Support to SMEs - Increasing Research and Innovation in SMEs and SME Development

Work Package 2

Apulia (IT)
Case study

Ex post evaluation of Cohesion Policy programmes 2007-2013, focusing on the European Regional Development Fund (ERDF) and the Cohesion Fund (CF)

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Quotation is authorised as long as the source is acknowledged along with the fact that the results are provisional.
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<th>Full Form</th>
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<tr>
<td>AIR</td>
<td>Annual Implementation Report</td>
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<tr>
<td>ARTI</td>
<td>Regional Agency for Technology and Development</td>
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<td>CIS</td>
<td>Community Innovation Survey</td>
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<td>ERDF</td>
<td>European Regional Development Fund</td>
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<td>ESF</td>
<td>European Social Fund</td>
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<td>EU27</td>
<td>European Union 27</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>ILO</td>
<td>Industrial Liaison Office</td>
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<td>MA</td>
<td>Managing Authority</td>
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<td>NOP</td>
<td>National Operational Programme</td>
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<td>OP</td>
<td>Operational Programme</td>
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<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
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<td>RDI</td>
<td>Research Development and Innovation</td>
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<td>ROP</td>
<td>Regional Operational Programme</td>
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<tr>
<td>SMEs</td>
<td>Small and Medium-sized Enterprises</td>
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<td>TC</td>
<td>Technological Cluster</td>
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1 EXECUTIVE SUMMARY

1.1 Objective and methodology

The objective of the present study is to perform an ex-post evaluation of the measures implemented by the Operational Programme ERDF Apulia 2007-2013 addressed to SME growth and innovation. The scope of the analysis is those instruments of the OP specifically targeted at SMEs (22 in total of which 10 are the most significant ones in terms of financial allocation and strategic dimension) and orientated to supporting either innovation or growth (or a combination of the two) in SMEs.

The methodology of the present case study focuses firstly on exploring the underpinnings of the intervention logic of the implemented strategy and, secondly, describing the main achievements and developing an in-depth understanding of the mechanisms and conditions facilitating or hampering them.

The evidence basis includes hard data and information from strategic and programming documents, project implementation reporting, statistical data, indicators from the monitoring system and other literature, complemented by a number of interviews with the programme manager, beneficiaries, stakeholders and individual experts, most of them carried out face-to-face.\(^1\)

1.2 Regional context and policy framework

Apulia is a peripheral Italian convergence region with key economic indicators that are below the EU and national average. It is, however, considered to be one of the most dynamic regions of Southern Italy.

The Apulian regional productive system is particularly fragmented with a strong polarisation between regional ‘gazelles’ and traditional industries that lag behind. The region has a relatively good research system with some examples of excellence at EU and world level in scientific fields with some high-tech and export-led productive specialisations (chemicals, pharmaceuticals, mechatronics, aerospace). Other strengths are a relatively high productivity in agriculture and the agro-food industry and, in the service sector, a significant contribution of tourism to the regional economy. There is evidence of innovative companies, even small ones, in sectors such as ICT, electronics and the food industry which proved to be resilient to the crisis.

Among the weaknesses there is still a strong concentration in traditional sectors where the small average size of firms and their specialisation in subcontracting activities goes together with structural limitations in facing global competitiveness. In terms of innovation, the regional performance remains moderate, although it has improved slightly in recent times, especially for the business enterprise sector. A major barrier is the lack of systematic collaboration between research service providers and enterprises.

Over recent years the Apulian regional administration has promoted an ambitious strategy centred on the role of innovation as the key driver of growth and supported by restructured regional governance. The pillars of the strategy are the focus on a small number of sectoral specialisations (in line with a smart specialisation approach) and the emphasis on technological transfer through the promotion of a dialogue between firms

\(^1\) Data collection in the field was carried out during the period November 2014-March 2015.
and the regional research system. The ERDF was expected to be the major funding source of such a strategy.

The global crisis profoundly affected the regional SME fabric, with a dramatic drop in employment and in fixed capital formation, also due to the credit crunch. The related public finance adjustments at a central level led to a significant drop in national public resources for research and industrial policy, which further exacerbated financial pressures on SMEs.

1.3 Programme intervention logic

The ERDF OP Apulia 2007-2013 had an initial allocation of EUR 5.2 million (EUR 4.2 million after reprogramming). About a quarter of the overall allocation addressed policy instruments supporting SMEs, which increased over the programming period to cope with the increasing demand from target beneficiaries.

The initial ambition of the ERDF strategy for the period 2007-2013 was to accompany structural change in the economic and productive fabric of the region, by facilitating the emergence of high-tech sectors and strengthening the innovation capacity of traditional sectors, in line with the regional innovation strategy. Alongside such ambitions, the economic crisis added urgency to the need to improve conditions for access to credit, which was only partially related to investment decisions in that, to a large extent, it was linked to a more contingent need for cash for financial restructuring.

To facilitate the access to funds and cope with the fragmentation of the nature, needs and capabilities of regional enterprises, the implementation process was based on a fully-fledged ‘catalogue’ of policy instruments customised according to the size of the target beneficiaries and their investment plans. While the rather long list of instruments could, in principle, be justified by the need to tailor the support to the specific needs of a differentiated target group, the list of instruments actually reveals a critical lack of concentration of funds.

The strong dualism of the regional productive system influenced the design and implementation of the ERDF policy, which adopted two different approaches:

- More than half of the committed funds addressed rather generic tools tackling SMEs’ competitiveness and growth, and mainly supported investments in fixed assets and access to credit for individual beneficiaries. These funds were delivered through grants, generally with a one-stop-shop procedure, and for investment projects of a rather small scale. Financial guarantees aiming to improve access to credit were also implemented, in some cases combined with grants. Almost 90% of the total beneficiaries of these instruments were SMEs and selection procedures relied heavily on the action of banks or fund managers providing a screening based on the bankability criteria of the proposed operations. Covered sectors were mainly low and medium-low technology-intensive sectors.

- Just over one third of the funds were allocated to the more selective instruments benefitting dynamic medium- and high-tech SMEs and good performing sectors (such as ICT, scientific activities and the food industry) and promoting scientific excellence in R&D and innovation processes, thus supporting more large scale investments. These instruments covered 10% of the total beneficiaries SMEs. Given their relatively limited number, the selection procedure had a strong ownership of implementing agencies that provided technical assistance and assessment of the scientific standards.
A limited share of funds was also addressed to territorial cohesion objectives (e.g. relocalisation of SMEs).

During the course of the programming period the ERDF played an anti-cyclical role in supporting regional SMEs in need of urgent financial support, motivated, on the one hand, by the global economic crisis and, on the other, by the cut in national funds for convergence regions and for industrial policy objectives. As a result, and responding to a demand-driven approach, its scope of application and its selection criteria were broadened to include more sectors and types of enterprise, and generic measures to support short term cash rebalancing and financial restructuring, thus critically diluting the effects of stimulating investment and promoting long-term structural change.

1.4 Key findings

The collection of evidence on achievements was particularly challenging due to a critical lack of reliable result indicators at policy instrument level, coupled with an absence of evaluation studies on support for SMEs. While being fully committed to meeting the expenditure targets, the regional authorities did not promote any systematic evaluation exercises at central level and it is doubtful whether any ex-post evaluation will be ever carried out on this theme. Only in selected cases did the initiative of individual programme managers lead to the design of potentially interesting follow-up activities within beneficiary SMEs. However, such initiatives reflect the delay in implementation affecting the entire programme and were not carried out in a systematic way over all the implemented instruments. This raises serious concerns about the capacity of the regional authority to engage in an earnest policy learning exercise about the effectiveness of the implemented strategy.

Despite this limitation in terms of the programme’s evaluability, evidence collected by the case study provides a telling picture of the role of the ERDF in supporting SMEs in Apulia and enables us to draw interesting conclusions. In particular:

- Over the period 2007-2013 the ERDF supported approximately 9,000 SMEs in the Apulia region, approximately 3.5% of the total regional SME population. The overall expenditure committed for selected operations was EUR 662.5 million, which generated a total investment amounting to EUR 1.4 billion.\(^2\)

- 77% of the total beneficiaries SMEs were micro-enterprises, while 76% were active in a low or medium-low technology-intensive sectors. More precisely, 26% were in the wholesale and retail trade sector, 18% in manufacturing, 13% in the accommodation and food services and 12% in the construction sector. Targeted sectors span over a broad range of economic activities, without a clear focus on regional best performing sectors. The only exceptions were businesses somehow related to tourism, the food industry (representing 29% of the total beneficiaries in manufacturing), and metal products (29% of the total beneficiaries in manufacturing). In addition, the relevance of non-tradable sectors (in particular construction and the retail trade) is not coherent with the regional strategy’s ultimate goal of promoting global competitiveness by improving the export capacity of regional SMEs.

- Thanks to the ERDF support, a relatively small share of the beneficiaries (approximately 10%) were able to engage in extensive investment plans

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\(^2\) this figure is likely to be slightly underestimated for lack of systematic evidence on all the policy instruments
supporting innovation processes and technological development (investment costs ranged from EUR 1 million to EUR 12 million depending on the measure), with short term results in terms of additionality and accelerating effects on private investment. There is evidence that, in the majority of cases, such investments led to an increase in employment (growth from 15% to 35% compared to the pre-project employment levels), an increase in the accumulation of fixed capital and, ultimately, an increase in their competitiveness (for example, as confirmed by interviews with beneficiaries, they were able to access new markets or develop new products). This holds true especially for instruments directly addressing RDI, which were particularly selective and succeeded in targeting excellence in firms and cutting-edge research projects.

- For the majority of SMEs benefitting from more generic instruments addressing competitiveness and growth, however, the evidence is less conclusive. For SMEs benefitting from support to material and immaterial investment, the average investment generated was on a smaller scale (between EUR 75,000 and EUR 480,000), with a less significant share of R&D expenditure and not directly related to a growth in employment.

- Results are even less clear-cut for SMEs benefitting from financial instruments aiming to address the credit crunch. Although the instrument was designed to support investment creation, in the majority of cases it actually supported cash needs and financial restructuring. For investment operations, in most cases credit guarantees were combined with a grant scheme so the effect was actually to increase the aid intensity on investments supported through the grant rather than generating additional investments.

- The regional authorities and programme managers are both of the opinion that generic instruments addressing the cost of access to credit were necessary in a crisis period and were actually effective in addressing short-term credit needs. However, with operations of that scale and nature their contribution to structural change is nil.

- The implementation process proved to be relatively efficient. Moreover, the flexibility in adjusting and fine-tuning the process during the programming period to cope with observed shortcomings is a positive achievement. At the same time, the strong demand-driven approach and the client-orientation strengthened by the close relationship between the implementing agencies and business associations made the whole system more prone to short-termism and opportunistic requests from SMEs, thus failing to stick to a more strategic and steering role.

- A critical aspect of the strategy is the lack of incentives to systematically promote cooperation among firms and between firms and research centres. Although this is recognised as a critical barrier to growth and innovation, especially for small and micro enterprises, the capacity to engage in a proactive and strategic interaction with research providers was very poor.

1.5 Conclusions and lessons learned

Against an initial ambition of supporting structural change and improving global competitiveness especially in the manufacturing sector, over the implementation period the MA decided to adopt a more defensive strategy to cope with the economic crisis, thus emphasising the role of the ERDF in addressing the short term financial needs of mostly micro enterprises in low and middle-low technology-intensive sectors. Only in selected cases did the ERDF OP Apulia support a set of policy instruments focusing on excellence
in RDI and targeting the best performing SMEs in terms of innovation potential and managerial capacity. The majority of funds actually went to micro enterprises and SMES in low or medium-low tech sectors and in sectors of a limited or nil exporting nature, thus severely deviating from the original objective. As a matter of fact, this severely limited the effectiveness of the ERDF to provide additional investments supporting innovation and triggering structural change in the region and, rather, it played a more compensating role.

A strongly demand-driven and flexible implementation approach, while improving the efficiency in the funds’ disbursement, made the system more inclined to respond to the needs of the majority of the SMEs to access funds at a low cost rather than aspiring to the initial ambition of promoting excellence in RDI and selectively targeting the most dynamic sectors and firms.
1 CONTEXT AND BACKGROUND

This section provides a concise description of the regional context by illustrating the key socio-economic features, the characteristics of the economic fabric - and of SMEs in particular (elaborating on their barriers to growth and innovation) - and the policy framework for industrial and innovation development.

1.1 Socio economic context

Figure 1. The region of Apulia

Located in the South East of Italy, Apulia is a peripheral region forming the high heel on the ‘boot’ of Italy. With a population of around 4 million and a GDP per capita equivalent to 68% of the EU28 average,\(^3\) it is listed as a Convergence region\(^4\) and, according to the regional competitiveness index;\(^5\) it ranks among the medium-low performing EU regions together with the remaining Italian convergence regions.

Over the 2004-2007 period the Apulian economy grew steadily, although at a slower pace than the rest of Italy. However, it experienced a significant fall following the financial crisis, with GDP decreasing by 4.5% in 2009 compared to the previous year. The global crisis severely hit the regional economy, with a recent report by the Bank of Italy (2014) reporting a decrease in the regional added value of 2.4% in 2013, a continuing negative trend in turnover in industry in 2013 and an unemployment rate reaching 19.8%. The negative effect on fixed capital formation\(^6\) was exacerbated by the cost of access to credit, which was particularly severe in Southern regions compared to the rest of Italy.\(^7\)

The regional economic structure shows a higher contribution from the agricultural sector to the regional added value than in Italy or Southern Italy as a whole.\(^8\) In dynamic terms, in the last ten years there has been an alignment toward the national composition

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\(^3\) In Apulia GDP (PPS) per inhabitant was EUR 17,100 (vs. a national average of EUR 26,000 and an EU28 average of EUR 25,000) in 2007. In the same year, the regional unemployment rate was at 11.2% compared to 6.1% for Italy and 7.2% for the EU28. Source: Eurostat.

\(^4\) A ‘less developed’ region according to the EU classification for the 2014-2020 period.

\(^5\) The Regional Competitiveness Index (RCI) captures different dimensions of competitiveness at the regional level including the quality of institutions, infrastructure endowments, education, the labour market, innovation systems and many others. See Annoni, P. and Dijkstra, L. (2013).

\(^6\) In 2011 it dropped to 20.2% of regional GDP, compared to 23.1% in 2008 (Source: Istat).

\(^7\) According to the Ministry of Economy-Department of Development Policy (data set from the Bank of Italy, processed by Easy Landscape Viewing System, available at www.dps.gov.it)

\(^8\) The region has a share of 13.6% of the overall number of agricultural companies in Italy and is one of Europe’s export leaders in wheat, oil and tomatoes.
in terms of added value, with the service sector gaining increasing significance and the share of agriculture and industry decreasing, and employment dynamics.

**Figure 2.** Percentage change in employed persons by sector of economic activity (ATECO) 2001 – 2011

A comparative advantage of the Apulian economy is the existing and relatively well functioning network of universities and independent research laboratories. The regional system of research is made up of five Universities, one technological park, and a large number of technological districts (see below for further details on the technological districts).

**Table 1.** Ranking of Apulian Universities by scientific area in 2011.

<table>
<thead>
<tr>
<th>University</th>
<th>Scientific field</th>
<th>World</th>
<th>Europe</th>
<th>Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Politecnico of Bari</td>
<td>COMPUTER SCIENCE APPLICATIONS</td>
<td>**</td>
<td>**</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>ELECTRICAL AND ELECTRONIC ENGINEERING</td>
<td>*</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>University of Salento</td>
<td>MECHANICAL ENGINEERING</td>
<td>**</td>
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<td>***</td>
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<tr>
<td></td>
<td>MODELLING AND SIMULATION</td>
<td>**</td>
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<tr>
<td></td>
<td>MECHANICS OF MATERIALS</td>
<td>**</td>
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<td>*</td>
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<tr>
<td></td>
<td>CONDENSED MATTER PHYSICS</td>
<td>*</td>
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<td>*</td>
</tr>
<tr>
<td>University of Bari</td>
<td>INSTRUMENTATION</td>
<td>**</td>
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<tr>
<td></td>
<td>ELECTRONIC, OPTICAL AND MAGNETIC MATERIALS</td>
<td>**</td>
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<tr>
<td></td>
<td>NUCLEAR AND HIGH ENERGY</td>
<td>*</td>
<td>**</td>
<td>*</td>
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<tr>
<td></td>
<td>THEORETICAL COMPUTER SCIENCE</td>
<td>*</td>
<td>**</td>
<td>*</td>
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<tr>
<td></td>
<td>FOOD SCIENCE</td>
<td>*</td>
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</table>

Note: *: top 50%; **: top 30%; ***: top 10%

Source: DPS (Department of Economic Development and Cohesion Policies) based on Scopus database data (2011)

According to recent data, the scientific production of this system shows examples of excellence by national, European and even world standards. Interestingly, some examples of scientific excellence are in the same fields as some of the best performing...
sectoral specialisations as in the case, for example, of mechatronics and ICT productive specialization in the Bari area and the aerospace sector in the Brindisi area.

**Figure 3.** Total intramural R&D expenditure by sector, 2007-2011, % of GDP

![Total intramural R&D expenditure by sector, 2007-2011, % of GDP](image)

Source: Author’s processing of Eurostat data

The majority of R&D expenditure in Apulia is concentrated in the higher education sector, compared to the national and EU averages where R&D expenditure in the business enterprise sectors prevails. Against an overall decrease in the total intramural R&D expenditure of Apulia in 2011 compared to 2007, R&D expenditure in the business sector increased slightly.\(^\text{12}\)

**Figure 4.** Innovation performance of Apulia – 2007, 2011, 2014

![Innovation performance of Apulia – 2007, 2011, 2014](image)

Source: Author’s processing of RIS data

In terms of innovation performance, Apulia still lags behind compared to national and EU performances. According to the Regional Innovation Scoreboard,\(^\text{13}\) Apulia is classified as a ‘moderate innovator’, but with some encouraging elements pointing to a relatively fast growing potential.\(^\text{14}\)

The improving performance in terms of innovation is reflected by the trend in the regional value of exports in dynamic sectors of world demand, which was lower than any other Italian macro area in 2007 (25.5%) and became the best performer in 2009 reaching a value of 41.1% in 2013, showing a notable performance, even during the critical years following the international financial crisis.

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\(^\text{12}\) From 0.16 to 0.18 of percentage of GDP

\(^\text{13}\) European Commission (2014)

\(^\text{14}\) For example, according to Istat, indicators for cohesion policy, the percentage of enterprises introducing product or process innovation in Apulia shifted by 7.8% over the period 2004-2012, reaching 28.6% of the total, against 33.5% for Italy and 25% for the Italian convergence regions. Moreover, Apulia shows a significant increase in expenditure in innovation per employee, more than doubling its share over the period 2004-2012.
To sum up, Apulia is an economically fragmented region that makes a modest contribution to the national GDP and has significant structural problems. Notwithstanding the major weaknesses in the economic structure and performance of the region, there are some encouraging signs of regional potential, especially as far as R&D and innovation are concerned.

1.2 **Regional industrial fabric and SMEs**

Apulia is characterized by a polarisation between a prevalence of micro enterprises mostly operating in traditional sectors (e.g. textiles and furniture) and few large companies, which in some cases have played a pivotal role in the development of some industrial districts, particularly in the aerospace, automotive and mechatronics fields. Among SMEs, which are in total 254,000, there is a predominance of micro enterprises and individual firms in the 0 to 2 persons employed class, which account for 77.7% of the total number of regional firms. Micro enterprises are concentrated in the wholesale and retail trade and professional, scientific and technical activities, while among small and medium-sized enterprises the majority are active in manufacturing and construction. Not surprisingly, when considering the R&D expenditure over the value added of the sector as a proxy of technology intensity, it can be observed that SMEs are for the most part low and medium-low tech enterprises.

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15 According to the last national census of 2011, in Apulia there are only 92 enterprises with more than 250 employees (less than 0.036% of the total number of regional firms) with a total of 7,000 persons employed.

16 Istat, national census of Industry and Services, 2011.

17 Following the OECD, technological intensity is proxied with R&D intensity, computed as the ratio between business R&D expenditure and total value added in each 2 digits NACE sector of interest at country level. See First Intermediate Report for further details.
It is widely recognised that a major barrier to growth for regional SMEs is their poor performance in terms of innovation and exports, with a specific concern about their capacity to cooperate and build networks to overcome their small size and to capitalise on the territorial knowledge assets of non-business actors. Recent evidence of the performance of Italian clusters\(^{18}\) suggests in fact that firms included in productive and technological districts are more competitive than others and could better cope with the pressures of the global crisis. Among the best performing Apulian clusters in terms of exports in 2013 there are the textile, automotive and mechanics sectors, as well as agro food (oil and pasta), all of them located in the province of Bari.

Despite the generally negative trends in recent years in terms of employment and growth, in some specific markets there are good performers who have been able to cope with the pressures of global competition and the financial crises and even improve their position. According to an analysis carried out by the European House Ambrosetti on the balance sheets\(^{19}\) of a representative sample of Apulian companies over the period 2007-2011, the best performers were the food industry, electronics, hotels and restaurants, ICT and energy sectors. On average, small and medium-sized enterprises record better performances than micro enterprises. Hence, excluding large companies and a minor section of SMEs operating in some specific markets with competitive advantages, typically in high-tech sectors, the majority of enterprises in Apulia lack the necessary critical mass both to attract foreign investment and to be competitive at an international level.

### 1.3 Policy framework

Following the 2001 constitutional reform increasing multi-level governance by granting to regional councils a higher degree of responsibility, regional administrations in Italy are now responsible for policy making in several areas including technological research, support to innovation for industrial sectors and support to regional and local economic activities. Understanding the national and regional policy initiatives (within or outside the Structural Funds framework) that may have a bearing on regional SME development and innovation is a necessary step to understand the role played by the ERDF in regional...
innovation and industrial policies. Three aspects in the recent policy framework are worth being highlighted here:

- the recent efforts by the regional authorities to promote an ambitious regional innovation strategy;
- the priority given by recent regional strategies for industrial development to productive and technological districts;
- the decreasing significance of national funds in providing capital expenditure and state aid for SMEs, especially since 2009.

1.3.1 The promotion of the regional innovation system

Since the first attempts of the early 2000s\(^{20}\) it is with the regional government taking office in April 2005 that the regional strategy (hereafter 'the Strategy) for research and innovation gained momentum until its formal adoption in 2009\(^{21}\). This identifies innovation as the fundamental leverage for economic development and the quality of life in Apulia which should be promoted in a systematic effort by various stakeholders in all regional actions. One of the key objectives was to strengthen the links between research and the productive system. It also identified a list of priority sectors of regional specialisation for which it aims to build wide networks with competences for scientific and technological applications\(^{22}\).

In order to provide an effective administrative machine to implement the strategy, a reorganization of the regional institutional system was implemented, with specific responsibilities being defined for the implementation and evaluation of the regional policy for research and innovation. A system of three agencies was put in place with a clear division of responsibilities between the coordinating role of the regional authority and the actual implementation action of the in-house agencies:

- the Regional Agency for Technology and Development (ARTI) is conceived as an independent agency with the mission of supporting the regional administration in policy design, and facilitating networking of all the regional research and innovation actors
- InnovaPuglia S.p.A. is controlled by the Region’s Department for Economic Development is charge of implementing e-government policies and ICT infrastructure investments\(^{23}\);
- PugliaSviluppo S.p.A is also controlled by the Region’s Department for Economic Development and granted responsibility for promoting business competitiveness, by delivering Structural Fund grants and engineering financial instruments\(^{24}\).


\(^{21}\) Apulia Region (2009) 'Strategia Regionale per le Ricerca e l’Innovazione della regione Puglia 2009’, Assessarato allo Sviluppo Economico.

\(^{22}\) Such sectors are Biotech and life sciences, Agro-food, Technologies for Energy and the Environment, Aerospace, Mechanics and mechatronics, New materials and nanotechnologies, ICT, Logistics and Production System Technologies. See D.G.R. n. 1552 of 07/08/2009 published on regional bulletin n. 139 of 04/09/2009. Although this list may seem comprehensive, it actually refers to well identified territorial productive agglomerations, such as for example the mechatronic and ICT districts of Bari, the aerospace cluster in Brindisi, the agro-food district in Foggia.

\(^{23}\) It was established in 2008 from the merger of the two existing regional bodies, the science and technological park Tecnopolis Scrl and FinPuglia SpA, the regional financial agency.

\(^{24}\) It originates from the regional branch of the national development agency Sviluppo Italia, now Invitalia.
The strategy has been conceived as a flexible instrument and has been further adapted to better meet the emerging needs, first of all those stemming from the effects of the economic crisis and the need to take into account the increasing difficulties of enterprises, especially small ones, in accessing credit. In line with the recent developments at an EU level and following a participatory approach, the Smart Specialisation Strategy for Apulia was prepared between 2012 and 2013. ‘SmartPuglia 2020’ is characterised by three priorities: the exploitation of innovation to overcome societal challenges such as climate change and population ageing, the support of Key Enabling Technologies as a way to develop the regional productive system and the encouragement of the mobilization of private finance for innovation.

The major source of funds for the strategy is ERDF (both regional and national funds) provided in the period 2007-2013. As highlighted in recent studies, though the positive developments in the regional innovation governance system and strategy are promising, scant evidence is currently available about positive effects on regional innovation performance. In particular, there are concerns that no comprehensive evaluation system is in place to provide feedback on the initiatives promoted. Moreover, a recent ex-post evaluation points to the risk that the regional agency, ARTI, could miss the opportunity to provide the necessary strategic guidance and instead focus on implementation and more operational issues linked to the delivery of specific tools.

1.3.2 Promoting regional districts

Following the evolution of national regulation on the matter, since the end of the Nineties the regional administration engaged in an effort to promote regional sectoral specialisation in the form of productive districts. It is however with the regional law 23/2007 that the support for regional districts has a comprehensive legislative framework. As a breakthrough compared to previous approaches, the law was conceived as a pioneering exercise to promote a bottom-up process of identification of regional agglomerations of SMEs and other institutional and non-institutional bodies able to contribute a strategic planning capacity for the development of the district. The underpinning logic was to promote a policy for SMEs in the form of far reaching development plans (identifying strategic and operational objectives as well as specific activities) able to leverage local competences and capacities and aggregating different actors in the productive and innovation system.

Between 2009 and 2012, against 32 submissions there were 18 productive districts formally recognised. Development plans identify 239 specific investment projects with a total financial need of more than one billion Euro. These are however mostly concentrated in the Aerospace, Informatics and Mechanics districts, revealing their better capacity in terms of strategic planning.

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26 As a first exercise a mapping of regional competences on a number of KETs has been carried out by ARTI following a participatory approach (see Apulia Region, 2014, Smart specialization strategy, SmartPuglia 2020). This exercise was intended to provide a comprehensive assessment of the regional scientific competences as well as their critical mass, in order to possibly guide a future prioritisation exercise.
28 See MET consortium (2012)
29 In some cases, when requests were submitted by different groups of actors in the same sector or filière, the evaluation and negotiation procedure led to the aggregation of some of the applicant groups in one single district. Besides the well-identified districts of Informatics, Mechanics and Aerospace (where the recognition was quite straightforward) other districts in the manufacturing (wood and furniture, fashion), natural resources (renewables and energy efficiency), the primary sector (agro food and aquaculture) and the creative sector were also identified.
The increasing support to technological clusters (TC) is another major feature characterizing the Apulia regional strategy in recent years. They are conceived as a way to encourage firms to collaborate with other firms and especially with research centres and universities in specific industries/scientific domains identified as priorities by the Regional government. TCs were launched by the national government in 2002-2003 as one of the building blocks of its scientific and technological policy. They are defined as consortia involving regional authorities, enterprises and universities committed to cooperating to produce technological innovation, with a view to becoming centres of excellence at a national and international level. The creation of a TC can be proposed by each region and, once approved by the Ministry of Education, Universities and Research; it can access national public financing. In the context of the Framework Programmes between the Ministry of Education, Universities and Research, the Ministry of Economy and Finance and the Apulia Region, specific measures are intended to accelerate the identification and the definition of Technology Clusters within the regional territory since they are seen as an instrument favouring the innovation of a multitude of small local enterprises. So far, six Technological Clusters have been set up and formally recognised by the Apulia regional government.

Although systematic review of the achievements of the regional support to productive and technological districts in Apulia is currently lacking, stakeholders interviewed raised concerns about the materialisation of significant results and complained about the long take up process of the exercise. As of today, among the long list of investment priorities identified with the development plans of productive districts only a negligible share has been implemented, only in limited cases benefitting from ERDF support. Such experiences however remain relevant inasmuch as they tested the readiness and capacity of group of firms to formulate and promote collaborative investment plans.

1.3.3 The decreasing role of national funds for SME support

As a consequence of the global recession Apulian SMEs faced a sharp decrease in fixed capital formation further exacerbated by the credit crunch. As pointed out in a recent report by Svimez (2014) the goal of restraining the national public deficit has been mainly achieved by a sharp decrease in public capital expenditure, especially that addressed to Italian Convergence regions. National co-funding of cohesion policy instruments together with national policy instruments addressed to enterprise support was severely cut. According to the Ministry of Economic Development in the period 2009-2012 the total public support to enterprises in Italy experienced a reduction of one third both in terms of the number of instruments and in terms of funds, with a consequent variation of supported investments of -55%. Although this reduction was a common trend in EU Countries, it was more significant in Italy, where in 2011 the amount of state aid as percentage of GDP was already far below the EU27 average.

Furthermore, Southern regions were affected by this reduction more than the remaining regions. Under such circumstances regional funds were called upon to offset such trends and actually in the recent years regional instruments supporting enterprises outweighed national instruments.

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31 They are the cluster of High Technology (DHITECH), the Agrofood Cluster (DARE), the Cluster of Mechatronics of Bari (MEDIS), the National Technological Cluster on Energy (DiTNE), the Aerospatial Technological Cluster (DTA) and the Technological Cluster on human health and biotechnologies (HBIO).


33 See European Commission, State Aid Scoreboard
Figure 7. Granted aid to enterprises by source and destination, % on GDP*

* regional GDP for the year 2012 has been calculated based on the IMF national estimates
Source: Author's processing of Ministry of Economy (2014), Eurostat and IMF data

It is also worth stressing the growing importance of the value of instruments targeting territorial growth and competitiveness as compared to those supporting R&D which are instead decreasing, especially when it comes to the destination of regional resources. This would suggest that regional administrations are more responsive to the need to ensure more generic support to firms in a moment of critical financial stress.

On top of that it should be recalled that reshuffling the Fund for the Underutilised Area\textsuperscript{34} which was redirected to non-convergence regions during the programming period\textsuperscript{35} and the reduction of the national co-funding rate of cohesion policy programmes occurred during the reprogramming exercise in order to cope with the delay in the expenditure of regional programmes. As pointed out by Svimez (2014), in this context the additioanal effect of cohesion policy funds is severely hampered.

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\textsuperscript{34} The FAS-Fondo per le aree Sottoutilizzate is the national fund for regional policies which adds to national ordinary instruments, including national co-funding of regional programmes. It was set up in 2003 (Law 27 December 2002 n. 289) and further modified in 2006

\textsuperscript{35} the share of funds for Southern regions dropped from 83.8\% in 2008 to 67.3\% in 2012
2 ERDF STRATEGY ON SMES

The aim of the present section is to, first, account for the intervention logic underpinning the mix of policy instruments selected to address SMEs and, secondly, to describe the actions put in place, their mechanisms of implementation and the evidence on their expected or actual achievements.

2.1 Objectives and priorities

The main goal of the OP Apulia FESR 2007-2013\(^{36}\) is to favour the convergence of the region in terms of growth and employment and its sustainability in the long term. The initial total financial resources amounted to 5.2 million EUR which became EUR 4.2 after reprogramming\(^{37}\). Since the beginning of the programming period, promoting research and innovation was at the core of the programme’s strategy\(^{38}\), according to a theory of change which was well in line with, on the one side, general evidence from the literature on the innovation and SME policies and, on the other, evidence presented in the previous section on the regional productive configuration. The intervention logic stemmed from the following key features\(^{39}\):

- The main barriers for SMEs to growth were identified in the lack of a critical mass of SMEs in the traditional sectors (in terms of the contracting power of micro firms playing the role of subcontractors in global value chains) and the lack of emerging activities in the high tech sectors (with the exception of aerospace).
- Main barriers for SMEs to innovation were identified the lack of internal capacity in terms of financial and human resources.
- The main strategic objective of the policy mix was therefore to support regional structural change towards high value added production and foster research and innovation (in particular by promoting the collaboration with research institutions) in were seen as a means to promote such a change. The ultimate goal was to improve the capacity of regional manufacturing SMEs to face the pressures of global competitiveness and ultimately increase export capacity.

From an operational point of view, out of a total of eight priority axes the OP support to SME growth and innovation is structured along two axes: Axis I on promotion and diffusion of R&D for firms’ competitiveness and Axis VI for competitiveness of productive systems and employment.\(^{40}\) The total amount of funds allocated to these Axes was EUR 253.33 million for Axis I (which became 581.00 million after reprogramming) and EUR 1,102 million (becoming 1,097 after reprogramming) for Axis VI.

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\(^{37}\) Initially, the EU co-financing rate was 50% for all policy instruments. As a result of the reprogramming exercise the co-financing rate became 62.4%.

\(^{38}\) More specifically, innovation policy is one of the three key policies (the remaining are context policy and social inclusion policies) underpinning the programme’s strategy.

\(^{39}\) See the Operational Programme, version of October 2007.

\(^{40}\) While Axis I is addressed exclusively to supporting R&D investments (through both direct support to R&D investment and projects in firms and supporting initiatives aiming to improve the innovation environment), Axis VI is also more generically addressed to growth, but not necessarily, through research and innovation. It includes a broad range of interventions including for example activities to support the tourism sector or internationalisation, access to credit, integrated plans for investment and start-up support. Axis VI is the most significant in financial terms (see below).
The OP priorities and strategies were designed with a strict connection to, and in continuation of, the achievements of the previous programming period. For example, while in the previous period one instrument focused on the consolidation of the Industrial Liaison Offices (ILO), in the current period the promotion of the network of these ILO offices was supported. The need to ensure a systemic action by the ILO offices and to link them to national and international networks was highlighted by the ex-post evaluation of R&D interventions financed in the period 2000-2006.41

A learning-by-doing process which led to adjustments and fine tuning of some of the instruments as compared to the previous programming period has in fact occurred42.

2.2 **Synergies with other OPs and strategies**

A synergy between the ESF and ERDF OPs is apparent when considering specifically those policy instruments supporting research and innovation. Here, ESF has been used to support the generation or improvement of skills in the sectors supported by the ERDF, for example by supporting the hiring of researchers by the firms with a system of vouchers. Synergies with the ESF OP have been strengthened after the reprogramming period to respond to the employment challenges posed by the financial crisis (see below on this).

In addition to the regional ESF OP, synergies are particularly strong with the national OP on Research and Competitiveness, and are governed by the strategic priorities set in the Framework Partnership Agreement which mainly addresses the support of Technological Clusters. This line of intervention is of strategic importance, given its financial relevance (225 million Euro, almost the same value of the initial allocation of Axis I). In addition, the national MA plays the role of an implementing body for some instruments of the Apulian OP and it is particularly relevant for a significant intervention aiming to promote Technological Clusters.

There are no other explicit synergies with other strategies or programmes. In particular, the regional policy does not address either interregional cooperation, which is rather a focus of the national OP, or international cooperation, which is outside the core priorities of the programme. In addition, while in principle there are potential synergies (and overlapping) with the EC research programmes, no explicit link is anticipated by the strategy.

2.3 **Policy instruments**

Within the selected OP 22 instruments either explicitly target SMEs or are generically addressed to regional firms, but with the majority of beneficiaries actually being SMEs.43 They accounted for a total of EUR 662.5 million of committed public funds.

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41 See MET (2012)
42 For example, according to a recent report by ARTI, support for start-ups was improved by including tutoring and counselling among the supported services (See Arti, 2015). Or, grant schemes for innovative investments were improved in terms of aid intensity (increased from an average of 25% in the past scheme to 45% in the new scheme) and in terms of reducing the selection procedures.
43 It is worth mentioning that a sizeable share of funds of the ERDF OP is addressed to large enterprises, also (but not necessarily) in collaboration with SMEs. Although beyond the scope of the present evaluation, the impact of policy instruments specifically addressing large enterprises on SMEs, which are mainly suppliers in the supply chain, is a relevant aspect to better understand the drivers of change for SMEs. It is worth exploring the issues in other studies, for example within the context of the parallel study on WP4.
By looking at the concentration of funds and their mode of delivery some indications can be drawn on the intervention logic:

- Despite the declared intention to promote collaboration among firms and between firms and research institutes, there is a prevalence of instruments targeting individual beneficiaries in terms of the number of instruments. In the face of less than encouraging feedback from SMEs, the MA preferred to stick to more traditional schemes of support to individual firms, which highlights the flexibility of implementation, but also the firm demand-driven approach that characterises the implementation process.

- Second, there is a prevalence of more traditional instruments (e.g. grants), although in some cases they are delivered in the form of integrated measures, i.e. combining funds from different priority axes and lines of activity to support investment plans including a broad range of components such as R&D, ICT, environmental sustainability, etc.

- There is a clear divide between more selective instruments targeting excellence in innovation and supporting more ambitious investment plans with higher eligible costs, and those addressing more generic and small scale investment projects. Among the latter, a significant share of funds is dedicated to engineering

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44 Only two measures specifically addressed groups of firms: regional partnerships and access to ICT. The remaining measures were conceived to be either for single enterprises or a group of enterprises in partnership.
45 The negative experience of some instruments launched at the beginning of the programming period designed for collaborative projects and which actually recorded a low response rate, led to adjusting the procedures to the request to build networks and collaboration, by including it as an award and not an eligibility criterion in the selection procedure.
46 As a matter of fact, when collaboration was included as an option and not a prerequisite, it was spontaneously chosen by none of the beneficiaries (in the case of aid to R&D for SMEs) or only by a minority (3% in the case of consulting for innovation and 8% in the case of integrated facility packages for medium-sized enterprises).
instruments targeting a generic access to credit, with an explicit logic of mitigating the effects of the economic crisis and reflected in an increasing financial allocation during the course of the programming period.\(^47\)

**Figure 9. Overview of the policy instruments by mode of delivery and target beneficiary (number-left side- and amount paid -right side)**

The total expenditure on such instruments at the end of 2014 amounted to approximately EUR 380 million. The financial significance of the selected instruments is particularly varied, on average with larger endowments for measures addressing growth, but with a concentration on some key instruments, in particular credit guarantees, aid to investment for micro and small enterprises and integrated facility packages.

\(^{47}\) After an initial allocation of EUR 50 million, an additional allocation of EUR 50 million was made after the positive performance in terms of absorption of funds.
While a detailed list and description of all the relevant policy instruments is included in the Annex, henceforth the analysis will concentrate on the most significant instruments, listed in the table below, which in total represent 88% of the total amount committed and 85% of the total amount of public resources paid out.

Table 2. Key policy instruments and intervention logic

<table>
<thead>
<tr>
<th>Full name</th>
<th>Description</th>
<th>Logic of intervention</th>
<th>Objective</th>
<th>Mode of delivery</th>
<th>Committed at 12.14 (EUR million)</th>
<th>N°. of beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aid for investment in research by SMEs</td>
<td>Support programmes for research and innovation promoted by SMEs, both in traditional manufacturing sectors and in innovative sectors. Eligible expenditures are personnel; fixed assets; services; consulting, patents</td>
<td>Supporting R&amp;D investments by reducing the risk related to the uncertainty of pre-competitive R&amp;D</td>
<td>Innovation</td>
<td>Grants</td>
<td>44.9</td>
<td>139</td>
</tr>
<tr>
<td>Aid to consulting services for the technological innovation of SMEs</td>
<td>Support is given to SMEs for the acquisition of specialised consulting services to strengthen their technological development and innovation activities.</td>
<td>Improving innovative capacity in SMEs</td>
<td>Innovation</td>
<td>Grants</td>
<td>11.2</td>
<td>246</td>
</tr>
<tr>
<td>Regional partnership for innovation</td>
<td>Aiming to promote the creation of public-private partnerships for research and innovation in line with smart specialisation strategies. Eligible expenditures are personnel; equipment; research contract; services; consulting, patents.</td>
<td>Supporting investment in R&amp;D by promoting cooperation among enterprises and with research centres</td>
<td>Innovation</td>
<td>Grants</td>
<td>26</td>
<td>153</td>
</tr>
<tr>
<td>Aid to SMEs for access and use of ICT</td>
<td>The objective is to increase innovation in all economic and productive sectors of the region. Two</td>
<td>Supporting the adoption of digital solutions in networks of SMEs</td>
<td>Innovation</td>
<td>Grants</td>
<td>10.8</td>
<td>183</td>
</tr>
<tr>
<td>in productive and management operations</td>
<td>calls supported the adoption of ICT solutions in enterprises, through the diffusion of SAAS(^{48}). Eligible expenditures are IT equipment; purchase or development of software; IT consulting.</td>
<td>Supporting the link between demand and supply of industrial research and innovation; promoting social innovation by reducing the risks related to the uncertainty of pre-competitive R&amp;D</td>
<td>Package (grant combined with technical assistance)</td>
<td>21.9</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>Living Labs</td>
<td>It aimed at favouring interaction between demand, technology development and supply through experimentation projects where researchers, enterprises and groups of citizens exchange ideas and knowledge, plan together and experiment with innovative technological solutions.</td>
<td>Innovation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Facility Packages implemented by medium-sized enterprises and consortia of SMEs</td>
<td>It finances the realisation of investments aimed at increasing productive innovation in selected sectors. It finances the purchase of machinery, consulting services for innovation in the context of internationalisation, marketing, participation in fairs and ethical certification.</td>
<td>Supporting industrial investments, especially in innovation</td>
<td>Innovation and Growth</td>
<td>Grants</td>
<td>94.1</td>
<td>52</td>
</tr>
<tr>
<td>Aid to investment by micro and small enterprises</td>
<td>It supports the creation and development of micro and small enterprises, delivered through an open call. Examples of projects comprise the financing of the purchase of machinery, computer systems, buildings, construction work for enterprises (water, electrical, heating systems).</td>
<td>Supporting industrial investments, especially for micro enterprises with poor access to credit</td>
<td>Growth</td>
<td>Grants</td>
<td>119.5</td>
<td>3,311</td>
</tr>
<tr>
<td>Credit guarantees</td>
<td>It favours access to credit by Apulia’s enterprises. A guarantee fund was set up for the benefit of enterprises seeking bank credit. The fund was used particularly to finance material and immaterial investments, but also to address financial disequilibria or favour company recapitalisation.</td>
<td>Limited access to credit</td>
<td>Growth</td>
<td>Repayable financial support</td>
<td>100</td>
<td>3,830</td>
</tr>
<tr>
<td>Qualification of the tourism offer</td>
<td>It grants aid to enterprises in the tourism sector, as a contribution to initial investments in fixed assets (e.g. buildings, construction works, renovations...)</td>
<td>Supporting investments in the tourism sector</td>
<td>Growth</td>
<td>Grants</td>
<td>39.1</td>
<td>244</td>
</tr>
</tbody>
</table>

\(^{48}\) Software as a service, sometimes also referred to as “on-demand software”, is a software licensing and delivery model. According to this system the software is licensed on a subscription basis, it is centrally hosted and is typically accessed by users using a thin client via a web browser.
carried out by SMEs.

<table>
<thead>
<tr>
<th>Aid to medium-sized firms and consortia of SMEs for Integrated investment programmes in the Tourism sector</th>
<th>Supporting investments in the tourism sector</th>
<th>Growth</th>
<th>Grants</th>
<th>64.9</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>It finances integrated set of investments in fixed assets aimed at improving the regional tourism offer.</td>
<td>Supporting industrial investments, especially in innovation</td>
<td>Innovation and Growth</td>
<td>Grants</td>
<td>51.6</td>
<td>37</td>
</tr>
</tbody>
</table>

Source: Author’s processing of programming documents and public calls

The rationale of the implementation was differentiated:

- In the majority of cases it addressed a specific market failure, usually related to the reduction of investment costs for specific kinds of investment or service (RDI, ICT, consulting) or beneficiaries (disadvantaged persons, start-ups). In the case of RDI, for example, three main barriers were addressed: i) high initial investment costs ii) lack of internal competence and iii) lack of coordination of territorial actors (public and private, in particular).49

- For a number of instruments absorbing a significant share of funds, however, the rationale was rather to address more far-reaching system failures, typically constraints in access to credit50. In such cases, it was considered crucial to reduce the risk of credit providers to facilitate access to credit, not only to increase private investments but mostly to support working capital and cash rebalancing. The relevance of such measures increased during the programming period and moved past the original aim of incentivising innovative investments (it was possible to combine them with grant schemes), to a clear anti-cyclical measure supporting cash rebalancing (more on this below).

- Finally, two instruments stimulated innovation processes by means of demand-side tools, namely Living Labs and Pre-commercial procurement.51 They are

49 The available literature supports the arguments that those are the key barriers to R&D for Italian SMEs and for Apulia in particular (see for example D’Aurizio and Marinucci (2013) Bugamelli e Pagano (2004) e di Fabiani et al. (2005) pointing to the former as the major barriers as perceived by the firms, and Florio, Sirtori and Pellegrin (2014) exploring the role of territorial governance structure for the latter).

50 A recent survey to Italian small firms reports that 56.8% of firms claims to have had problems in accessing credit during the last year, and almost 10% could not actually get credit. The trend is confirmed by Unioncamere stressing that credit rationing is exacerbated for SMEs especially in the Southern regions and in specific sectors such as retail trade. Reasons are the high cost of required guarantees and too long bank procedures. It should also be noted that although the interest rates for SMEs are generally low, in Italy they are 2% higher than in the rest of the Euro Area (almost 6% vs 4% on February 2014 for a 1 to 5 years loan of up to EUR 1 million, Source: European Central Bank). Source: Fondazione Impresa, 4° Osservatorio sul Credito alla Piccola Impresa, 2014. Unioncamere, rapporto nazionale sull’accesso al credito delle imprese 2013

51 The former consists of the creation of an "open ecosystem" whereby the users actively take part in researching and testing innovative solutions, which have been developed through the use of ICT. The latter
considered innovative tools that draw from best practices at an EU level and are in line with the principles of smart specialisation and social innovation, and were implemented in the last phase of the programming period as experimentations. In this sense their rather limited initial allocation is justified which, in the case of Living Labs, was increased after they were positively welcomed by targeted SMEs in the piloting phase.

This fully-fledged ‘catalogue’ of policy instruments customised to the size of the target beneficiaries and their capacity to invest was partly justified, on the one hand, in the light of the significant amount of financial resources involved and, on the other, the need to cope with a fragmented productive system that called for policy instruments specifically designed to meet the precise development needs of a broad range of SME categories. However, it also reflects a certain fragmentation of action and poor concentration of resources. While smaller allocations of funds are justified for piloting flagship projects, such as the Living Labs, it is less so for more standard actions such as the implementation of a marketing plan.

2.3.1 Implementation and reprogramming

Reflecting the need to focus on completing the implementation of the 2000-2006 regional OP in the first years of the programming period, the programme as a whole experienced a significant delay in terms of expenditure compared to the previous period, but then had a boost in 2011 and 2012. The instruments under assessment reflected this general trend: only the consolidated and more ‘traditional’ instruments were launched over the period 2008-2010,\(^{52}\) while the bulk of implementation was concentrated in the 2011-2013 period (a number of instruments are, in fact, currently still at the implementation phase). Adjustments over the years followed a bottom-up and customised approach reflecting the extensive consultation process implemented during these years.

*Role of implementing bodies*

The implementation system is characterised by a client-oriented approach. Public presentations are systematically carried out every four months before the call is launched, according to a model which is said to have evolved from a ‘consultation for listening’ to a ‘consultation for co-designing’. In this way the call specifications are fine-tuned and tailored to the specific needs highlighted by potential beneficiaries. In principle this demand-driven method may open the door to a less selective prioritisation approach, but this is not always the case.\(^{53}\)

The capacity of the implementation bodies to engage in a dialogue with potential beneficiaries is well recognised by stakeholders and beneficiaries, and also benefits from the specific skills and the background of their staff in the field of innovation and industrial

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\(^{52}\) These are, for example, calls to complete projects from the 2000-2006 programming period, such as the first call for SMEs in the tourism sector, action on aid schemes for R&D in SMEs, and aid to investments in micro enterprises, which were strictly designed along the lines of EU regulation 800/2006 with little or no modification of what was indicated in the available ‘menu’.

\(^{53}\) For example, the Living Labs measure succeeded in combining aspects of both prioritising a small number of thematic areas and an implementation system based on a step-wise process, wide consultation and a focus on users’ needs and social innovation.
In some selected cases, the relationship with the beneficiaries extends beyond mere administrative issues and includes technical and scientific support. However, this approach relates only to a selected sample of measures and is not streamlined for all the instruments. The majority of funds are allocated with more automatic mechanisms based on a one-stop-shop procedure that relies more on bankability than on strategic considerations about the suitability of the investments. Overall, the role of the implementing agency reflects more the customer satisfaction orientation of a spending agency involved in funds absorption rather than a strategic role with a result-orientation directed towards structural change.

However, their role ensured quite a smooth implementation process with efficiency gains during the programming period, even for the less selective instruments for which the selection process can be more cumbersome, with a generalised sharp reduction in the length of the selection processes. The beneficiaries interviewed reported that regional support instruments are more efficient than similar instruments implemented at the national level and confirm the well-known issue that timing is a crucial aspect strongly affecting investment decisions, especially as far as R&D activities are concerned.

**Role of partnership and consultation**

Partnership is considered to be an important factor influencing the effectiveness of Cohesion Policy. In Apulia it was only in the programming period 2007-2013 that a strong utilisation of the partnership principle was visible in the region. In 2008 a Memorandum of Understanding (Protocollo d’Intesa) was signed between regional governments and socio-economic partners, which was meant to establish a working method and collaboration on economic and social cohesion policy. In addition, different activities were promoted to encourage administrations and social and economic actors to contribute concretely to the development of partnerships. According to a survey conducted in 2012, the Apulian socio-economic partnership is considered sufficiently large and ensures pluralism. However, some limitations have been pointed out in terms of the modalities of its organisation and procedures. In particular, respondents to the survey point out that while the partnership had a good capacity to identify regional and local needs; it was less effective in influencing the actions implemented.

This general assessment from the survey is not fully reflected in the evidence collected in the field where, with specific reference to the interaction with programme managers and intermediate bodies on SME instruments, both the beneficiaries and their representatives showed a high level of satisfaction overall. The dialogue with the region is considered to be good in general and programme managers are said to have been particularly responsive to adjusting and fine tuning the proposed instruments to the needs and priorities expressed on the ground.

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54 As mentioned in an earlier section InnovaPuglia comes from the experience of the science park Technopolis, while PugliaSviluppo was formerly part of the national agency for industrial promotion Sviluppo Italia.

55 By way of an example, on average the selection process for the instruments of Axis I lasts 90 days, for some of the less crowded calls it takes 45 days, compared with an initially longer time.

56 This is even more so in consideration of the fact that most of the instruments require the firm to pre-finance the proposed investments, thus a faster selection process has a positive effect in terms of accelerating the investment decision. A major effort should now be made to accelerate the payment processes, in order to improve the financial exposure of beneficiaries after the investment has been made.

57 Twenty-two actors signed the Memorandum of Understanding.

Response rate

On average, the participation rate in the open calls for tender was good, although a decreasing participation rate was recorded during the course of the programming period, also as a reflection of the pressure on access to credit caused by the financial crisis. It was reported that in some procedures there was a significant number of withdrawals also in consideration of the pre-financing mechanism, although this information is not available for all measures. For example, there was a 54% withdrawal rate in the measure for the digitalisation of TV stations, while for the other three procedures for which the information is available the rate was below 10% and it was also related to the high number of applications received. An increased response rate was reported for some instruments as a consequence of the revision of financial admissibility criteria, which were deemed to be too strict in view of the economic situation.

The response rate was also influenced by the type of selection procedure adopted. For more selective instruments targeting large scale investments the number of applications was, by nature, more limited. This is the case of the integrated facility packages that actually worked with as a one-stop-shop with a two-step procedure comprising, first, a selection based on a preliminary plan and, then, the request to develop a complete plan, which in some cases was managed with a negotiated procedure requiring ad hoc adjustments to the initial design suggested by the applicant to meet the required quality standards for technical specifications, especially for RDI components. In such cases the number of withdrawals was basically nil and the difference between the received application and the approved project was mainly related to the projects currently in preparation before the final approval.

Figure 11. Applications received (No., left scale) and success rate* (% right scale) for selected measures

![Applications received and success rate graph]

* No. of applications accepted out of total applications received
Source: Author’s processing of PugliaSviluppo and InnovaPuglia data

Other more generic instruments (typically aid to investments for micro and small enterprises and credit guarantees), also due to the high number of applications received and the nature of the operations supported, have a more automatic procedure that relies on an initial first screening made by the bank or fund managers, which checks for the degree of bankability of the proposed operation.
Reprogramming

The financial crisis was the main consideration influencing the reprogramming of the Operational Programme. With reference to the entire programme, reprogramming involved a threefold adjustment: 1) part of the resources were allocated to the national OP PAC (Programma Azione e Coesione) aimed at accelerating expenditure in some specific areas targeting social inclusion and basic services; 59 2) synergies with the regional ESF OP were strengthened, in particular by promoting measures supporting employment and 3) more emphasis was put on addressing social inclusion and employment safeguarding, especially in those actions aimed at promoting growth in firms (Axis VI).

With reference to the specific measures undertaken in policy instruments addressing SMEs, reprogramming included:

- Strengthening measures addressing access to credit and supporting enterprises in facing the credit crunch (by introducing a further financial engineering instrument in 2013 and increasing the allocation of the three existing ones);
- Adjusting the legislative framework for grant aid schemes in order to significantly relax the selection criteria on aid schemes, in particular by revising the admissibility of financial criteria reflecting the emerging macroeconomic situation. 60

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59 The Cohesion Action Plan is an instrument for strategic reprogramming set up in 2011 in partnership with the European Commission and with the aim of accelerating the expenditure process. It is the result of a major planning effort undertaken by the Italian national and regional authorities, and including socio-economic partners. According to the Delibera CIPE 1/2011 and as agreed with the National Committee for the National Strategic Framework, the Cohesion Action Plan draws national financial resources from the reprogramming process of operational programmes (especially those experiencing severe delays in the implementation process) concentrating those resources on a shortlist of selected policy priorities (with a strong emphasis on social services).

60 For example, one of the admissibility criteria of regional Regulation 7/2013 related to the turnover of the previous year was reduced from EUR 10 million to EUR 8 million medium-sized enterprises and groups of small enterprises.
3 EVIDENCE ON ACHIEVEMENTS

3.1 Measuring achievements

The monitoring system in place in the region reports only on limited aspects of the achievements of the OP and is focused on implementation (no. of R&D projects, no. of firms). It is structured at the Axis level and provides partial evidence at the level of individual policy instruments. In addition, some of the reported indicators either refer to context indicators\(^{61}\) or to ex-ante estimations based on declarations made by beneficiaries.\(^{62}\) Such indicators are reported in the Annex but are not considered here for the purposes of assessment.

More detailed and up-to-date information, especially on the characteristics of beneficiaries for single interventions, is available within implementing agencies. This information is systematically used by programme managers responsible for implementation; however, the collection of data and information from beneficiaries is fragmented and not centralised, and this lack of a comprehensive and integrated system results in poor feedback at the strategic level. Some evidence on the results achieved by individual projects is available and collected thanks to the personal interactions of programme managers with beneficiaries.

The responsibility for carrying out evaluations of programmes lies with the Evaluation Unit of the regional administration. However, there is a widely-shared opinion that it is still too early for an ex-post evaluation of the 2007-2013 Operational Programme. According to interviews carried out with the regional evaluation unit, an evaluation plan is to be prepared by the end of 2015 and will include the topics for which ex-post evaluations will be carried out in the future. Although there is the possibility that support to SMEs will be one of the topics (whether this is done at policy instruments level or across the entire programme remains to be seen), we cannot be sure of this at the moment\(^{63}\) and there is no clear view about what could be a basis for an ex-post evaluation given the current lack of result indicators at policy instruments level.

There is nevertheless an increasing awareness of the need to adopt systematic monitoring and evaluation systems able to report on the characteristics of the interventions as well as the results achieved from the side of programme managers. In particular, in addition to the standard monitoring system of the administrative and technical features of the implemented investments,\(^{64}\) InnovaPuglia prepared a detailed questionnaire to be submitted by each beneficiary SME after project completion in order to gather information on its innovation propensity, the contribution of the project to its innovation activities and the impact in terms of competences, employment, additionality and propensity to innovate.\(^{65}\) Data collection is currently at the initial phase and no results are available yet.

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\(^{61}\) For example, reported figures refer to regional SMEs and not to the supported SMEs, therefore they do not capture the incremental effect due to the OP. This is the case of indicator for exports of high growth productivity products/total exports

\(^{62}\) This is the case of employment generated

\(^{63}\) Although not strictly required by the EU regulations, an ex-post evaluation of the measures for R&D of the ERDF OP 2000-2006 was actually carried out by the Managing Authority and the Final Report is published on the Region website: http://beta.regione.puglia.it/documents/102075/2063527/Rapporto_FinaleRICERCAconIntegrazioni.pdf/9ad43ec7-7b0-4113-967-5d9d71c81de2

\(^{64}\) Which includes regular on-site visits to the investment locations

\(^{65}\) The questionnaire is particularly ambitious and includes 50 questions aimed, firstly, at describing the firm’s profile especially vis à vis its innovation and investment capacity, then asking about the characteristics of the
It is worth mentioning two recent attempts to provide impact evaluations of the OP performed by independent experts. The first refers to an estimation of the aggregate economic impact of ERDF expenditure carried out by IPRES, the regional economic and social institute\textsuperscript{66} using the REMI-Irpet econometric model.\textsuperscript{67} The result points to an aggregated effect of ERDF expenditure on regional GDP in the year 2013 of around 1% of the total ERDF expenditure of 2013, and a cumulated (2009-2013) generated output in the industrial sector equal to EUR 432 billion.

Another study was performed by the Bank of Italy and consists of an assessment of the grant for investments in research for which the call was launched in 2008 (Action 1.1.2 of Axis I). Using an econometric model\textsuperscript{68} and relying on official data from balance sheets, with a robust statistical significance they estimated an additional effect on investment by the beneficiary companies as compared to a control group, meaning that, even controlling for possible external noises and sample bias, there is evidence that assisted firms have higher expenditures in R&D than their not assisted pairs.\textsuperscript{69}

Therefore, while it seems rather early to have systematic evidence on actual achievements at the instrument level, there are already some findings related to the behavioural changes triggered within the SMEs supported.

### 3.2 Characteristics of the assisted SMEs

From evidence on the SMEs assisted there are interesting insights that confirm the adjustment of the intervention logic during the programming period and raise some concerns about the capacity of the programme to stick to the original intention of targeting high-tech and most innovative firms as well as accompanying structural change towards more globally competitive manufacturing sectors.

**Figure 12. Assisted beneficiaries by size and technological intensity**

Note: Information available for 7,086 SMEs: sectoral disaggregation (NACE 2 digit) is missing for the remainder

Source: Author’s processing of available lists of beneficiaries

implemented project as well as the reasons for accessing public funds, and finally asks about the results of the project in terms of: i) total investment generated, ii) employment effect, iii) know-how acquired, iv) innovative process or product developed, V) intellectual property rights granted, vi) turnover and efficiency gains (only in qualitative terms).

\textsuperscript{66} See www.ipres.it

\textsuperscript{67} This is an econometric model developed by the Irpet, the institute for economic research of the Tuscany region relying on the well-known REMI model used for forecasting the impact of public policies on regional and national economies (for more information on the REMI model see www.remi.com), and adapted to the regional contexts in Italy thanks to regional input-output matrices.

\textsuperscript{68} A difference-in-difference approach has been used for the estimation, and several robustness tests were performed.

\textsuperscript{69} The study is still unpublished and is currently undergoing an internal refereeing process, the estimated publishing date is July 2015.
Overall the ERDF assisted around 9,000 SMEs, with a prevalence of micro enterprises and low and medium-low tech sectors. The analysis at sector level is worrying inasmuch it confirms that the largest share of targeted sectors are not the export-oriented and innovative ones.

**Figure 13. Assisted beneficiaries, breakdown by total and manufacturing sectors**

In particular, there is a worrying concentration in the retail trade and construction sectors and a rather limited share of beneficiaries in the manufacturing sectors which, on the contrary, one would have expected to be among the key beneficiaries in the perspective of enhancing global export capacity. When digging into details of manufacturing sectors, however, it is not surprising to find a significant share of beneficiaries in the food and metal products sectors, which are some of the sectoral specialisations in the region as specified earlier in the context analysis.

**Figure 14. Assisted beneficiaries by technology- intensity and objective**

Note: For policy instruments addressing growth information is available for 6,586 SMEs (86.3% of the total) while for policy instruments targeting innovation information is available for 630 (54.4% of the total). Sectoral disaggregation (NACE 2 digit) is missing for the remainder

Source: Author’s processing of available lists of beneficiaries

When distinguishing by objectives pursued there is an evident divide between measures addressing growth and those addressing innovation, with the latter benefitting more high and medium-high tech sectors. Although there is a relevant share of beneficiary of instruments targeting innovation for which the necessary sectoral information is not

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70 This figure is an approximation and it is obtained by summing all the beneficiaries for which list of beneficiaries are collected (8,547), and considering that, by one side, beneficiaries of the measure for which no data have been collected are to be summed up and, by the other, the same beneficiary is counted more than once if benefitting by more than one instrument.

71 Including those marked with ‘innovation and growth’, which are the most selective of the ‘growth’ measures, such as the integrated facility packages.
available, and this can affect the actual breakdown of technological intensity, interviews with beneficiaries and their representatives confirm that this divide is actually in place.

**Figure 15. Assisted beneficiaries, breakdown by sector and type of instrument**

This is confirmed by the analysis at the sectoral level. While instruments addressing growth have a less focused sectoral breakdown and show a concentration in the retail trade and in construction instruments addressing innovation have a more focused target and with a prevalence of sectors where innovative and best performing firms (including the smaller ones, as mentioned in the context analysis) are concentrated (such as ICT and scientific activities). Instruments addressing innovation seem not only to have been more selective, but they also supported firms in sectors that are more in line with the ambition of accompanying structural change in the region.

### 3.3 Achievements

#### 3.3.1 Evidence on investments generated

73% of the committed funds were grants for investments in SMEs, with a strong focus on RDI. According to data on selected projects (only a share of them are actually completed), SMEs measures led to a total of 4,732 investment operations generating a total amount of 1,406 million Euro (see table below). This figure refers to ex-ante estimations made by the applicants; however some evidence on the state of implementation reveals that for integrated facility packages the final investments were actually higher than what was declared in the application form, since additional components were made necessary during the course of the implementation. In contrast, the measure of aid to micro and small enterprises, has 2,382 completed projects, which generated a total of 331 million Euro, thus an average investment amount of 139,000 Euro, slightly less than the average amount estimated ex-ante (this can also be due to the fact that completed projects are for smaller scale investments and not necessarily to the fact that actual investments were less than what was estimated ex-ante)\textsuperscript{72}.

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\textsuperscript{72} The same applies to the same measure for tourism, for which the 199 beneficiaries with completed projects carried out on average an investment of 449,153 Euro, as compared to a higher average amount estimated ex-ante on the total selected projects.
Table 3. Selected investments by instruments

<table>
<thead>
<tr>
<th>Measure</th>
<th>Total amount of investment approved (,000 Eur) (A)</th>
<th>Committed public exp. (,000 Eur) (B)</th>
<th>Averag e aid intensity (B)/(A)</th>
<th>no. of operations (C)</th>
<th>Of which completed (D)</th>
<th>N. of benef. SMEs* (E)</th>
<th>Average aid amount (,000 Eur) (B)/(C)</th>
<th>Average investment generated amount (,000 Eur) (A)/(C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated facility packages - Tourism</td>
<td>156,536</td>
<td>64,946</td>
<td>41.49 %</td>
<td>13</td>
<td>-</td>
<td>36</td>
<td>4,996</td>
<td>12,041</td>
</tr>
<tr>
<td>Integrated facility packages - medium</td>
<td>248,593</td>
<td>94,195</td>
<td>37.89 %</td>
<td>49</td>
<td>17</td>
<td>52</td>
<td>1,922</td>
<td>5,073</td>
</tr>
<tr>
<td>Integrated facility packages - small</td>
<td>110,272</td>
<td>51,652</td>
<td>46.84 %</td>
<td>37</td>
<td>1</td>
<td>37</td>
<td>1,396</td>
<td>2,980</td>
</tr>
<tr>
<td>Regional partnership</td>
<td>40,156</td>
<td>26,084</td>
<td>64.96 %</td>
<td>50</td>
<td>-</td>
<td>153</td>
<td>522</td>
<td>803</td>
</tr>
<tr>
<td>Aid to R&amp;D in SMEs</td>
<td>128,493</td>
<td>44,907</td>
<td>34.95 %</td>
<td>139</td>
<td>139</td>
<td>139</td>
<td>323</td>
<td>924</td>
</tr>
<tr>
<td>Living Labs</td>
<td>38,579</td>
<td>21,932</td>
<td>56.85 %</td>
<td>79</td>
<td>-</td>
<td>204</td>
<td>277</td>
<td>488</td>
</tr>
<tr>
<td>Aid for Tourism</td>
<td>118,490</td>
<td>39,129</td>
<td>33.02 %</td>
<td>244</td>
<td>119</td>
<td>244</td>
<td>160</td>
<td>486</td>
</tr>
<tr>
<td>Aid to micro and small enterprises</td>
<td>524,744</td>
<td>119,537</td>
<td>22.78 %</td>
<td>3,311</td>
<td>2,382</td>
<td>3,311</td>
<td>36</td>
<td>158</td>
</tr>
<tr>
<td>Aid for access to ICT</td>
<td>21,604</td>
<td>10,802</td>
<td>50.00 %</td>
<td>142</td>
<td>-</td>
<td>183</td>
<td>76</td>
<td>152</td>
</tr>
<tr>
<td>Consulting for innovation</td>
<td>18,649</td>
<td>11,247</td>
<td>60.31 %</td>
<td>246</td>
<td>-</td>
<td>246</td>
<td>46</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>1,406.1</td>
<td>17</td>
<td>484,431</td>
<td>4,732</td>
<td>2,687</td>
<td>7,0</td>
<td>102</td>
<td>297</td>
</tr>
</tbody>
</table>

* this does not correspond to operations of consortia or networks of enterprises

Source: Author’s processing of Pugliasviluppo, Innovapuglia and project calls data

Supported operations greatly vary in terms of scale and nature. Integrated facility packages show the highest average amount of investment, and actually financed far-reaching investment plans including the purchase of innovative machinery and equipment, buildings (to host the new equipment), R&D and consulting services. The scale and strategic relevance of the investments supported are such that, as confirmed by interviewees, they actually made the difference in the SMEs supported in that they were able to start new production lines, enlarge their client portfolio and improve their productivity.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Assigned amount of public funds</th>
<th>Total amount of financing approved (,000 Eur) (A)</th>
<th>Total amount of guarantee approved (,000 Eur) (B)</th>
<th>Average aid intensity (B)/(A)</th>
<th>no. of applications received (C)</th>
<th>N. of approved operations</th>
<th>Average financing (,000 Eur) (A)/(C)</th>
<th>Average guarantee (,000 Eur) (B)/(C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artigianfidi Puglia</td>
<td>23,642,936</td>
<td>126</td>
<td>77</td>
<td>60.87%</td>
<td>1269</td>
<td>806</td>
<td>0.16</td>
<td>0.10</td>
</tr>
<tr>
<td>of which company recapitalisation</td>
<td>na</td>
<td>3</td>
<td></td>
<td></td>
<td>16</td>
<td></td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>of which financial disequilibria</td>
<td>na</td>
<td>30</td>
<td></td>
<td></td>
<td>270</td>
<td></td>
<td>0.11</td>
<td></td>
</tr>
<tr>
<td>of which working capital</td>
<td>na</td>
<td>8</td>
<td></td>
<td></td>
<td>87</td>
<td></td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>of which investment</td>
<td>na</td>
<td>36</td>
<td></td>
<td></td>
<td>433</td>
<td></td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Co.Fidi Puglia</td>
<td>28,423,682</td>
<td>194</td>
<td>153</td>
<td>78.59%</td>
<td>2116</td>
<td>1400</td>
<td>0.14</td>
<td>0.11</td>
</tr>
<tr>
<td>of which company recapitalisation</td>
<td>7</td>
<td>na</td>
<td></td>
<td></td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>of which financial disequilibria</td>
<td>64</td>
<td>na</td>
<td></td>
<td></td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>of which working capital</td>
<td>20</td>
<td>na</td>
<td></td>
<td></td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>of which investment</td>
<td>103</td>
<td>na</td>
<td></td>
<td></td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Fidindustria Puglia</td>
<td>16,348,402</td>
<td>109</td>
<td>87</td>
<td>79.11%</td>
<td>1381</td>
<td>691</td>
<td>0.16</td>
<td>0.13</td>
</tr>
<tr>
<td>of which company recapitalisation</td>
<td>3</td>
<td>2</td>
<td></td>
<td>10</td>
<td>0.27</td>
<td></td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>of which financial disequilibria</td>
<td>46</td>
<td>36</td>
<td></td>
<td>227</td>
<td>0.20</td>
<td></td>
<td>0.16</td>
<td></td>
</tr>
<tr>
<td>of which working capital</td>
<td>22</td>
<td>18</td>
<td></td>
<td>204</td>
<td>0.11</td>
<td></td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>of which investment</td>
<td>38</td>
<td>30</td>
<td></td>
<td>250</td>
<td>0.15</td>
<td></td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>Confidi ConfCommercio Puglia</td>
<td>20,947,003</td>
<td>na</td>
<td>na</td>
<td>894</td>
<td>704</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Total</td>
<td>89,362,022</td>
<td>430</td>
<td>316</td>
<td>5,660</td>
<td>3,601</td>
<td></td>
<td>0.08</td>
<td>0.09</td>
</tr>
</tbody>
</table>

* Data are available for three out of a total of four selected credit providers representing 90% of total assigned amount of public funds
There is a vast consensus among policy makers and beneficiaries that the direct support to SMEs provided by the OP was able to influence investment decisions in firms positively. There is agreement that, especially in periods of severe global economic downturn and financial constraints, the availability of non-repayable funds provided a crucial incentive to private investment by reducing the gap between the cost of financial capital and the expected rate of return on investment. This gap is larger in the case of R&D activities, which are characterised by higher uncertainty in relation to the timing and magnitude of the return on investment, as reflected by the higher aid intensity\textsuperscript{73} granted to R&D activities\textsuperscript{74}. The system of aid intensity in fact is expected to fill in the mentioned gap and is modulated in order to favour more risky but promising category of activities.

**Figure 16. Selected investment by type of expenditure for integrated facility packages**

![Image](image)

*Source: Author’s processing of Pugliasviluppo data*

Case histories reveal that more than influencing the decision in itself (whether to invest or not), the availability of public funds in the form of non-repayable aid had a triggering effect in terms of anticipating or upscaling the investment decisions which were however already within the firm’s strategic priorities\textsuperscript{75}. Although there is no evidence of crowding-out effects on other kinds of instrument, especially ordinary loans, it is worth noting that the aid intensity is calculated as a fixed percentage applied to the different investment components as specified in the call for proposals (with the lower rates, usually 20%, for buildings and the higher ones, generally in a range of 60-75%, for RDI components). There is no system therefore to modulate the aid intensity according to consideration of expected profitability and risk level of the investment. This rather rigid system is somehow limiting the possibility to avoid crowding out effect\textsuperscript{76}.

\textsuperscript{73} This is defined by the ratio between the aid amount and the total cost incurred by beneficiaries.

\textsuperscript{74} By way of example, aid intensity in the integrated facility schemes was 75% for industrial research against 20-40% for fixed assets.

\textsuperscript{75} This consideration is in line with evidence from the literature. In particular, D’Aurizio and Marinucci (2013) using data on the annual firm survey of the Bank of Italy for the period 2008-2010 found that public funds are only marginally used by the most dynamic Italian firms carrying out R&D activities and, when this occurs, this does not influence the decision but rather the intensity of the R&D investment. The message of the study is however more positive for firms in Southern Italy, for which public funds have a relevant triggering effect supporting investment decisions that would have not occurred in the absence of the public funds. In the case of Apulia, beneficiaries interviewed would have possibly made the investments anyhow, but this would have taken a longer decision making-period (which also means a longer time-to- market for R&D investments).

\textsuperscript{76} the modulating mechanism would adjust the incentivising effect to the actual degree of risk.
The effect in terms of investment generation of the credit guarantee measure is indeed less significant. As compared to the ambition to support access to credit in order to favour investments in SMEs, in combination with the existing grant schemes, evidence on the operations supported is less positive: the major share of supported guarantees were used to address the short term financial needs of SMEs. Hence, the effect on investment is less conclusive, due also to the lack of systematic evidence on the effect of supported operations.

In addition, it is worth noting that since investment supported by credit guarantees are for a major share combined with the grant scheme on the measure of aid to investment for small and micro enterprises, they should not be considered in addition to those presented in Table 3.1. Their effect is rather to increase the aid intensity by cutting the cost of access to credit.

**Figure 17.  Supported operations by the credit guarantee instrument**

*only data of three out of four guarantee fund managers were available

*Source: Author’s processing of fund managers’ data*

### 3.3.2 Evidence on Employment effects

The ultimate goal of supporting investment was to generate employment effects on selected beneficiaries. However, in some cases the expected effects on employment were more restricted than in other cases. In particular, in the case of integrated facility packages, employment was among the primary intended effects, with a system which included the commitment by the beneficiaries not only to maintain the existing employment but also to increase the number of employees keeping the additional employees for at least three years after the investment is completed, otherwise the public subsidy is repealed (with a system of yearly ex-post verification based on official declarations by the assisted firms). In line with the above mentioned evidence from interviews, for integrated facility packages in a number of cases the actual employment effect was higher than what was estimated ex-ante (given the required commitment it is likely that the ex-ante forecasts were prudential).

This system is not in place however for the other category of instruments such as for example the aid to small and micro enterprises (as a matter of fact the number of beneficiaries is also much larger, about six times larger, which would make the ex-post verification particularly cumbersome). Still, in the ex-ante phase, there was a request to indicate the expected employment effects generated by the investments for which the public support was required.

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77 Which is rationed due to higher credit risks in crisis periods
Table 5. Employment creation by selected policy instruments

<table>
<thead>
<tr>
<th>Measure</th>
<th>Ex-ante declaration of expected jobs created by the investment N.*</th>
<th>Commitment (subject to ex-post verifications) of additional employment generated. N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated facility packages-Tourism</td>
<td></td>
<td>207 (35%)</td>
</tr>
<tr>
<td>Integrated facility packages-medium</td>
<td></td>
<td>568 (15%)</td>
</tr>
<tr>
<td>Integrated facility packages-small</td>
<td></td>
<td>208 (22%)</td>
</tr>
<tr>
<td>Regional partnership</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Aid for Tourism</td>
<td>366</td>
<td></td>
</tr>
<tr>
<td>Aid to micro and small enterprises</td>
<td>4,100</td>
<td></td>
</tr>
<tr>
<td>Aid for access to ICT</td>
<td>228</td>
<td></td>
</tr>
<tr>
<td>Consulting for innovation</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

* Such declarations are not verified ex-post

Source: Author’s processing of Pugliasviluppo and Innovapuglia data

3.3.3 Evidence on research and innovation

Besides the already mentioned designed system by Innovapuglia, there is no systematic way at central level to monitor whether the implemented investments have actually led to the introduction of process or product innovation. The only available information, again, refers to the forecasts made ex-ante by applicants of some of the measures. In particular, in the case of integrated facility packages, among the 36 selected projects, 69% declared investment plans aimed at process innovation and 31% for product innovation. In the case of integrated facility packages for small enterprises, among the 37 projects selected, 62% were for process innovation and the remaining for product innovation. There is high confidence among programme managers and beneficiaries that, when completed, the selected project will actually lead to the intended effect however a systematic feedback is currently not planned.

3.4 Mechanisms and conditions

This section explores mechanisms and conditions affecting behavioural change within beneficiary SMEs and whether support was able to provoke or hinder the materialisation of a significant change in the development patterns of assisted SMEs.

3.4.4 managerial and financial capacity of SMEs

As confirmed by representatives of business associations and programme managers, the typical profile of beneficiary SMEs who could better profit from the opportunity offered by the ERDF OP for investment support is that of a dynamic and growing enterprise (they can be micro or small, the relevant point is that they are an innovation-oriented organisation) with a well-defined business strategy centred on innovation and using public funds as a convenient financial source as compared to other possible alternatives (own equity capital, credit or venture capital78).

Evidence collected in the field confirms that the capacity to provide own capital to cover initial investment costs is critical for the investment decision. In this sense, a long time span in the selection and payment process by the paying authority has a discouraging effect on firms with a weaker financial capacity. In the majority of cases, actual payments arrive when the investments are not only already implemented but have already been fully paid for with alternative funds. This means that the public funds are

78 The convenience is particularly high when i) access to credit is rationed; ii) venture capital markets are inefficient or non-existent and iii) accumulation of own capital is constrained by contingent or structural financial situation
used either for the subsequent phase of the investment or to improve the financial position of the company.

There is therefore systematic evidence suggesting that a necessary pre-requisite for a successful performance of the subsidised firms is an initial solidity and capacity to engage in forward looking and ambitious R&D strategies, for which public funds act as a catalyst and accelerator rather than the main causal trigger. For these firms the main effect is to accompany and facilitate an investment decision that is however already taken.

3.4.5 the need for technical assistance

Interviews in the field pointed to a number of case histories where the companies were actually successful in implementing their innovation strategies and these have led to the realisation of a new innovative product. However the time to market was reported to have been highly underestimated in the strategic planning phase and enterprises were experiencing some financial pressures in sustaining the long experimenting phase. For this reason it is understandable that financial robustness is a selection criterion which should not be underrated.

At the same time, it has been reported that selection criteria seem to be too heavily reliant on financial rating rather than technological rating. This is perceived to be a major constraint, especially by smaller firms, which definitely need a more strategic direction than an interaction with funds providers ruled by the request for administrative and financial compliance. Clearly, relying on scientific and technical competences could be a crucial added value to guarantee the capacity to scrutinise the scientific quality of the projects supported not only in the moment of the project selection but throughout all the implementation phase, in order to cope with the emerging challenges.

It is worth mentioning that both the regional managers and the intermediate body have a strong background in technical and research-related matters. It is widely recognised by the beneficiaries that this is without doubt an evident added value, which is also reflected in the way some instruments were actually designed. For example, InnovaPuglia recently decided to combine the usual administrative monitoring system with a technical and scientific monitoring process which includes on-site visits to check the degree of implementation and the technical appropriateness and suitability of technological solutions adopted. In the same way, for the integrated facility packages, which are more selective and large scale investments including in some cases a significant RDI component, PugliaSviluppo set up a selection and monitoring process combining the review of financial and economic parameters carried out by internal staff with scientific opinions from external experts hired for the purpose. Following a negotiated procedure, after the approval of the preliminary design on the basis of scientific soundness, technical assistance and support is provided during the planning phase which leads to the definitive design. In this phase adjustments in the initial design to improve the scientific quality of the investment may be suggested by the scientific reviewer. Unfortunately, this method is not streamlined for all the measures, due in part to the higher number of target beneficiaries which would make this process too cumbersome.

79 They come from the experience of Technopolis, a science park with a longstanding tradition of supporting research activities in industry
80 They have usually the position of full professors in the scientific domain relevant for the investment.
3.4.6 Entry barriers for newcomers

Accessing EU funds requires high costs in terms of administrative capacity, as most of the beneficiaries interviewed complain. Evidence from the lists of beneficiaries and interviews in the field confirm the existence of a sort of ‘club’ effect, according to which there is a relatively small number of parties which, thanks to a learned capacity to respond appropriately to public calls and having acquired significant administrative capacity to deal with all the ‘paper work’ required for the application, reprogramming and claims for payments, have systematic access to public funds, especially for more challenging procedures. This may have a positive outcome of systematically accompanying the most successful firms benefitting from different instruments over the years in long-lasting development processes with a significant multiplying effect: there is some evidence of firms having received funds from the different R&D and innovation phases, from pre-competitive research activities to industrialisation and commercialisation. In particular, among the firms benefitting from RDI supporting instruments approximately 30% of them benefit from more than one instrument.

At the same time, this raises a concern about a high dependence on public funds and the consequence of a risk of an unsustainable development strategy. The capacity to access public funds can also pave the way to opportunistic behaviour. Some interviewees reported that, when research projects are not underpinned by a forward looking strategic perspective with a strong ownership but are motivated just by fund-seeking behaviour, their sustainability is of course endangered.

The role of intermediaries is determinant in channelling the right information to the relevant potential recipients and to guaranteeing an overall alignment of the proposed projects to the overall regional strategies. As has been said, a prominent role in this respect should be played by business associations, cluster organisations, public research and liaison offices and ultimately regional agencies. Opinions collected in the field however, agree that there is still poor awareness of the firms about the opportunities offered by the EU funds to support innovation and development. According to a recent survey by the Ministry of Economy, Italian SMEs have a very low awareness of the opportunities offered by public support measures, with only 20% being familiar with the funding opportunities. According to interviews in the field in Apulia the percentage is expected to be even lower.
4 CONCLUSIONS

The Apulia case study offers interesting lessons on the role of the ERDF in supporting SMEs and in particular on its potential in a period of severe crisis.

First and foremost, when designing and implementing ERDF strategies it is of utmost importance to understand what kind of role the ERDF can realistically play in the policy framework and in the specific context in which it is implemented. Although the ERDF measures supporting SMEs in Apulia over the period 2007-2013 provided a relatively large amount of funds (the total programmed funds account for approximately 20% of the total OP amounted to EUR 847 million) their capacity to actually influence regional structural dynamics should not be overestimated: if divided by the total number of regional SMEs, ERDF accounts for approximately EUR 3,300 for each SME over the entire period, which means EUR 471 per year. While it is reasonable to think that if strategically concentrated and addressed those funds can actually make a difference for a selected number of beneficiary SMEs targeting well-identified barriers to growth and market failures, there is quite a limited scope in using the ERDF to cope with more systemic failures such as credit crunches in a period of crisis. A pre-condition for success when using the ERDF to support SMEs is also related to a favourable policy framework and context, which could emphasise its pivotal and additionality role over ordinary policy tools.

Over the period 2007-2013 the ERDF played an anti-cyclical role in Apulia in coping with the crisis period and a substitution role in addressing a decrease in ordinary support measures for SMEs, mainly from national sources. It invested a significant share of public funds in support for regional SMEs experiencing severe employment and capital investment cuts and, with a smooth and efficient implementation strategy, was effective in reaching out 9,000 SMEs which, although being a relatively significant number, it is a minor one if compared with the total number of SMEs in the region. In general the ERDF provided only limited support to strategic investment in innovation and growth, thus hampering its additionality role and the ambition to support structural change.

While the need to adjust the initial ambitions to cope with the emerging needs brought about by the crisis is evident, the question arises of whether the pressure on funds absorption and the demand-driven approach did not play too significant a role in steering the use of the ERDF away from its original intention of providing a pivotal tool for industrial policy.

The second lesson is the consideration that promoting excellence in R&D requires strong strategic and financial capacities within SMEs. This critically limits the potential targets, especially in times of financial pressure, and may raise concerns in terms of funds absorption. Indeed, more strategic tools need more challenging selection processes and are more demanding in terms of implementation. In contrast, while instruments generically addressing growth were relatively less focused, in practice they could usually respond to a range of needs in Apulian firms that were not strictly related to investment, but often linked to urgent issues of survival. Hence, an efficient governance system and skilled personnel able to engage in a dialogue with regional SMEs that goes beyond administrative issues is a critical success factor when targeting scientific excellence and SME competitiveness. The capacity to promptly provide financial resources and also assist the development of competences and technical support are an effective way of supporting and guiding ambitious investment plans. In this respect, not only the capacity to select the best performing firms, but especially to scout for promising enterprises and to provide technical assistance during the implementation process are key conditions for
success. The internal capacity to manage innovation processes and access to funds are, in fact, critical factors that should be developed within SMEs.

The third lesson is related to the effectiveness of different policy instruments. As illustrated by the case study, instruments targeting RDI and concentrating funds on a selected number of beneficiaries that also benefit from some accompanying and technical assistance activities have the critical mass to trigger positive effects and provide better evidence of success. In contrast, the evidence for more generic instruments targeting a higher number of beneficiaries with more automatic selection procedures is limited to the short-term effects of addressing more generic needs for access to credit. The objectives of safeguarding employment and territorial cohesion were relatively more pronounced for such interventions, also reflecting a more bottom-up approach to prioritisation. The effectiveness of such instruments in terms of long-term behavioural change and the sustainability of the supported operations is affected, while there is clear evidence of success in the case of the more selective instruments. Thus, ambitions and selectivity pays off: when clearly addressing excellence and cutting-edge technological innovation there is a scope for the ERDF to provide an acceleration and additionality effect in the consolidation of regional gazelles, even in a period of crisis.

Finally, for most of the policy instruments there is a surprising lack of evidence about the monitoring of the results achieved. To a minor extent this is due to the timing of the activities, which are partly still ongoing, but the main reason is actually a lack of awareness of the need to systematically collect and use the evidence of the effects produced by the policy. Despite the fact that the regional implementing agencies engaged in a close and daily relationship with the beneficiaries and have an in-depth understanding of their characteristics, needs and capacities, they collected anecdotal and rather unsystematic evidence about the effects of the implemented investments. Thus, there is a huge amount of tacit knowledge about mechanisms and effects that is actually lost in the loop of the implementation process, which is still too concerned with funds absorption. The last lesson stresses the importance of collecting systematic evidence from SMEs about the effects of the use of the implemented instruments and, on the other hand, the need to have a more strategic approach to SME support that can be improved by prompt and systematic feedback during the implementation process.
## ANNEX I. LIST OF POLICY INSTRUMENTS TARGETING SMES

| Full name | Measure   | Description                                                                                                                                                                                                                                                                                                                                 | Logic of intervention                                                                 | Objective | Selection procedure | Mode of delivery | Eligible expend. | Initial allocat. MEuro | Commit. MEuro | N. Beneficiary SMEs²¹ |
|-----------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------|---------------------|-----------------|------------------|--------------------|-------------------|----------------------|----------------|---------------------|
| Aid for investment in research by SMEs | 1.1.2a | Supports investment in research and innovation promoted by SMEs, in order to increase innovative activities and regional production both in traditional manufacturing sectors and in innovative sectors.                                                                 |
|           |           | Supporting R&D investments by reducing the risk related to the uncertainty of pre-competitive R&D                                                                                                                                       | Innovation | Open competitive   | Grants                        | Personnel; fixed assets; services; consulting, patents | 48               | 44.9               | 139                 |                |                    |
|          | 1.1.2d    | Support is given to SMEs for the acquisition of specialised consulting services to strengthen their technological development and innovation activities.                                                                                                                     | Improving innovative capacity in SMEs | Innovation | Open competitive   | Grants                        | Services and consulting | 10               | 11.2               | 246                 |                |                    |
|          | 1.1.3     | The policy instrument aims to support the creation of new enterprises investing in R&D, as well as strengthening micro and small innovative enterprises, in order to strengthening the Regional Innovation System. Sectoral specialisation identified with d.g.r. n. 1552 are the following: advanced material, advanced logistics, advanced manufacturing, ICT, environment and energy saving, health, agrofood |
|          |           | Promoting innovative SMEs                                                                                                                                                                                                                                                                        | Innovation | Open competitive   | open one-stop-shop | Grants                        | Building; machinery; equipment; technology transfer | 30               | 30                 | 32                  |                |                    |

²¹ The number of beneficiaries is not available in case of: indirect support (e.g. the marketing plan), or selection process still ongoing (e.g. pre-procurement)
| Networks for knowledge transfer - ARTI | 1.2.3a | The Policy instrument is aimed at better valorising the output of research activities through promotion activities carried out by the regional agency for research and innovation ARTI. | Improving the capacity to commercialise research results and technology transfer | Innovation | Open one-stop-shop | Grants and Information campaign, events, seminars | Patents; advice and consulting | 5 | 5.1 | 56 |
| Networks for knowledge transfer - ILO offices | 1.2.3b | The Policy instrument is aimed at better valorising the output of research activities, through promotion of the regional network of ILOs (Industrial Liaison Office). | Limiting imperfect information on innovation opportunities | Innovation | Open one-stop-shop | Consulting, advice, technical assistance | Network of ILO offices | 1 | 1.2 | 0 |
| Regional partnership for innovation | 1.2.4 | Aiming to promote the creation of public-private partnerships for research and innovation in line with smart specialisation strategies. | Supporting investment in R&D by promoting cooperation among enterprises and with research centres | Innovation | Open negotiated | Grants | Personnel; equipment; research contract; services; consulting; patents | 9 | 26 | 153 |
| Aid to SMEs for access and use of ICT in productive and management operations | 1.4.1 | The objective is to increase innovation in all economic and productive sectors of the region. Two calls "Aid for the diffusion of ICT technologies in SMEs’ networks" supported the implementation of ICT solutions in enterprises, through the diffusion of SAAS. | Supporting adoption of digital solutions in networks of SMEs | Innovation | Open competitive | Grants | Equipment HW; licenses SW; purchase or development of software; consulting | 10 | 10.8 | 183 |
| Living Labs | 1.4.2 | The Policy instrument supports the creation of living labs, aiming to favour constant interaction between demand, technology development and supply. In particular, the region promotes experimentation. | Supporting the link between demand and supply of industrial research and innovation; | Innovation | Open competitive | Package | Personnel; equipment; services; software; patents; general expenditure up to 5% | 15 | 21.9 | 204 |
projects in the ICT living labs, where researches, enterprises and groups of citizens exchange ideas and knowledge, plan together and experiment with innovative technological solutions.

promoting social innovation by reducing the risk related to the uncertainty of pre-competitive R&D

of personnel costs

| Public Procurement for Innovation - Pre-Commercial Public Procurement | 1.4.3 | The Policy instrument supports public procurement as a means to stimulating innovation. It supports the purchase of services of research and experimentation needed to develop new solutions for the public sector not already available on the market. | Supporting the link between demand and supply of industrial research and innovation; promoting social innovation by reducing the risk related to the uncertainty of pre-competitive R&D | Innovation | Open competitive | Grants | na | na | 2.3 | n.a. |

<p>| Integrated Facility Packages implemented by medium enterprises and consortia of SMEs | 6.1.2 | Finances the realisation of investments aiming to increase productive innovation in selected sectors. The Policy instrument finances the purchase of machinery, consulting services for innovation in the context of internationalisation, marketing, participation in fairs and ethical certification SA8000. | Supporting industrial investments, especially on innovation | Innovation AND Growth | Open one-stop-shop | Grants | Fixed assets (property purchase; building; machinery; equipment); advice and consulting; investment in R&amp;D; investment in energy efficiency | 88 | 94.1 | 52 |
| Aid to investment by micro and small enterprises | 6.1.4 | Supports the creation and development of micro and small enterprises. The Policy instrument has been delivered through an open call. Examples of projects comprise the financing of the purchase of machinery, computer systems, buildings, construction works for enterprises (water, electrical, heat systems). | Supporting industrial investments, especially for micro enterprises with poor access to credit | Growth | Open competitive | Grants | Fixed assets (e.g. purchase of machinerie, computer systems, buildings, constructio n works) | 145 | 119.5 | 3311 |
| Support to start-ups of micro enterprises by disadvantag ed persons | 6.1.5 | The Policy instrument finances entrepreneurial activities implemented by the young, women and unemployed people. It comprises incentives for the establishment of companies owned and managed by related persons, aimed at encouraging the inter-generational transfer of the business, the improvement of the company’s equipment and the increase of employees. | Supporting the creation of new business | Growth | Open one-stop-shop | Grants | Fixed assets (e.g. purchase of machinerie, computer systems, buildings, constructio n works) | 63 | 29.5 | 209 |
| Credit guarantees | 6.1.6 | This Policy instrument favours access to credit by Apulia’s enterprises. A guarantee fund has been set up for the benefit of enterprises seeking bank credit. Intermediate bodies (Consortia or Cooperative companies) disburse resources. The fund has been used particularly to finance material and immaterial investment, but also to address financial disequilibria or favour company recapitalization. | Limited access to credit | Growth | Open one-stop-shop | Repayable financial support | For guarantees related to investment s the eligible expenditur es are purchase of land, buildings, machinery, equipment, software; services; consulting; certificatio ns | 50 | 100 | 3,830 |
| Qualification of the tourist offer | 6.1.9 | This Policy instrument grants aid to enterprises in the tourist sector, as a contribution to initial investment carried out by SMEs. The aid is not delivered through calls, but on a continuous basis upon request by potential beneficiaries. | Supporting investments in the tourism sector | Growth | Grants | Fixed assets (e.g. buildings, construction works, renovation...)&lt;br&gt;Supporting investments in the tourism sector | 45 | 39.1 | 244 |
|---|---|---|---|---|---|---|---|---|
| Aid to medium and consortia of SMEs for Integrated investment programme in the Tourist sector | 6.1.10 | Involves Integrated investment plans aimed at improving the tourist offer in Puglia. The Policy instrument is aims to implement an integrated set of investment in order to improve the regional tourist offer. | Supporting investments in the tourism sector | Growth | Open one-stop-shop | Grants | Fixed assets (property purchase; building; machinery; equipment...); advice and consulting; technology transfer; fairs and exhibitions; corporate social responsibility| 45 | 64.9 | 36 |
| Aid to small enterprises for Integrated Facility Packages | 6.1.11 | Supports the enlargement, development and innovation of SMEs, by financing industrial investment to increase the production of goods and services, integrated with investment for R&amp;D and the purchase of services. Eligible material investments consist of the realization of new productive units, the enlargement of existing units, diversification of production, and change in production processes. | Supporting industrial investments, especially in innovation | Innovation AND Growth | Open one-stop-shop | Grants | Fixed assets (property purchase; building; machinery; equipment...); advice and consulting; investment in R&amp;D | 49 | 51.6 | 37 |
| Benefits for SME owners | 6.1.12 | The policy instrument, delivered through an open | Supporting technological | Innovation | Open competitive | Grants | Fixed assets | 10 | 1.6 | 10 |</p>
<table>
<thead>
<tr>
<th>Aid in the form of equity capital and counter guarantee for credit to small and micro enterprises</th>
<th>6.1.13</th>
<th>Financial engineering instrument aimed at improving access to credit of small and micro enterprises.</th>
<th>Support access to credit</th>
<th>Growth</th>
<th>Open one-stop-shop</th>
<th>Equity finance</th>
<th>na</th>
<th>40</th>
<th>na</th>
<th>na</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aid to the establishment of companies in the extra-urban productive areas</td>
<td>6.1.14</td>
<td>The Policy instrument incentivized consortia or networks of enterprises, which want to transfer their productive units from the urban areas to dedicated productive settlements. No calls have been launched; the procedure to disburse aid is activated upon request by potential beneficiary companies.</td>
<td>Support balanced territorial development</td>
<td>Growth AND Territorial cohesion</td>
<td>Open one-stop-shop</td>
<td>Grants</td>
<td>Consulting; building; machinery; equipment; technologic transfer; software (only small enterprises)</td>
<td>10</td>
<td>8.1</td>
<td>39</td>
</tr>
<tr>
<td>Intervention s for the definition and implementation of a regional localised marketing plan</td>
<td>6.3.1</td>
<td>In strict connection with other measures for enterprise competitiveness, this Policy instrument, activated in the course of 2013, leads to the definition of a regional multi-annual marketing plan, addressed to the main stakeholders and operators in Italy and abroad. The Policy</td>
<td>Promoting internationalisation</td>
<td>Growth</td>
<td>na</td>
<td>Consultin g, advice, technical assistanc e</td>
<td>Services for regional promotion; Regional marketing plan and specific initiatives; Instrument</td>
<td>8</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Intervention</td>
<td>6.3.2 (ex 6.1.8)</td>
<td>The Policy instrument supports the definition and implementation of projects and initiatives of economic promotion, particularly at cluster level, aimed at increasing the companies’ openness to foreign market and improve the internationalization capacity of Apulia’s enterprises. Examples of initiatives financed by the Region include scouting instruments, participation to fairs and national/international workshops, incoming missions of foreign operators, information and awareness activity to the benefit of local operators and other promotional events. Interventions focus on selected priority sectors and areas, identified on a two-year basis.</td>
<td>Promoting internationalisation</td>
<td>Growth</td>
<td>Open competition</td>
<td>Consulting, advice, technical assistance</td>
<td>Services for regional promotion (fair and exhibitions); Marketing and advertisement equipment for regional promotion; Coordination and monitoring services.</td>
<td>28</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>

| Intervention | 6.3.3 | The Policy instrument introduces different financial systems to encourage the penetration of Apulia’s SMEs in foreign markets and the development of internationalization networks among SMEs. Forms of finance include a Fund for mortgages, but also direct | Promoting internationalisation | Growth | Open one-stop-shop | Consulting, advice, technical assistance | Services for regional promotion (fair and exhibitions); Marketing and advertisement | 6 | na | na |
grants for projects of international promotion proposed by networks of SMEs. Eligible projects include the participation to international fairs, partner research, logistics and customer service, organization of temporary exhibitions and product presentations.
ANNEX II. CORE AND PROGRAMME INDICATORS

Figure I1. Core indicators at programme level

<table>
<thead>
<tr>
<th>CORE Indicators</th>
<th>Indicators</th>
<th>Baseline</th>
<th>Target</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>(01) Number of jobs created</td>
<td></td>
<td>0 65,499</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
<td>3,263</td>
<td>10,362</td>
<td>19,169</td>
<td>19,348</td>
<td></td>
</tr>
<tr>
<td>(02) Number of jobs created for men</td>
<td></td>
<td>0 45,994</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
<td>2,180</td>
<td>6,942</td>
<td>12,643</td>
<td>12,803</td>
<td></td>
</tr>
<tr>
<td>(03) Number of jobs created for women</td>
<td></td>
<td>0 21,915</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
<td>1,077</td>
<td>3,319</td>
<td>6,526</td>
<td>6,565</td>
<td></td>
</tr>
<tr>
<td>(04) Number of projects in R&amp;D</td>
<td></td>
<td>0 200</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>154</td>
<td>206</td>
<td>401</td>
</tr>
<tr>
<td>(07) Number of projects (Investments aid for SMEs)</td>
<td></td>
<td>0 5,000</td>
<td>0 0</td>
<td>0</td>
<td>2700</td>
<td>1,634</td>
<td>2,439</td>
<td>5,443</td>
<td>7,199</td>
<td></td>
</tr>
<tr>
<td>(08) Number of new assisted enterprises</td>
<td></td>
<td>0 100</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>152</td>
<td>177</td>
<td>181</td>
<td>311</td>
</tr>
<tr>
<td>(11) Number of projects (information society)</td>
<td></td>
<td>0 70</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>(34) Number of projects (Tourism)</td>
<td></td>
<td>0 306</td>
<td>0 0</td>
<td>0</td>
<td>0</td>
<td>47</td>
<td>174</td>
<td>216</td>
<td>255</td>
<td>265</td>
</tr>
</tbody>
</table>

Source: AIR (2013)

Figure I2. Indicators at axis level

<table>
<thead>
<tr>
<th>Axis I</th>
<th>Baseline</th>
<th>Target</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beneficiary enterprises (U M.: n.)</td>
<td>618</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>32</td>
<td>108</td>
<td>151</td>
</tr>
<tr>
<td>Beneficiary enterprises (U.M.:n.)</td>
<td>75</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Result indicators</td>
<td></td>
<td></td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
</tr>
<tr>
<td>Private expenditure of public and private enterprises in R&amp;D on GDP</td>
<td>0.15</td>
<td>0.29</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.19</td>
<td>0.18</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Enterprises introducing product and/or process innovations (%/total)</td>
<td>20.5</td>
<td>30</td>
<td>20.6</td>
<td>20</td>
<td>NA</td>
<td>21.1</td>
<td>NA</td>
<td>18.6</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: AIR (2013)
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<tr>
<td>Pasquale Orlando</td>
<td>Director-Managing Authority of ERDF OP Puglia 2007-2013</td>
<td>Apulia Region, Managing Authority</td>
<td>11.11.14 10.02.15</td>
</tr>
<tr>
<td>Adriana Agrimi</td>
<td>Director Industrial Research and Innovation Service</td>
<td>Apulia Region, Managing Authority</td>
<td>11.11.14 10.02.15</td>
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<tr>
<td>Giuseppe Moro</td>
<td>President of Evaluation of Public Investment Unit</td>
<td>Apulia Region</td>
<td>03.03.15</td>
</tr>
<tr>
<td>Ing. Francesco Surico</td>
<td>Managing Director</td>
<td>Innovapuglia, regional agency for innovation in ICT</td>
<td>11.11.14</td>
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<tr>
<td>Dott. Gaetano Storelli</td>
<td>Responsible of the service of intermediate body</td>
<td>Innovapuglia, regional agency for innovation in ICT</td>
<td>11.02.15</td>
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<tr>
<td>Antonio De Vito</td>
<td>Managing Director</td>
<td>Pugliasviluppo, regional agency for investment promotion and support to enterprises</td>
<td>11.11.14 10.02.15</td>
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<tr>
<td>Donatella Toni</td>
<td>Programme manager</td>
<td>Pugliasviluppo, regional agency for investment promotion and support to enterprises</td>
<td>11.02.15</td>
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<tr>
<td>Paolo Ferraiolo</td>
<td>Programme manager</td>
<td>Pugliasviluppo, regional agency for investment promotion and support to enterprises</td>
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<tr>
<td>Evelina Milella</td>
<td>President</td>
<td>ARTI, regional agency for technology and innovation</td>
<td>19.02.15</td>
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### Economic and social partners

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<tr>
<td>Vittoriano Colangiuli</td>
<td>Director</td>
<td>Confindustria Puglia, business association</td>
<td>12.02.15</td>
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<tr>
<td>Pino Riccardi</td>
<td>Vice-president</td>
<td>Chamber of Commerce of Bari and Bari CNA (Association of craftsmanship and SMEs)</td>
<td>12.02.15</td>
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<tr>
<td>Giulio Colecchia</td>
<td>Regional secretary</td>
<td>CISL, trade union</td>
<td>19.02.15</td>
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<tr>
<td>Gianni Forte</td>
<td>Regional secretary</td>
<td>CGIL, trade union</td>
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### Intermediate bodies

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<tr>
<td>Teresa Pellegrino</td>
<td>General Director</td>
<td>Cofidi Puglia</td>
<td>11.02.15</td>
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<tr>
<td>Andrea Leone</td>
<td>President</td>
<td>Fidindustria</td>
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### National public authority

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<tr>
<td>Federica Bertamino</td>
<td>Economist, former coordinator at the Evaluation Unit of the Research and Innovation thematic Objective</td>
<td>Ministry of Economy</td>
<td>26.02.15</td>
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### Beneficiaries

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<tbody>
<tr>
<td>Antonio Pepe</td>
<td>Director General</td>
<td>D.A.Re. scrl, agrofood cluster</td>
<td>17.12.14</td>
</tr>
<tr>
<td>Salvatore Latronico</td>
<td>President and R&amp;D Director</td>
<td>Openwork SRL beneficiary company</td>
<td>11.12.14</td>
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<tr>
<td>Patrizia Sforza</td>
<td>Research Manager</td>
<td>SITAEI S.P.A., beneficiary company</td>
<td>12.12.14</td>
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<tr>
<td>Pietro Siciliano</td>
<td>Chairman</td>
<td>IMM – CNR INNOVAAL, beneficiary public research institute</td>
<td>12.12.14</td>
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<tr>
<td>Efisio Riezzo</td>
<td>Software Engineer</td>
<td>Sysman, beneficiary company</td>
<td>12.12.14</td>
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<tr>
<td>Sergio Fontana</td>
<td>General Manager</td>
<td>Fimalabor</td>
<td>11.02.15</td>
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<tr>
<td>Fabio Conteiacomo</td>
<td>CEO</td>
<td>A. De Robertis &amp; Figli S.p.A.</td>
<td>11.02.15</td>
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<tr>
<td>Name</td>
<td>Position/Title</td>
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<tr>
<td>Michele Vinci</td>
<td>General Manager</td>
<td>Masmec S.p.A.</td>
<td>11.02.15</td>
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<tr>
<td>G. Caputo</td>
<td></td>
<td>C.M.A. S.p.A.</td>
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<tr>
<td>Antonio Ulloa Severino</td>
<td>Owner and Managing Director</td>
<td>Grifo Multimedia S.r.l.</td>
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**Independent experts and think tank**

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<tr>
<td>Angelo Grasso, Nunzio Mastrorocco</td>
<td>Director General and Responsible Area of territorial planning and analysis</td>
<td>Ipres, Istituto Pugliese di Ricerche Economiche e Sociali (Apulian Institute for Economic and Social Research)</td>
<td>11.12.14</td>
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<tr>
<td>Prof. Michele Capriati</td>
<td>Associate Professor of Political Economy</td>
<td>University of Bari</td>
<td>12.02.15</td>
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<tr>
<td>Prof. Gianfranco Viesti</td>
<td>Full Professor of Applied Economics</td>
<td>University of Bari</td>
<td>12.02.15</td>
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