo (Milano Congressi) can be classified into the following types.

Main Event: Organisation of the main events, with international speakers, held in English, in the plenary hall of the MiCo:

- 17 March 2015: the date of the Global Entrepreneurship Congress, with assistance from the Kauffman Foundation, ITA, and the Ministry of Economic Development;
- 17 March 2015: Start and Scale Forum, dedicated to visionary entrepreneurs who have helped the entrepreneurial ecosystem of their own country expand. The companies invited to present their development history included Italian companies (Illy, Eataly) and international companies (Google, PayPal);
- 18 March 2015: Research and Policy Summit, dedicated to the most advanced public policies in terms of entrepreneurship and innovation. Ample time was given to the US Small Business Administration, the Italian Trade Agency, and the Ministry of Economic Development;
- 18 March 2015: GEC Cities Challenge, with awards for the cities that achieved the most internationally in terms of the development of competitive entrepreneurial ecosystems (Milan, Buenos Aires, Genk, Yerevan and Kansas City);
- 19 March 2015: Global Angels Summit – an international gathering of investors which illustrated, through an open discussion with the participants, the investment operating methods typical of venture capital operators. Investment case studies were presented during the session.

Institutional Events with the participation of institutional representatives both at local, national and international level. There was large-scale participation by the press:

- The first "SME Ministerial" meeting was held on 17 March 2015, with the active contribution of the US Embassy in Italy and the US Small Business Administration. Ministerial representatives of the United States, Italy, Mexico, South Africa, Cuba, Croatia and Denmark met to discuss how to work together to promote development and the creation of new SMEs able to impact on employment and innovation in key sectors of their respective national economies;
- presentation in the Italian Pavilion and final approach stage at EXPO 2015;
- presentation of the investment opportunities provided by the new Smart & Start tender notice;
- presentation of opportunities for young people, students and wannabe entrepreneurs provided by the Garanzia Giovani (Youth Guarantee) plan.

Business themed workshops: there have been numerous workshops, both in English and Italian, all linked to issues related to doing business.

More specifically, experts were called to manage seminars and events on the following topics:

- crowdfunding as a means of alternative finance;
- the digital economy and internet of things, new key sectors for the European economy in which to invest;
- financial instruments under the new 2014-2020 programming;
- opportunities for young people and new entrepreneurs provided by public and European development programmes;
- "how to pitch" seminars for entrepreneurs, with an emphasis on classical themes (introduction, problem, solution, market, IPR, team, investment proposal, etc.) highlighting the critical points for the evaluation for each section, and on unconventional issues (e.g. non-verbal communication elements);
- entrepreneurship education, from high school to University, with the participation of high school teachers and several Universities;
- the role of social innovation for the development of cities and territories, with the participation of young Italian entrepreneurs operating in the social field.

Pitching competition and matchmaking event with investors: during the conference, there were two different pitching competitions for entrepreneurs and startuppers organised by:

- Ninja Marketing;
- ICE Italian Trade Agency (with the support of Get in the Ring).

Investor days and matchmaking events with investors were also held.

Events dedicated to students: to stimulate creativity, curiosity and the study of entrepreneurship, with different approaches, for all ages:

- Hack School: 600 high school students from all over Italy were involved by the Ministry of Education, META Group and Scuola Zoo in a giant Hackathon to find innovative solutions to improve life in schools;
- Coder Dojo: realisation of workshops for middle school students, to teach the first steps of coding, a skill that is essential in today's digital economy;
- Science laboratories: to interactively stimulate elementary school students and encourage them to study science, promoted by Golinelli Foundation.

4.6 Contamination Lab (CLab)

In the previous report to Parliament of March 2014, the Contamination Lab (CLab) programme was cited as a project that was still in its infancy. It is important to underline that, a year and a half later, the programme is fully under way and has already produced effects that can be analysed. Before explaining them, it is appropriate to reiterate the genesis, characteristics and purpose of this initiative.

In early 2013, based on the acceptance of a proposal contained in the *Restart, Italy!* report of the Task Force on startups, the Ministry of Economic Development and the Ministry of Education, University and Research (MIUR) developed a policy designed to expose students to a stimulating environment for the development of innovative projects with an entrepreneurial ambition. This project is based on the need to bring together two worlds that are often distant, Universities and industry, and in particular to promote the pool of skills necessary for the creation of new innovative companies. The Government's plan was for this target to be achieved through the creation, in the Italian universities, of "Contamination Labs" ("CLabs"), physical spaces for "Contamination", aimed at fertilising horizontal skills between students of different subjects in which they promote the culture of entrepreneurship and innovation, in an interdisciplinary way, as well as new learning models.

With the fourth 'line' of the "Startup Notice" published on 13 March 2013, with Ministerial Decree 436, funded by the Ministry of Education with national resources previously assigned to the Research and Competitiveness 2007-2013 PON and then reprogrammed to participate in the Action Plan for Cohesion, an overall budget of €1 million was made available to build these facilities, and the value of the projects submitted was not allowed to exceed €200,000. In light of the identified financial source, the territorial area receiving the intervention was composed of the Convergence Regions: Campania, Apulia, Calabria and Sicily.

A committee of experts selected by the Ministry of Education and the MiSE selected, among the 17 applications it received, the projects put forwarded by the Università degli Studi Mediterranea di Reggio Calabria, the Università della Calabria (Cosenza), the Università degli Studi di Catania and the Università degli Studi di Napoli Federico II. The four projects, all currently under development, will be completed by the end of the first half of 2016, and their progress is monitored by the ministries concerned with the collaboration of a team of external evaluators.

The notice included four cycles of six-monthly activities during the two-year term of the programme, in order to allow the participation of a large student audience and to promote a periodic exchange by the students involved. In practice, it was agreed that these cycles would be held at the academic semesters. Of the four universities involved, only one, Cosenza, maintained the teaching schedule it had initially set, starting teaching in the second semester of the academic year 2013-2014, and thus its CLab currently hosts the third cycle of participating students. At the date of publication of this report, the other CLabs were instead in the second cycle. This initial slowdown was due to certain bureaucratic and organisational difficulties encountered by the Universities, in particular concerning the identification of a physical space to accommodate the CLabs and their equipment. The possibility of granting an extension to allow the full performance of the originally planned activities is being discussed at the Ministry of Education.

On the administrative level, the Universities involved have identified an institutional University relations representative and, through an internal notice, a manager of the CLab in charge of organising teaching in coordination with the teachers and students involved. The

latter were selected by public notification, taking several factors into account: not only academic curriculum and professional skills but also any extracurricular skills, the reasons explained during interviews and the quality of projects submitted. On a procedural level, at several universities, selection was carried out by sending video applications and, at a later stage, using cognitive interviews. The selections, made at the beginning of each semester, tried to encourage the participation of different universities, and the representativeness of the various faculties, as well as students enrolled in different stages of their academic career (three-year degrees, five-year degrees, graduates, doctoral students) so as to promote a real fertilization effect within the student population, on a geographic, subject-related, and age basis. The contamination also involved a number of external partners, with dozens of institutions, companies and associations involved in the initiatives.

Some 445 students were involved in CLabs at 30 June 30, broken down as follows (the number of applications received are shown in brackets):

	1st Cycle	2nd Cycle	3rd Cycle	Total
CLab Cosenza	74 (106)	84 (113)	64 (77)	**222 (296)**
CLab Reggio Calabria	36 (36)	39 (39)	0	**75 (75)**
CLab Naples	35 (37)	48 (99)	0	**83 (136)**
CLab Catania	30 (127)	35 (74)	0	**65 (201)**
Total	**175 (306)**	**206 (325)**	**64 (77)**	**445 (708)**

Source: Based on Ministry of Education data

In describing the learning methods adopted, the nature of the teaching and communications activities carried out and the type of projects created so far, it was decided to highlight those aspects common to the four CLabs, transcending the specific features of each one.

Focusing on teaching methods, a common feature of CLabs is that they prepare a "minimum starting training service" to familiarise the students with the themes and vocabulary of startups and with cultural paradigms typical of the knowledge society and economy. Interactive tools like the business game have been added to classic teaching practice, promoting the construction of new learning processes. At the same time, from the first meetings, the students have been directly involved in developing and proposing other activities and pathways, in relation to the specific project needs, with a progressive stages approach to the implementation of a business plan.

To connect the experience of CLabs to teaching institutions, methods for the recognition of credits were identified, so this experience is an integral part of the academic career of the students involved.

A key role was that of meetings with players who were not from the University: first, local startups, but also 'mature' companies, investors, professional, cultural and business representation associations, in a two-way exchange relationship with the local and national production system. Lectures, seminars and testimonies from these external parties covered all the phases for planning and starting a business. This went from its establishment to management of a business model canvas, to the drafting of a successful business plan, without neglecting important aspects of entrepreneur's personal communication with a thorough reshaping of the curriculum vitae and then concluding with effective communication of the company's brand. Particular attention was paid to creating the elevator pitch for participation

in national and international competitions. In some cases, this fertile relationship with external parties resulted in coaching by successful entrepreneurs acting as mentors and students getting involved in the implementation of projects. The encounters generated in this way produced dynamic dialectical observation, evaluation and remodelling of proposed business schemes.

Typically, two types of projects are developed by CLabs: business projects and innovative projects with a social content. Business projects develop products and services in the fields of energy conservation, the development of the local area and cultural heritage, both artistic and architectural, e-commerce, digital manufacturing and Welfare 2.0. Some stood out during the startup competitions organised at local and regional level. On the other hand, the CLabs were also an opportunity to develop initiatives with social content aimed at improving the quality of life for the student population (social exchanges with international students, support and services for students).

The entrepreneurial project teams generated by CLabs are characterised by cross-disciplinary and specialist skills in different areas (humanities, economics, scientific-technical, social and anthropological), testifying to the cross-fertilising contamination referred to in the name of the training programme.

The following an initial overview of the business projects created by the CLabs at 30 June 2015:

Number and type of business projects	1st cycle				2nd Cycle				Total
	NA	CS	RC	CT	NA	CS	RC	CT	
Number of projects initiated	7	7	3	6	N.D.	8	6	N.D.	37
Number of technology-oriented projects	2	4	1	5	N.D.	6	3	N.D.	20
Number of projects with a social goal	5	3	1	1	N.D.	2	1	N.D.	13
Number of projects expected to result in a company being set up within 6 months of the end of the CLab cycle	7	2	1	2	N.D.	2	1	N.D.	14

Source: Based on Ministry of Education data

In order to communicate and share the results of the activities of CLabs, the teachers and students involved created websites, blogs, social network profiles, audio-visual productions, radio programmes, adverts, events and seminars as well as the participation of local TV stations.

A questionnaire submitted to the people in charge of CLabs showed the main challenges that emerged in the implementation of the programme focused on overcoming the rivalry between universities and teachers, the functional hierarchies within the university staff involved, distances from companies and classic teaching activities.

It is worth noting that, to an even more pronounced extent than with the other measures examined in this document, the effects of this programme cannot easily be described in quantitative terms. In fact, as mentioned in the introduction, considering that the underlying objectives have a purely social and cultural dimension, and in order to capture their effects, the most appropriate method is believed to be conducting a satisfaction survey.

A description of some of the business projects created by these CLabs is given below:

- (Cosenza CLab) The EnerJuice team registered a patent for a “Mobile devices system for the recovery of energy from movement". It is currently working on a crowdfunding project and will shortly create a social page.
- (Cosenza CLab) The Tekove Association collects experiences created in the CLab (Calabria Town Experience) which are continued in the teaching programme of the University “Unical Creativa”, also in collaboration with other projects and associations (among them RisorgiMenti.Lab, a social innovation project funded by the Ministry of Education), to promote the integration and inclusion of cultural diversity within the University.
- (Naples CLab) Atipico Eyewear is a digital artisan workshop that makes customised 3D-printed glasses. It offers an ergonomic and customisable high market product. Since July 2015, it has been incubated at the CSI-Incubator Naples East of the municipality of Naples.
- (Naples CLab) VasciTour proposes the redevelopment of the Neapolitan "Vasci" (in Italian *bassi*, ground floor flats with direct access to the road, especially found in downtown Naples) by selling packages for tourists seeking an authentic experience. Travelers can choose from a range of packages, personalise their experience and geolocalise the sights with the help of an app. The first beta test was carried out in collaboration with the municipality of Naples in June 2015.

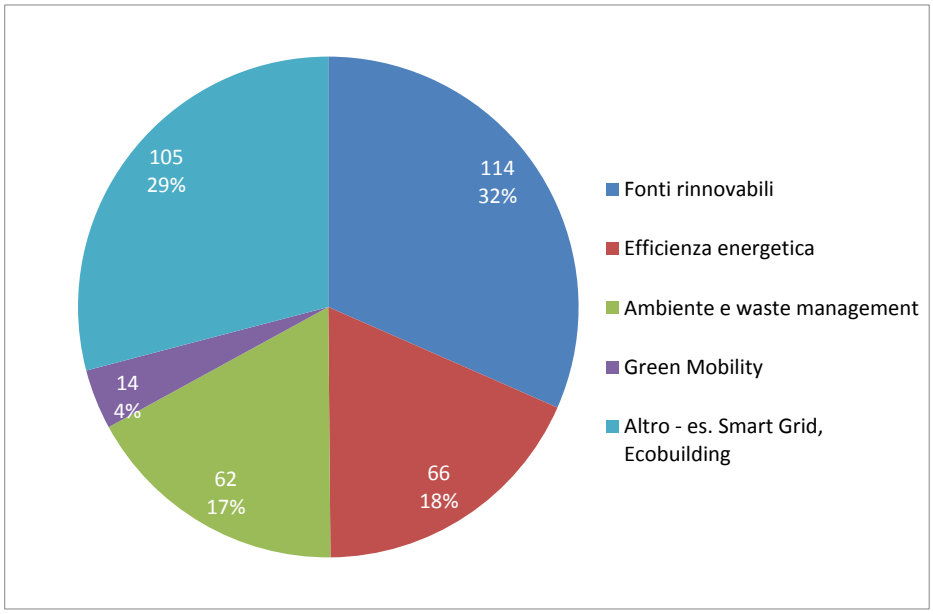
4.7 CleanStart

The Energy Services Operator (GSE), as part of the Corrente (Current) initiative, in agreement with the Ministry of Economic Development and by virtue of its technical expertise and support provided to the Public Authority, monitors the cleantech sector of innovative startups whilst offering a range of activities and initiatives aimed at their development and enhancement.

The CleanStart initiative was launched in September 2013 and helps to identify, among recent Italian companies, which of them operate and are specialised in offering products and services in the following sectors: renewable energy, energy efficiency, smart grid, water treatment and management, home automation, waste treatment, materials, energy-storage, eco-building and sustainable mobility.

An analysis carried out at the end of May 2015 on the activities and characteristics of some 4,000 innovative startups registered in the specific special section of the Register of Companies as per Growth Decree 2.0, shows that there are 361 companies that operate in the cleantech field. At the sectoral level, a wide representation of the different sub-supply chains of the national green economy emerges. In particular, of the 361 startups being analysed, 32% operate in the renewables sector, 29% in the eco-building and smartgrid sectors, 18% in energy efficiency and home automation, 17% in waste management and environmental services, and 4% in the green mobility supply chain.

Chart 4.10 Innovative startups operating in the cleantech field – information updated on 31 May 2015

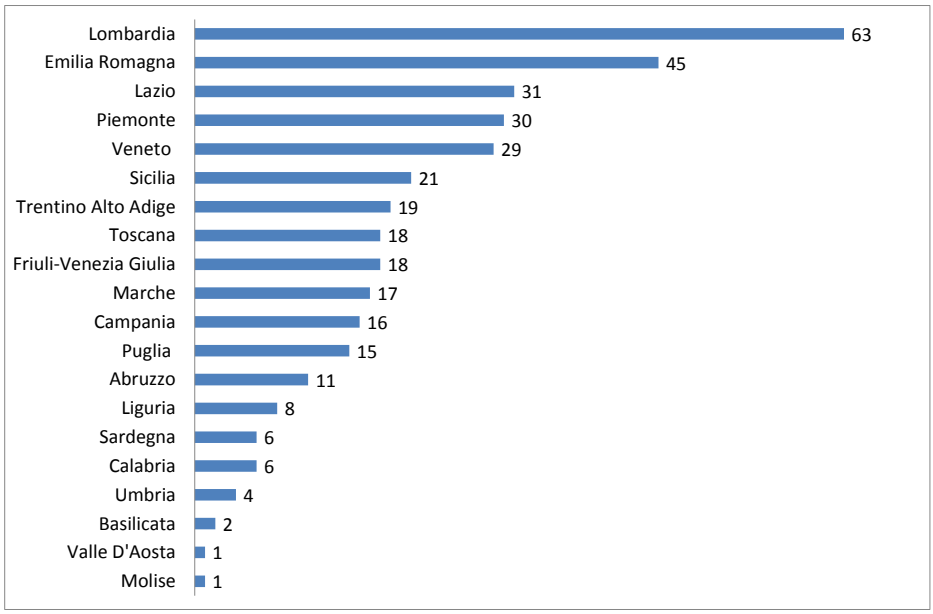


Source: GSE

Startups operating in the cleantech field are present in all Italian regions, with a regional distribution concentrated in Lombardy (63 startups), Emilia-Romagna (45) Lazio (31), Piedmont (30) and Veneto (29).

The Italian province with the largest number of cleantech startups is Rome (28), followed by Turin (22) and Milan (20).

Chart 4.11 Cleantech innovative startups by region – information updated on 31 May 2015



Source: GSE

The *Corrente* (Current) programme, through the CleanStart initiative, together with the Ministry of Economic Development and in collaboration with various sectors, offers a range of activities and services dedicated to Italian cleantech startups, to assist, enhance and promote them.

The following training and support is focused on all Italian cleantech startups:

- Europlanning courses

  GSE, in collaboration with APRE-European Research Promotion Agency and RSE-Energy System Research, have carried out two free Europlanning training initiatives involving 20 startups. In fact, the European programme Horizon 2020 has made over €70 billion available for the period 2014-2020 to European companies involved in product development, research and innovation in the renewable sources and energy efficiency sectors. The participating startups were given the "EU Research and Innovation Funding Opportunities 2014-2020" manual published by APRE, RSE and Current.

  Participating startups also benefited from remote assistance via the email corrente.startup@gse.it, dedicated to meeting specific technical requirements on participation in European projects.

- Training and presentation to venture capital funds

  Current promotes the participation of cleantech startups in major initiatives involving presentation to venture capital funds, including the Digital Energy Tour organised by Legambiente, GSE, BarCamp and Sviluppumbria, and ItaliaRestartsUp, promoted by the Ministry of Economic Development and the Italian Trade Agency.

Following the above training initiatives, two startups were incubated at the Business Innovation Centre of the Umbria Region, and one of the startups was awarded public funding based on a notice published by the Lazio region of €100,000.

- Services and activities to enhance visibility

  Cleantech startups benefit from a free space in the quarterly journal of the GSE "Elementi" under the heading" The World of Corrente (Current) "in order to illustrate the activities, products and innovative technologies offered by young Italian companies.

  In May 2015, five startups had already made use of the special section dedicated to innovative startups operating in the Italian national green economy.

In addition, through its website corrente.gse.it, *Corrente* (Current) provides a specific section for cleantech startups to inform them about the opportunities offered by the Italian green economy system, in order to help them find technology partners/financial services and to provide scouting to identify potential foreign markets of interest.

4.8 Support by the Chambers of Commerce

In early 2014, Unioncamere approved a system-wide initiative, using the equalization fund, to support innovative startups. This framework was agreed with the Technical Secretariat of the Ministry of Economic Development and its Directorate General for Industrial Policy, Competitiveness and Small and Medium companies. It consisted of a nationwide roadshow, focused on this type of business. The purpose was to give information about the ample network of facilities provided by national legislation to those startups that are registered in the special sections of the Company Registry (*Registro delle Imprese*). It was aimed at communicating this to a wide audience of professionals – primarily notaries and accountants, business associations, centres specialising in business services, aspiring entrepreneurs and innovative companies.

Unioncamere accepted the proposal from the Technical Secretariat of the Ministry and the competent Directorate-General, in the belief that it was necessary to "push" to accelerate the turnover of manufacturing businesses in our country, and to reallocate resources in favour of new companies with a higher innovation profile, which were a higher risk, but also offered the best prospects for medium to long term growth.

The Chamber of Commerce of Reggio Emilia opened the stage zero of the roadshow. This therefore favoured the entire realisation, not only to ensure high public participation registering for the event on 4 July 2014, but also because the logic behind this seminar was successfully replicated in subsequent stages, held between mid-November and early December 2014.

In fact, the element most appreciated by participants during the events was the detailed explanation of benefits and contributions under the rules in force for this type of business, as well as the opportunity to explore any doubts and outline possible solutions to problems encountered by operators in meetings with representatives from the Ministry.

In addition to illustrating a series of significant data on the prevalence and characteristics of innovative startups in the areas under consideration, another important aspect of the seminar consisted of interventions from both public and private operators at regional and local level, who assist SMEs to introduce and develop innovative projects and activities, in terms of products, processes and business models.

The presentation of success stories and testimonies of startups also gave participants an opportunity to reflect, not just on the practical details of their potential for growth, but also on the remaining obstacles limiting the full expression of this potential.

In the months immediately after the pilot event, the institution developed a schedule of events around the country, selecting, with the Ministry, those areas with a significant existing presence of startups, or those that appear likely to see an increase. This was followed by the selection of the Chambers of Commerce facilities that would be used for the seminars.

The dates set by the Technical Secretariat of the Minister, the competent Directorate General and Unioncamere, in agreement with the Chambers organising of the events, were as follows:

- Treviso, 14 November 2014 (organised by t^2i, a consortium of the Chamber of Commerce of Treviso and Rovigo);
- Turin, 21 November 2014 (organised by Unioncamere Piemonte and the Turin Chamber of Commerce);
- Trento, 24 November 2014 (organised by the Chamber of Commerce of Trento);

- Campobasso, 25 November 2014 (by Unioncamere Molise, Campobasso Chamber of Commerce);
- Genoa, 27 November 2014 (organised by the Chamber of Commerce of Genoa);
- Salerno, 2 December 2014 (organised by the Chamber of Commerce of Salerno and Unioncamere Campania);
- Bari, 4 December 2014 (organised by the Chamber of Commerce of Bari and Apulia Unioncamere).

Overall, the roadshow was attended by about eight hundred participants, including professionals, representatives of business associations, heads of public and private service centres, entrepreneurs, business angels and startuppers.

The choice of organisations to be involved made it possible to model the events, offering, on a case-by-case basis, the testimonies of the most active and incisive local companies.

Although not a planned objective, it was perhaps not coincidental that the regional Chambers of Commerce and *Unioncamere* who organised the roadshow stages, and the other service facilities that took part in it were frequently also nodes in the Italian network of the Europe Enterprise Network (EEN) along with specialist organisations, who promote the international technological cooperation of small and medium size Italian companies, as well as facilitating access to the European funding of most direct interest to them.

Strong interest was also seen at similar meetings organised directly by other Chambers of Commerce, such as the Chamber of Commerce of Ferrara on 11 December 2014 (once again with the support and collaboration of the Ministry of Economic Development), which was attended by over one hundred representatives from various private and public organisations.

In addition to seminars for disseminating basic and specialised information, other system structures in any case initiated a number of important services for these companies.

The conception and organisation of the Maker Faire by AssetCamera (the special agency of the Chamber of Commerce of Rome specialising in innovation), which last year held its second edition, deserves a special mention. The deeper meaning of this international event, which involved 40,000 people in 2014, has now gone far beyond the original objectives of open innovation and co-working in the digital artisans (makers) world.

The scope of the Chamber of Commerce initiatives also includes:

- projects and activities of the Chamber of Commerce of Milan on innovative startups, financial investors, crowdfunding and finance for social companies, as well as the collaboration of Innovhub (the special agency of the Chamber of Commerce for Innovation) with Bocconi University and the municipality of Milan in relation to its special incubator (Speed Me Up);
- the OPENiSME European project of t^2i – Transfer Technology and Innovation, for the dissemination of Open Innovation in SMEs, simplifying their first contact with universities and research centres. This is now part of the Open Platform for Innovative SMEs consortium coordinated by University College London;
- the agreement of the Chamber of Commerce of Trento with the INPS to improve information on the constraints and pension obligations of innovative startups, to reduce cancellations;
- the activities carried out indirectly by various Chambers of Commerce for these companies, through the management of (and support for) some local science and

technology areas and incubators, whether or not they are certified in accordance with law;

- the Tech Hub project, promoted by the Chamber of Commerce of Naples, the University Federico II and the Bank of Naples, with the collaboration of CESVITEC (the special agency of the Chamber for Innovations) and the Startup Europe Partnership, coordinated by Mind the Bridge;
- notices issued by these and other structures of the Chambers' system regarding financial contributions (exclusive or mainly reserved contributions) for innovative startups, as well as more personalised services to facilitate access to venture capital, as well as for their incubation and acceleration.

The most frequent collaborations of the Chambers of Commerce and specialised nodes of their network for innovation in SMEs mainly concern company associations (Confindustria, CNA, Confcommercio, etc.), science centres, particularly in supporting startups, some regions and their dedicated development agencies, sometimes the provincial municipalities, other Italian and European Universities, banks, investment funds and international organisations.

4.9 Online communication and promotional activities

The web is undoubtedly the preferred vehicle for promotion and information in respect of the Ministry's policy in favour of innovative startups.

All regulatory changes related to innovative startups, as well as a multitude of statistical data about registered companies can be found online at two sites that have, over time, seen a significant increase in the number of users.

The section dedicated to innovative startups on the Ministry of Economic Development website recorded 19,562 visits in the first half of this year. Some 60,528 pages were viewed in 2014. With reference to data for the first half of 2015, the following were recorded for the geographical locations of visitors to the website: in first position, Rome (with 19.4% of the visits), Milan (13.6%) and Naples (4.4%), followed by Catania (3.8%), Padua (3.2%), Bologna (2.8%), Palermo (2.7%), Turin (2.3%) and Bari (2.1%).

Analysis of visits to the website of the Chamber of Commerce system dedicated to innovative startups and certified incubators shows there was a substantial increase in the number of visits, from 99,604 (first quarter of 2013) to 98,066 (first quarter of 2014) to 180,573 in the 1st half of 2015. The same dynamic applies to the total number of connected users (83,650 in the 1st half of 2013, 91,255 in the 1st half of 2014 and 170,948 in the first quarter of 2015). As for the geographical distribution of visitors, the ranking is led by Rome, Milan and Naples, and the USA, UK and Germany for foreign countries.

Another initiative worth attention is the Startup Manifesto Policy Tracker, a kind of online dashboard promoted by the European Commission. Using this, Member States are called on to give an account of policies undertaken at national level in regard to innovative entrepreneurship support (promotion of digital education, measures for the attraction of innovative talent, tools to facilitate the connection between companies and the research community, and so on). The aim of this project is to allow a comparison and assessment of the propensity for innovation of the various European regulatory environments. Italy joined this initiative, recognising it as an opportunity to promote its recent progress in terms of policies.

Statistical tables

Table A Indicators measuring the presence of innovative startups at a regional level – data updated on 30 June 2015

Area Territorial	Innovative startups	%	Joint-stock companies registered	Innovative startups per 10,000 companies
LOMBARDY	916	21.8%	314,242	29.1
EMILIA-ROMAGNA	499	11.9%	108,826	45.9
LAZIO	414	9.8%	253,332	16.3
VENETO	317	7.5%	114,006	27.8
PIEDMONT	297	7.1%	71,586	41.5
TUSCANY	253	6.0%	99,729	25.4
CAMPANIA	244	5,8%	145,617	16.8
SICILY	182	4.3%	86,834	21.0
MARCHE	179	4.3%	37,528	47.7
APULIA	165	3.9%	76,655	21.5
TRENTINO-ALTO ADIGE	143	3.4%	18,123	78.9
SARDINIA	122	2.9%	32,839	37.2
FRIULI VENEZIA GIULIA	119	2.8%	23,370	50.9
CALABRIA	101	2.4%	30,937	32.6
ABRUZZO	80	1.9%	31,799	25.2
LIGURIA	67	1.6%	31,279	21.4
UMBRIA	54	1.3%	20,345	26.5
BASILICATA	25	0.6%	9,979	25.1
MOLISE	18	0.4%	6,340	28.4
VALLE D'AOSTA	11	0.3%	2,260	48.7
NORTH-WEST	**1,291**	**30.7%**	**419,367**	**30.8**
NORTH-EAST	**1,078**	**25.6%**	**264,325**	**40.8**
CENTRE	**900**	**21.4%**	**410,934**	**21.9**
SOUTH	**937**	**22.3%**	**421,000**	**22.3**
ITALY	**4,206**	**100.0%**	**1,515,626**	**27.8**

Source: Based on Infocamere data

	Province	Geographical area	Innovative startups	%	Joint-stock companies registered	Innovative startups per 10,000 companies (A)	Indicator ranking (A)
1	Milan	North-West	609	14.5%	164,536	37.0	25
2	Rome	Centre	362	8.6%	215,012	16.8	73
3	Turin	North-West	226	5.4%	39,661	57.0	4
4	Bologna	North-East	135	3.2%	25,913	52.1	9
5	Naples	South	125	3.0%	81,649	15.3	80
6	Modena	North-East	111	2.6%	21,048	52.7	8
7	Florence	Centre	103	2.4%	29,190	35.3	29
8	Trento	North-East	102	2.4%	9,472	107.7	1
9	Padua	North-East	88	2.1%	23,396	37.6	24
10	Cagliari	South	85	2.0%	15,494	54.9	7
11	Bari	South	85	2.0%	34,291	24,8	50
12	Ancona	Centre	77	1.8%	10,413	73.9	3
13	Bergamo	North-West	71	1.7%	28,147	25.2	46
14	Brescia	North-West	71	1.7%	32,198	22.1	56
15	Treviso	North-East	68	1.6%	20,802	32.7	34
16	Palermo	South	64	1.5%	18,892	33.9	32
17	Pisa	Centre	57	1.4%	11,118	51.3	10
18	Verona	North-East	57	1.4%	22,332	25.5	45
19	Reggio Emilia	North-East	56	1.3%	12,673	44.2	16
20	Genoa	North-West	55	1.3%	19,035	28.9	41
21	Catania	South	55	1.3%	21,876	25.1	48
22	Salerno	South	53	1.3%	25,866	20.5	59
23	Venice	North-East	50	1.2%	16,688	30.0	40
24	Parma	North-East	49	1.2%	12,189	40.2	20
25	Cosenza	South	47	1.1%	13,148	35.7	27
26	Lecce	South	47	1.1%	13,539	34.7	31
27	Trieste	North-East	41	1.0%	4,017	102.1	2
28	Bolzano	North-East	41	1.0%	8,651	47.4	14
29	Perugia	Centre	39	0.9%	15,472	25.2	47
30	Vicenza	North-East	39	0.9%	23,533	16.6	74
31	Macerata	Centre	36	0.9%	7,367	48.9	12
32	Ravenna	North-East	34	0.8%	7,772	43.7	17
33	Udine	North-East	34	0.8%	11,029	30.8	38
34	Ascoli Piceno	Centre	33	0.8%	5,828	56.6	5
35	Pordenone	North-East	32	0.8%	5,724	55.9	6
36	Forlì-Cesena	North-East	32	0.8%	8,324	38.4	22
37	Ferrara	North-East	31	0.7%	6,091	50.9	11

	Province	Geographical area	Innovative startups	%	Joint-stock companies registered	Innovative startups per 10,000 companies (A)	Indicator ranking (A)
38	Monza-Brianza	North-West	31	0.7%	21,954	14.1	86
39	Sassari	South	30	0.7%	12,598	23.8	52
40	Caserta	South	30	0.7%	20,496	14.6	83
41	Piacenza	North-East	27	0.6%	6,198	43.6	18
42	Novara	North-West	27	0.6%	6,494	41.6	19
43	Pavia	North-West	27	0.6%	9,465	28.5	42
44	Pescara	South	26	0.6%	8,385	31.0	37
45	Siena	Centre	25	0.6%	6,604	37.9	23
46	Reggio Calabria	South	25	0.6%	7,084	35.3	28
47	Como	North-West	25	0.6%	12,389	20.2	61
48	Catanzaro	South	24	0.6%	6,112	39.3	21
49	L'Aquila	South	24	0.6%	6,833	35.1	30
50	Cuneo	North-West	24	0.6%	7,532	31.9	36
51	Rimini	North-East	24	0.6%	8,618	27.8	44
52	Varese	North-West	24	0.6%	19,669	12.2	90
53	Pesaro and Urbino	Centre	23	0.5%	9,647	23.8	51
54	Benevento	South	22	0.5%	7,851	28.0	43
55	Messina	South	22	0.5%	12,023	18.3	67
56	Potenza	South	21	0.5%	6,546	32.1	35
57	Frosinone	Centre	19	0.5%	12,965	14.7	82
58	Latina	Centre	19	0.5%	17,004	11.2	92
59	Lucca	Centre	17	0.4%	10,328	16.5	75
60	Arezzo	Centre	16	0.4%	9,259	17.3	70
61	Terni	Centre	15	0.4%	4,873	30.8	39
62	Lecco	North-West	15	0.4%	6,641	22.6	54
63	Mantua	North-West	15	0.4%	7,502	20.0	62
64	Chieti	South	15	0.4%	8,123	18.5	65
65	Teramo	South	15	0.4%	8,458	17.7	68
66	Foggia	South	15	0.4%	11,241	13.3	87
67	Lodi	North-West	14	0.3%	3,785	37.0	26
68	Campobasso	South	14	0.3%	4,163	33.6	33
69	Agrigento	South	14	0.3%	5,583	25.1	49
70	Prato	Centre	14	0.3%	9,099	15.4	79
71	Avellino	South	14	0.3%	9,755	14.4	85
72	Livorno	Centre	13	0.3%	6,639	19.6	64
73	Gorizia	North-East	12	0.3%	2,600	46.2	15
74	Cremona	North-West	12	0.3%	5,356	22.4	55

	Province	Geographical area	Innovative startups	%	Joint-stock companies registered	Innovative startups per 10,000 companies (A)	Indicator ranking (A)
75	Taranto	South	12	0.3%	10,763	11.1	93
76	Aosta	North-West	11	0.3%	2,260	48.7	13
77	Trapani	South	11	0.3%	7,326	15.0	81
78	Fermo	Centre	10	0.2%	4,273	23.4	53
79	Rovigo	North-East	10	0.2%	4,812	20.8	57
80	Viterbo	Centre	10	0.2%	5,892	17.0	72
81	Caltanissetta	South	7	0.2%	4,485	15.6	77
82	Biella	North-West	6	0.1%	2,894	20.7	58
83	Savona	North-West	6	0.1%	4,143	14.5	84
84	Brindisi	South	6	0.1%	6,821	8.8	95
85	Alessandria	North-West	6	0.1%	7,851	7.6	97
86	Belluno	North-East	5	0.1%	2,443	20.5	60
87	La Spezia	North-West	5	0.1%	4,746	10.5	94
88	Pistoia	Centre	5	0.1%	7,221	6.9	99
89	Syracuse	South	5	0.1%	8,295	6.0	100
90	Isernia	South	4	0.1%	2,177	18.4	66
91	Rieti	Centre	4	0.1%	2,459	16.3	76
92	Asti	North-West	4	0.1%	2,567	15.6	78
93	Nuoro	South	4	0.1%	3,226	12.4	89
94	Matera	South	4	0.1%	3,433	11.7	91
95	Oristano	South	3	0.1%	1,521	19.7	63
96	Enna	South	3	0.1%	1,732	17.3	69
97	Vibo Valentia	South	3	0.1%	1,766	17.0	71
98	Vercelli	North-West	3	0.1%	2,313	13.0	88
99	Sondrio	North-West	2	0.0%	2,600	7.7	96
100	Crotone	South	2	0.0%	2,827	7.1	98
101	Massa-Carrara	Centre	2	0.0%	6,111	3.3	102
102	Verbano-Cusio-Ossola	North-West	1	0.0%	2,274	4.4	101
103	Imperia	North-West	1	0.0%	3,355	3.0	103
104	Grosseto	Centre	1	0.0%	4,160	2.4	104
105	Ragusa	South	1	0.0%	6,622	1.5	105

Note: the territorial breakdown does not take into account the following provincial boundaries: Barletta-Andria-Trani, Carbonia-Iglesias, Medio Campidano, Ogliastra, Olbia-Tempio.

Source: based on Infocamere data

Methodological Appendix

Database sources and information content

The sources of information used to build the innovative startups database are discussed in this chapter. The chapter is divided into three sections. The first provides an overview of the sources used and the timing of their distribution, while the second section provides a brief description of each source. Finally, the last part contains a description of the main characteristics of the web dedicated to innovative startups in progress.

OVERALL DATABASE FRAMEWORK

The innovative startups database (henceforth DBSUI) is built and supplied by sources of a statistical and administrative nature.

The DBSUI was developed starting from the list of innovative startups contained in the archives of the Chambers of Commerce. The entire list was obtained by combining data for three moments in time, respectively on 31 December 2013, 31 December 2014 and 30 June 2015. It should be noted that the 3 available situations are not only incremental in nature: it is possible that a company ceased to be registered as a startup or is present at different times (registration, termination, new registration). These cases are a minimum subset.

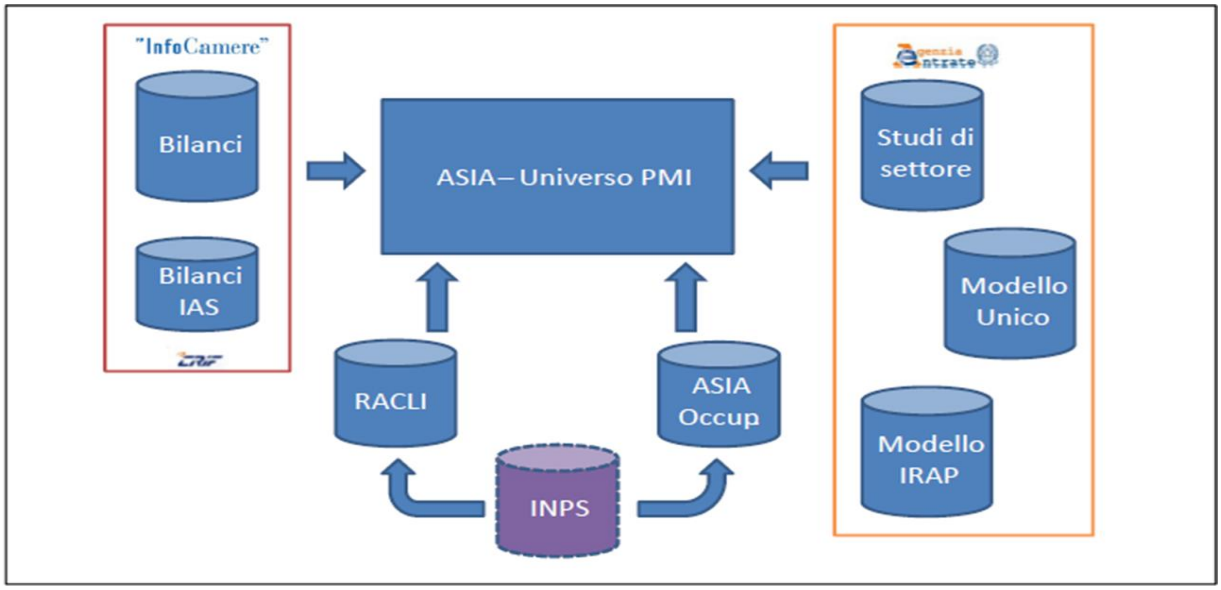
The list of startups was then enhanced by a variety of information available both from Istat data and in the archives of other parties (INPS, Italian Revenue Agency, Consob, etc.). A significant part of the work involved listing the data available for assessing the performance of startups, trying to reduce duplication when requesting and processing data. For example, if a source was already available in the Istat data, a further request was not made, or the supply of data was expected to take into account the future needs of the report to Parliament.

In general, statistical sources managed by Istat include information from:

- statistical registers – the ASIA register of companies (statistical inventory of companies that are trading), the registry of the business groups, and the ASIA-employment register;
- information systems, based on the massive use of administrative data, integrated with that of the two main direct surveys on companies (SMEs: sample of companies with fewer than 100 employees; SCI census on those with 100+ employees) – FRAME-SBS;
- statistical surveys – foreign trade in goods;
- administrative sources: such as Chamber of Commerce, taxation and social security data.

The first goal of the summary of information flows used was the processing of the ASIA-companies and ASIA-employment data, to determine the number of companies that were trading during the year and the corresponding number of employees. It was possible to extract the subset of startups from these files, by using the list of companies registered in the specific registers of the Chambers of Commerce.

Graph A Representation of key information provided to supply the database



Once the list of companies and its employees has been defined, is possible to extract, for each company, its annual economic profile using the FRAME-SBS information system. Here too, the subset of startups was extracted to supply data to the DBSUI.

Finally, the DBSUI obtains data from the tax files relative to the individual measures in favour of innovative startups, such as, for example, investments in startups provided by individuals or companies.

UPDATE TIMING

The timing of the database's updates reflects the timing of the release and processing of the various sources. The ASIA and FRAME-SBS sources are released 18 months after the end of the relevant year. The annual data for 2013 was available in June 2015. The same timing applied to tax information with reference to the year of income (in June 2015, income related to 2013).

The most up to date information, in this case, related to 2014, and involves information about employment (employees), shareholders and the first issuance of the financial statements.

CONCISE DESCRIPTION OF INDIVIDUAL INFORMATION FLOWS

A. Istat sources

- **The ASIA statistical Register of trading Enterprises**

Since 1996, Istat has developed the ASIA statistical register of trading enterprises to meet the requirements of EU Council Regulation No. 2186/93 regarding Community co-ordination in the development of company registers for statistical purposes. The ASIA-Enterprise register is composed of economic units engaged in trades and professions in industry, trade and services to companies and households, and provides identifying information (company name and address) and structure (economic activities, employees and independent workers, type of company, activity start and end date, turnover) about these units.

As well as providing the information base for analysing the evolution of the structure of Italian companies and their demographics, the ASIA register is the reference point for surveys on enterprises conducted by Istat. The register is updated annually by integrating information sources of a various types from both administrative and statistical sources.

The variables included in the register are classified according to four types:

- identifying variables (identity codes, company name, address and other elements for the precise identification of the unit in the area);

- stratification variables (economic activity classified according to NACE classification, type of enterprise , company size, in terms of the average annual number of employees and self-employed staff, as well as turnover) and
- demographic variables (date of incorporation and termination of the enterprise, dates of events such as spin-offs, mergers or arrangements with creditors, bankruptcies, liquidations, etc.),
- relationship variables, about the relationships between units.

To generate the production of statistical information, companies are classified according to their economic activities, defined in accordance with a specific level of the Ateco (Italian version of NACE) nomenclature. Economic activity is the combination of resources, such as equipment, labour, manufacturing techniques, information networks or products, leading to the development of specific goods or services. Companies are grouped based on their exclusive or main economic activity, according to the prevalence criterion.

- **The Asia-Employment register**

The statistical register on Employment, called ASIA-Employment, is a database that produces information on an annual basis, using the national and international statistical system's harmonised official definitions on employment, according to a Linked Employer-Employee Data (LEED) type structure. It contains information about the characteristics of companies, individual workers of a certain population, and characteristics of the employment relationships for each individual in the defined time interval. Individuals characteristics are those that are demographic and invariant over time, such as gender, age and place of birth; the characteristics of companies are present in the ASIA Enterprise register (and local units) such as economic activity, type of company, turnover class, age of the company, membership of business groups and location. These characteristics can vary over time and the validity interval for the information is one year, in line with the ASIA updating period. The characteristics of existing employment relationships for an individual are those, appropriately processed, contained in the administrative sources used to develop ASIA-employment. The types of workers in the registry are: self-employed, employees, external workers.

The information content of the Asia-Employment register is based on three levels of information:

i) company level, where the information structure is perfectly aligned with the data updated and disseminated by the Asia-Enterprise registry;
ii) individual level, for which demographic variables can be assigned and
iii) employment variables most closely related to the employment relationship of the individual in relation to a given company.

The company-employment report uses two classification levels: the type of workers and the characteristics of the employment relationship that vary according to the type of work. 4 types of workers were classified: self-employed, employees, external workers who are not VAT registered, temporary workers (formerly called interim workers).

- **The anticipated Asia register – the anticipated estimate of companies with employees**

To improve the timeliness of the information normally provided by ASIA-companies, since 2013Istathas disseminated a new product (anticipated Asia) that regards an anticipated estimate of information about the production structure of the country in relation to the population of enterprises with employees.

The EMENS source, appropriately processed, provides data about dependent employment and the demographic and social characteristics of workers (gender, age, etc.), as well as the principal nature of the way in which the employment relationship is realised, information similar to that contained in the annual Asia-employment register.

Finally, information from the tax authorities' master file and Chamber of Commerce Register of Companies are used to estimate the date trading will cease and the characteristics of new companies, when none of the other sources are available.

The available and disseminated information is as follows: enterprises that are trading and have employees; structural variables such as location, economic activity, number of staff (self-employed and employees), type of company; the main social and demographic characteristics of employees (typically, by age group and country of origin), the type of contract of employees (temporary/open-ended).

- **The Register of Groups of Enterprises**

The Statistical Register of Groups of Enterprises, developed in compliance with European regulations No. 177/2008 and No. 696/1993, in accordance with the harmonised methodology approved by Eurostat, is realised by integrating administrative and statistical sources. The population considered for the reconstruction of the

Groups consists in all corporations belonging to groups and included in the scope of observation of the Asia-enterprises Statistical Register.

A Group of companies is the higher hierarchical statistical unit, which may include several legal units and other enterprises. The development of a statistical register is part of the strategies promoted by Eurostat for the implantation of a system of statistics on companies, which includes available information about ownership.

In particular, it establishes that the association link, indicated by Regulation No. 696/1993, must materialise for operational purposes in actual control, exercised, directly or indirectly, by the head of the Group in respect of all other companies included in it.

The concept of control is defined in European Regulation No. 2223/1996 on the European System of Accounts (ESA 95), which, in section 2.26, states: "Control of a company" means the ability to determine the general policy, if necessary by choosing the directors. A single institutional unit – another corporation, a family or public authority unit – exercises its control over a company by owning more than half of the voting shares or otherwise controlling more than half of the shareholders' voting power. In addition, a public authority may exercise control over a company as a result of legislation or regulations that empower it to determine company policy or to appoint the directors".

- **FRAME-SBS**

The FRAME-SBS information system for economic statistics is a complex system for estimating SBS variables based on the use of big data from different sources – Financial statements, Sector Studies, income tax returns, IRAP and Inps returns data – integrated with the Istat survey data on small and medium-sized companies and the information base consists of Asia, the Statistical Register of companies, if active. Using existing high coverage and quality information sources for statistical purposes, Frame provides more accurate and consistent estimates in temporal terms, with a reduction in overall costs for acquiring statistics. Frame is configured as an advanced response to international stimuli pushing towards the progressive modernisation and harmonisation of economic statistics on companies. The new system provides a significant improvement in the degree of harmonisation and consistency of the whole system of economic statistics on companies.

For each Italian company, FRAME-SBS contains the main items of the income statements (revenue from sales and services, expenditures for goods and services, labour costs, production value, intermediate costs, value added, gross operating profit).

With regard to the administrative sources used by FRAME-SBS, please see the descriptions above. Below we illustrate the two main direct surveys about companies, SMEs and SCIs.

- **Survey of Small and Medium Companies (SMEs)**

The survey of SMEs carried out by the ISTAT shows the income statements of companies with up to 99 employees. The survey was conducted by extracting a sample of companies stratified by economic activity (first 4-digit Ateco), region (NUTS 2) and class size from Istat's statistical archives of trading companies (ASIA), The survey identifies all economic activities, except agriculture-livestock-hunting and fishing, financial activities (except activities auxiliary to financial intermediation and insurance), of public authorities and the business activities carried out by groups of companies and conducted by families and related groups. It is worth recalling that the EU regulation on structural statistics requires estimates by class of economic activity (Ateco 4-digits), by economic activity group (Ateco 3 digits), class of worker and finally by division of economic activity (Ateco 2 digits) and region. In the various editions of the survey, the sample coverage was about 3% on average and the response rate was 50%.

- **Survey of the System of Accounts of Companies (SCI)**

This survey, carried out by the ISTAT, is a kind of census and is aimed at companies with at least 100 employees (about 10,000 units). The data collected refers to both the companies, classified according to the main economic activity, and functional units, derived by separating the main economic aggregates based on the various production lines, in order to provide consistent data for industrial economic activity. The Ateco5 digits classification is used for the economic activities of companies.

Companies with multiple locations (companies that have local units in a number of regions are considered multi-location companies) are also required to provide data at a local level (Administrative Region/NUTS 2) regarding the number of employees, turnover, personnel costs and investments, so as to allow the territorial breakdown of related aggregates. The survey identifies all the economic activities, except agriculture, livestock-hunting and fishing, financial activities (except the activities auxiliary to financial intermediation and insurance), of public

authorities and the business activities carried out by groups of companies and conducted by families and related groups.

The following integration methods have been adopted for companies that do not respond to the survey (non-response):

- integration from an administrative source: with the financial statements filed by law with the Chambers of Commerce (the financial statements have been acquired by the Istat since 1998); with data from the IRAP declarations; with the data from VAT returns;
- for the remaining companies, integration of the required variables giving each company that does not respond the per capita values (calculated on the number of employees) in companies of the same size, operating in the same class of economic activity and in the same region.

Coverage, in terms of number of companies, is 55% on average, a value that with integration of the administrative source reaches about 97-98%.

B. Chamber system sources

- **Financial statements of joint-stock companies**

Joint-stock companies are required to file financial statements with the Chambers of Commerce. They are obliged to make them available for inspection within the Chambers' network (Infocamere). The parties responsible for the filing of financial statements with the Chambers of Commerce are: limited liability companies (Srl) , public limited companies (SpA), companies limited by shares, cooperatives with limited liability, cooperatives with unlimited liability, small cooperatives, consortia with external activities, foreign companies with a branch in Italy, economic interest groups, joint-stock consortia or limited liability consortia. They exclude financial statements submitted by companies engaged in financial intermediation and those that submit financial statements in the format prescribed for financial companies.

Once acquired by Istat, the archive is subjected to careful analysis for proper use for statistical purposes. This involves identifying the conceptual framework for the information being processed, identifying the relevant population, surveying and analysis of units, characteristics, classification, timing and updating method, and the identification of rules for converting administrative data into statistical data.

- **The list of shareholders**

The archive of shareholders list declarations provided by joint-stock companies registered in the Register of Companies, administered by the Chambers of Commerce, is based on the third section of Article 2435 of the Civil Code, which requires publication of the list of shareholders and holders of options on shares or shares of companies resident in Italy not listed on regulated markets. The directors are required to file a list of shareholders (natural and legal persons, residents and non-resident), with the Chamber of Commerce, referring to the date of approval of the financial statements with an indication of the number of shares held, and the persons other than shareholders who are holders of rights or entitled to constraints on these shares. “The declaration must be made the first time during the formation of the company and annually within 30 days of approval of the financial statements.

The main information used refers to the list of shareholders (participants), identified by their tax code, and to their subsidiaries, identified by their tax codes and to the number of shares held. In particular, the Chamber of Commerce supplies an ad hoc extract from its Register on a specific date (in the case of startups, this extraction took place at the end of June 2015).

C. Social security system sources

- **INPS/EMENS**

The INPS is the most important source of information for estimating employee relationships. As of 1 January 2010, all companies with employees had to send the INPS a monthly declaration, called UniEMens, with all the information on the pay and contributions for each individual worker, as well as those paid by the company. The introduction of UniEMens has unified two separate forms and procedures for the acquisition of information:

- Individual EMENS declarations, regarding remuneration data for individual workers;
- The DM10 company form regarding data business contributions (INPS serial numbers).

The transmission of information flows using the new electronic declarations form includes employees and workers who belong to separate management and participating associates. The monthly transmission of the data must take place by the last day of the month following the month to which the data refers. Since 2010, the INPS has provided Istat with an extract of remuneration information from the monthly UniEMens declarations, essentially corresponding to the previous EMENS declarations.

Although it is the main source about employment by companies in the private sector, UniEMens does not yet provide comprehensive coverage. In order to achieve this, it is necessary to integrate UniEMens data with other sources: the archives of Cassa Integrazione Guadagni (CIG) for direct payment (to workers temporarily not at work due to company employment need conditions), the ex DMag declarations for farm workers, and the ex Enpals declarations for show business workers.

THE WEB AREA DEDICATED TO STATISTICS ABOUT INNOVATIVE STARTUPS

A new section of the Istat website dedicated to the information system about innovative startups is currently under development.

The aim is to provide users with complete availability of data collected in conjunction with the accompanying metadata, thus ensuring maximum transparency and accessibility free of charge, as expressly stated by the legislator in Article 32 of Decree-Law 179/2012.

With this initiative, ISTAT seeks to continue satisfying the needs of users, the traditional demand for high quality statistical information, combining the request with further analysis to understand and interpret economic and social phenomena.

News of the publication of the new web area will be communicated promptly on the websites of Istat and the Ministry of Economic Development.

Expert users interested in working on dataset about a business firm can use the ADELE Laboratory (for an analysis of the basic data) free of charge. This is a "safe" place that is accessible to researchers and scholars to carry out their own statistical analysis on micro data, in compliance with the rules on the confidentiality of personal data. The Laboratory is available at Istat headquarters in Rome and at local offices (the Institute has 17 regional offices in Italy and an office for the Lazio region).

The Code of Conduct regarding the processing of statistics performed outside of the Sistan (Annex A.4 of Legislative Decree 196 of 30 June 2003) is applicable to the Laboratory. Data security and statistical confidentiality are guaranteed by monitoring the work methods and the results of the analyses performed by users.

Access to the ADELE Laboratory is free. For details, please consult the User's Guide.

Micro data will be available as soon as the web area dedicated to innovative startups is published.

Towards the Annual Report 2016: methodology for an impact analysis

This chapter aims to describe the proposed methodology for assessing the effectiveness of aid to innovative startups. First, it is necessary to explain two key concepts in detail: "evaluation" and "effectiveness".

Evaluation means the impact caused by a law on one or a number of observable and measurable indicators, known as outcome variables or more commonly outcome. In effect, it is the ability of the legislation to achieve the desired result, precisely measured in terms of outcome.

It goes without saying that the assessment of performance depends crucially on both concepts defined above. While we will dedicate space later on to explain how to implement the evaluation, Article 32, Section (5) of the above-mentioned Decree-Law provides a definition of outcome in terms of growth, employment and innovation. The second of the three outcome measures is sufficiently clear, but conversely, the first and the third remain subject to interpretation. Usually, when referring to growth in micro economic company terms, micro means the change in the number of people employed. Since this outcome is separately indicated, reference will be made to turnover, added value and other measures that can represent the concept of dynamic growth. In regard to the outcomes in terms of innovation, the issue is even more indefinite since there are no measures of innovation obtained from administrative data. This aspect will instead be further investigated by a direct survey on innovative startups that will be conducted in early 2016.

Let us come to the crucial point: the evaluation. The extent of the impact of a rule is the causal effect it produces. In turn, the causal effect is defined as the difference between what happened due to public intervention, compared to what would have happened in its absence; the latter occurrence is called counterfactual.

The econometric methodology that handles these issues originated in biomedical statistics, and uses its terminology, which distinguishes subjects that have been "treated" from those that are "untreated", where 'treatment' indicates companies that have benefitted from public subsidies.

Thus, according to an initial analysis, the impact assessment, in other words the effectiveness of a measure would seem to require a comparison of the outcome variables, for example employment, relating to treated and untreated companies. However, this simple deduction opens up to a serious problem that undermines and distorts any comparison: the so-called self-selection problem. In particular, the treatment is administered on a voluntary basis, no company is obliged to exploit the benefits, but these companies self-select themselves based on characteristics that are not completely observable. A company that was founded as a startup is intrinsically different from another that was not founded as such, making comparison impractical, and if this comparison is not informative for each of the companies in question, it is not even the case on an average basis, since the average is just one of the possible forms of aggregation for individual data. For example, the reasons that make it impractical to compare treated and untreated companies can include different entrepreneurial skills that guide business decisions. This ability is likely to have a direct effect on the outcome variables and, therefore, a comparison of the outcomes between treated and untreated companies will reflect the diversity of management skills, rather than the real effect of public intervention. We may assume that a startup entrepreneur has an ability to use new technologies that is very different from that of a non-startup entrepreneur in, for example, the catering industry. This ability will affect the organisation of technological factors and therefore productivity, making a comparison of the productivity of the two types of company a question of ability, rather than the effectiveness of the intervention. This phenomenon is so important and well known in econometric literature that it goes under a plurality of names, such as selection bias, self-selection, selection distortion, and so on. Seen from another perspective, returning to the definition given a moment ago of the causal effect of legislation, it can easily be seen that the untreated do not constitute a good approximation of what would happen to the treated in the absence of intervention, they are not a valid "counterfactual".

From a theoretical perspective, there is only one case in which the non-treated may be used per se as a valid counterfactual. This is where the treatment is randomly assigned, which is to say that companies did not self-select themselves but were randomly selected and assigned to exploit the benefits. In this case, which is very difficult, if not impossible, to achieve[75] , the characteristics of the company or the entrepreneur do not count, as the only mechanism for the allocation of treatment is chance, which, by definition, is blind.

Having said that, the heart of the problem remains: how to identify the causal effect, since it is not possible to observe the counterfactual. Several remedies, called predictors, have been identified in econometric literature. Under certain conditions, they are able to estimate the causal effect. Such conditions vary depending on a number of circumstances, such as the design of the policy, availability, quality and quantity of available data. A

[75] In education, there are few known cases of complete randomization of the experiment. See, for example, the experiment called STAR implemented in the education system of Tennessee in the academic year 1985/86, the effectiveness of which was studied by Finn and Achilles (1990) and Krueger (1999).

detailed examination of the estimators and their underlying assumptions is beyond the scope of this methodological note. For a discussion of this subject, please refer to Imbens and Wooldridge (2009). This report will only describe the functioning of the estimators proposed for the first round of the evaluation.

These consider the following:

a) instrumental variables;

b) propensity score matching;

a) Estimate strategy using instrumental variables

The instrumental variables estimator can be effectively used in certain circumstances that lend themselves to so-called natural experimentation. It may be here, and this is the case, that legislation introduces randomness elements. Indeed, the establishment of certain requirements for access to the special startups register is a distinction between cases that is totally exogenous to the companies receiving the benefits. Among these requirements there is one in particular, that clearly evidences chance, this is the establishment date of not earlier than forty-eight months, later raised to sixty by Decree 3/2015 converted into Law 33/2015, the date of entry into force of Growth Decree 2.0. Thus, existing companies can only access the benefits of the Decree-Law if they were not established before 19/12/2007. This requirement forms a chance dividing line between pre-existing companies, since a company established on 18/12/2007 will be excluded from the benefits for a reason that is purely accidental, random. There is no self-selection in the establishment date in relation to the receipt of public intervention benefits. The instrumental variables estimator uses this chance to restore the possibility of comparisons between the treated and untreated categories. Therefore, by using a so-called "tool" that involves the identification of pre-existing treated companies and the date of entry into force of the public intervention, it is possible to infer a causal effect of the intervention.[76]

Note, however, that the causal effect identified in this way is the causal effect relative to a subpopulation of treated companies, that is to say relative to those which benefitted from the treatment thanks to the fact they already existed, and not relative to all the treated companies. This effect is known in the literature as the Local Average Treatment Effect, often referred to by the acronym LATE.[77]

The positive aspects of this estimator certainly includes the fact that it is a valuable tool that really does stem from a chance cause. There is no need for a lot of additional information to estimate correctly the effectiveness of the intervention, but above all, there is the fact that the estimate can be made without a particular hypotheses or restrictive assumptions of any kind. The more negative aspects include a subpopulation to which a causal effect can be attributed. In theory, this limitation can be mitigated under particular circumstances, which unfortunately do not involve the issue in question.[78]

b) Estimation strategy using propensity score matching

The second estimation strategy is based on the idea that, once conditioned on the probability of treatment, treated and untreated companies are completely identical except for the treatment they receive. To explain this in another way, this estimator is based on the assumption that it is possible to develop a similarity ratio of treated and untreated companies based on the probability of treatment. Therefore, this estimation strategy consists of two phases. The first is the estimated probability for each company to be subject to the treatment, i.e., the registration of startups, in accordance with certain characteristics observed by the companies themselves. In the second phase, the so-called matching, comparing the treated companies with a given probability value, with other not treated companies with the same probability or a value that is very close. It is possible to say that, on the basis of equal probability of treatment, a mirror image of a treated company is developed via a company that has not been treated. There are several combination algorithms relating to treated and untreated companies (radius, nearest neighbour, kernel, and so on) that define when two or more companies can be considered the

[76] The following is the equation for the model:

$Y_{it} = X_{it}'\beta + \sigma DPolicy_{it} + \varepsilon_{it}$

Where Y is the outcome variable (growth, employment, innovation), X are the control variables, the DPolicy is the variable of interest (presumably a dummy). Given the endogenous nature of the DPolicy variable, the instrumental variables approach uses the dummy variable (*DNascita_antelegge*) (Dregistrations before the law) which captures the possible innovative startup status of companies established before the law came into force, as a tool in order to obtain an unbiased estimate of the coefficient σ..

[77] The causal effect known as LATE was first identified and studied by Angrist (1990).

[78] In this regard, see Angrist and Pishkie (2008) at p. 117.

"reflection" of each other. In empirical analysis it is better to apply them all to see if and how much the final result is sensitive to the chosen algorithm approach.[79] Once the causal effects on subsets of similar companies have been estimated, these are aggregated on the basis of a weighting mechanism.

This estimator has some advantages compared to the instrumental variables estimator, such as the fact of not requiring the availability of a tool, and that of estimating the treatment effect in regard to all the treated companies, the so-called Average Treatment Effect on the Treated, ATT, and not only on a subset, as in the case of LATE. Conversely, the assumption on which it is based is a limit, in other words by taking into account all that we see, we can reasonably consider treated and untreated to be comparable; this assumption is called a selection on observables, or unconfoundedness. The first limit can be mitigated by having a highly significant database, like our database; the second can be indirectly tested using recent developments found in the literature.[80]

At this point, it is important to note that the strong point of an estimator is the weak point of the other, so the joint use of both will probably define a range of values within which the causal effect of the policy can be placed.

Construction of the untreated sample

Having defined the econometric tools to be used, what remains is the choice of companies to be included in the untreated sample. The answer is quite simple, in the sense that because the difficulty of estimating causal effects arises from the unobserved heterogeneity of companies, the most obvious practice to follow is to minimise the heterogeneity as far as possible, or at least the observable heterogeneity. This could be done by including companies in the sample that are as similar as possible to the treated companies. They should therefore be companies that could be called "potential startups", i.e. ones that satisfy the requirements for registration in the special section of the register of companies. Although this intuition is quite correct, the reality exposes us to certain limitations. This is because not all the requirements are verifiable from the available Istat archives. In particular, the requirement concerning the ownership of patents, research and development costs, and the qualifications of the work force are not verifiable.

Once the control sample is combined with the sample of the treated companies, it is possible to verify the effectiveness of the most important individual measures, those for which information on treatment will be available, such as access to the Guarantee Fund for SMEs and tax incentives.

Timescales of the evaluation

To enable us to identify a cause-effect relationship, it is necessary for the cause to precede the effect, among other things. This very intuitive condition undermines the possibility of performing an impact analysis (at least) during 2015 and thus to account for it in this report.

In detail, the database includes information on companies available up to 2013, the year the measure was introduced, so at best it will be possible for there to be simultaneity of cause and effect for certain companies. This simple, but crucial, consideration can be paraphrased in an articulated manner that allows the problem to be viewed from two perspectives, like two sides of the same coin. From a strictly economic point of view, it is necessary for a certain amount of time to pass for an impetus to the actual economy to show its effects. From a practical point of view, the current availability of data only allows companies registered in the special register in 2013 to be included in the analysis, and for some of these, the items in the financial statements include items that existed even before registration. An example of an extreme case is a company already registered in December 2013 that did not achieve any sales until 1 January.

In conclusion, the current situation invites us not to perform an analysis that would inevitably be based on incorrect assumptions.

[79] The literature that uses the *propensity score matching* is very extensive. This methodological note does not pretend to be comprehensive. For more information, please refer to the fundamental contribution of Rosenbaum and Rubin (1983) and the studies that followed in its wake.

[80] In this regard, see Ichino et al. (2008).

References

J.D. Angrist, J.S. Pishke, *Mostly Harmless Econometrics: an Empiricist's Companion*. Princeton University Press, Princeton, 2008.

J.D. Angrist, *Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records,* American Economic Review, 80, pp. 313-335, 1990.

J.D. Finn, C.M. Achilles, *Answers and Questions about Class Size: A Statewide Experiment,* American Educational Research Journal, 28, pp. 557-77, 1990.

A. Ichino, F. Mealli, T. Nannicini, *Help from temporary jobs to permanent employment; What Can We Learn from Matching Estimators and their Sensitivity?* Journal of Applied Econometrics, 23, pp. 305-327, 2008.

G.W. Imbens, J.M. Wooldridge, *Recent Developments in the Econometrics of Program Evaluation,* Journal of Economic Literature, 47 (1), pp. 5-86, 2009.

A.B. Krueger *Experimental Estimates of Education Production Functions*, Quarterly Journal of Economics, 114, pp. 497-532, 1999.

P.R. Rosenbaum, D.B. Rubin, *The Central Role of the Propensity Score in Observational Studies for Causal Effects*, Biometrika 70 (1), pp. 41-55, 1983.