

Innovation: Challenges & Perspectives

Dario A. Schirone, Germano Torkan

Università degli Studi di Bari
“A.Moro”

ABSTRACT

The 21st century territorial competition has become a contest between economic realities able to compete locally and globally. The proposal for innovative products and services seems to be the right way for companies who want to enter in this context as protagonists. This paper analyzes the data about a region of southern Italy, Apulia, trying to figure out what could be the importance of technological innovation on the performance of individual companies; the causes of the lack of innovation in Puglia and possible strategies to exit by this stage of impasse will be investigated.

Keywords Technologic innovation; ICT; productivity; black economy.

1. INTRODUCTION

With a prominent and strategic position in the Italian peninsula, Apulia Region covers an area of 19.357,9 square kilo-meters distributed as follows: 53.3% on a plain, 45.3% on a hillside setting and the remaining 1.4% on a mountainous terrain, making it, in fact, the less mountainous region of Italy. Apulia represents approximately 6.4% of the national territory and it is divided into six provinces (Table 1).

Table1. Total area expressed in square kilometers and number of municipalities in each province

Provinces	Area (smq.)	Number Municipalities
Foggia	6.966,17	61
Barletta/Andria/Trani	1.538,68	10
Bari	3.825,41	41
Taranto	2.428,71	29
Brindisi	1.839,53	20
Lecce	2.759,4	98
Totale	19.357,9	259

Source: our elaboration on IPRES data.

The analysis of a composite system such as the Apulian territory assumes the examination of the main and most significant features of the economic system; so that one can infer an accurate framework on the state of regional competitiveness, with the ultimate goal of identifying achievable potentialities.

It will be necessary to start from the analysis of the GDP, Gross Domestic Product, which expresses the total value of final goods and services produced within a nation (in this case within a region) over a period of time, usually one year[1]. In this regard it should be noted that the choice lies with the GDP as it is certainly the most significant of the meters: it summarizes the status of an economic system by measuring the trend both in the process of expansion and in the phase of regression. Observing data extrapolated from national statistical sources [2], it appears that the percentage of contribution to the national GDP by Apulia is lower than the share of the Italian population resident in the region: even though they represent 6.82 % of the Italian population (4.091.259 inhabitants , ISTAT, 2011), Apulia contributes only for 4.54 % to the wealth produced per annum in Italy [3]; therefore, GDP per capita is approximately equal to € 16,800 per year, compared to the average of the country that is € 25.000 per year.

Confirming what just observed, Apulia is included among the Italian regions with the lowest gross domestic product per capita: it precedes only Calabria and Campania, respectively with € 16,657 and € 16,372 per capita [4]. Below there is a summary of the comparison between the Apulian data with that of the national macro-areas. All data are expressed in Purchasing Power Standards (Fig. 1):

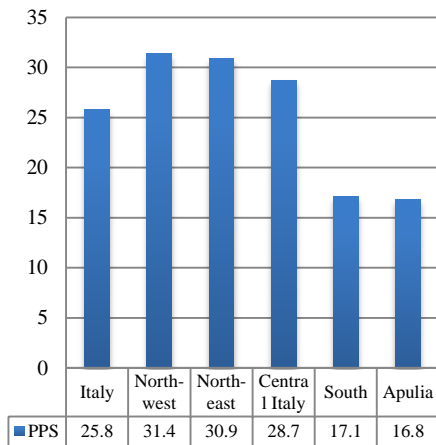


Figure 1: GDP per capita, expressed in PPS (values in thousands Euros)

This work aims to focus on some reflections about the possible reasons why Puglia is among the last regions in Italy on contribution to the Gross Domestic Product. It will highlight the role that technological innovation has for a concrete development of the territory.

2. LOW PRODUCTIVITY AND ILLEGAL EMPLOYMENT: THE APULIAN SITUATION

The clear difference verifiable by comparing the national average and the GDP per capita of Southern Italy, against the latter, is determined by two main reasons:

- the historical presence of the black economy, represented by the unenviable phenomenon of the undeclared work;
- the low level of productivity [3].

Istat estimates the value of national black economy by expressing the predictions about minimum (226,5 billion) and maximum annual values (249.9 billion) among which such turnover fluctuates. Although it is impossible to supply a definite data about the extent of this phenomenon in Apulia, it is not misleading to assume that the average Apulian data is equal to or higher than the national average for historical, economic and social motivations. To the underground economy

one has to add the wound of Illegal employment in Apulia, which is approximately at 21% compared to the Italian average of 13.5% [2].

Another factor of extreme interest is to check the level of productivity of the labor force in Puglia. In this regard it should be noted that labor productivity is defined as the measure of the amount of product obtained with the employment of a unit of work force; it represents, therefore, the indicator of the capacity of a productive system to generate wealth and, indirectly, income. [5].

By definition, economic growth roughly corresponds to the sum of changes in productivity and employment. According to data published by the Bank of Italy in 2011 [6], in Apulia region productivity (46.9%) is lower than the Italian average (56.5%). This element is definitely affected by the greater weight that the agricultural sector has in the area (Table 2).

Table 2: Number of employees, branch of economic activity and employment status. Absolute values in thousands (Reference year: 2011)

PROVINCES	AGRICULTURE	INDUSTRY	BUILDING IND.	SERVICES	TOTAL
<i>Employees</i>					
Foggia	15	33	14	83	131
Bari	26	105	36	255	387
Taranto	16	36	6	80	131
Brindisi	10	21	7	53	85
Lecce	9	38	17	127	174
Apulia	77	232	80	598	907
<i>Self-employed workers</i>					
Foggia	8	12	6	36	56
Bari	16	23	12	93	131
Taranto	3	4	3	28	35
Brindisi	2	4	3	21	27
Lecce	3	17	8	47	66
Apulia	32	60	31	225	316
<i>Total</i>					
Foggia	24	44	20	119	187
Bari	42	128	49	348	518
Taranto	18	40	9	108	166
Brindisi	13	25	10	74	112
Lecce	12	55	24	173	240
Apulia	109	292	112	822	1,223

Source: our elaboration on IPRES data

The above-mentioned data about productivity is the result of two specific conditions occurring:

- The low productivity of agriculture compared to other alternative activities;
- Its highest percentage of incidence on the composition of the regional GDP (3.7%), compared to the national average (2%) [2].

It should be noted that, in agriculture, investment in innovation and technology (required to promote best performances in productivity) are much lower than in other sectors. But beyond the agricultural sector, in Apulia few resources are invested in innovation; only 0.78% of its GDP (equal to 426.4 million euro) is invested in research and development while the Italian average is around all '1.18% [7].

3. TECHNOLOGICAL INNOVATION FOR THE IMPROVEMENT OF ECONOMY

The process of globalization with the constantly changing demands of the market and the increasing competitiveness on international markets, has as a direct consequence the necessity for businesses of investing in innovation in order to play a competitive role on the global economic scenario[8].

The ability to innovate and continuously improve the product allows the productive system to compete on international markets[9]. The ability to deal with the "international clashes" and to increase the growth possibilities is the result of a process of business development; this approach is based on quality, extremely innovative and highly differentiated products [10]. Innovation is linked to the idea of "change", but it is always important to remember that change, and thus innovation itself, does not take place in an "aseptic scenario" [11] but within a living reality; here it is possible to start a process of continuous improvement through innovative ideas and new methodologies, inspired by the social and economic context in which the company operates. The innovation that arises from the use of ICT (Information & Communication Technology) opens new profit perspectives especially in the sectors of computer science and telecommunications.

Citing Nobel Prize winner Professor Paul

Krugman: "Productivity Is not everything, but in the long-run it is almost everything". So, we wonder what may be the reasons why Apulian companies do not lean towards the use of technology like the other Italian regions.

It could be due to the fact that the Apulian entrepreneurs ignore the potentiality to reach through technology, in terms of lower costs and greater competitiveness in emerging markets. Yet, it is likely that companies evaluate, contrary to what would be desirable, little economic income as a result of the investment made, since they are negatively influenced by their very small dimensions. In fact, the relationship between innovation and size cannot be analyzed apart from the environment, i.e. the degree of concentration of the industry [12] in which businesses operate. Also the recognition carried out by ISTAT on innovation takes into account a number of variables that include, among others, the industrial structure of reference.

The innovation activity obviously requires the allocation of considerable funds; for this reason it is believed that the small size of the company does not always favor the innovation process.

The above mentioned aspects deserve an equal number of action plans to be faced and resolved. One has to plan the most effective strategies to tackle the deep-rooted structural problem of the Apulian economy, which is the low diffusion of ICT:

- In the former case, the goal will be to inform and indoctrinate companies, illustrating what would be the advantages derivable from the adoption of innovative technologies, and supporting the strategic decisions of companies through the assessment of the most appropriate solutions, on the basis of emerging standards and market trends.
- In the second case, in order to increase the expected return on the use of technology, it should be necessary to allow greater flexibility in the labor market; only in this way one could record a performance enough to cover the costs of monetary and structural investment in ICT.

- A last possible reason, i.e. the difficulty in finding finance is attributable to the size of firms. In Italy, and certainly in Apulia, the firms are small or very small and this represents a slowdown in the development. The small size makes the access to finance difficult and expensive, not favoring the R&D. Thus, business conglomerates, that combine the brilliance of individual entrepreneurs with intensive forms of cooperation, must arise.

4. CONCLUSION

Development and innovation are increasingly connected and they depend on the ability of firms to change over time the corporate structures and formulate appropriate strategies; these ones are proportionate to the specific opportunities offered by technology and the market, as well as the evolution of organizational forms and the addresses of the national economic policy.

Promoting the diffusion of ICT, it will be possible to start a process of rationalization and efficiency of the industrial sector through the introduction of new products, more frequently focusing on their differentiation, and by the improvement of existing ones according to a logic of implementation required for a successful global competition. Making it possible, in the south of Italy and then in Apulia, the creation of business systems, the improvement of the access to credit, the streamlining of bureaucratic process, and the encouragement of the relocation of some production phases by districts, could be the perfect choices that can permit the establishment of a sustainable and durable development process, revitalized by the benefit resulting from the spatial extension of markets.

5. REFERENCES

- [1] Palmerio G. 2011, Elementi di Economia Politica, Bari, Cacucci,
- [2] Istat, Istituto Nazionale di Statistica 2011, Conti economici regionali.
- [3] Osservatorio Puglia 2011, The European House-Ambrosetti.
- [4] Svimez, 2011, Rapporto 2011 sull'economia del Mezzogiorno, Il Mulino, Bologna.
- [5] Begg D., Fischer S., Dornbusch R. (2008), Economia, McGraw-Hill, Milano.
- [6] Banca d'Italia 2011, Economie regionali, L'economia della Puglia nel 2010, Bari.
- [7] Istituto Pugliese di Ricerche Economiche e Sociali Puglia in cifre 2011, Cacucci Editore
- [8] Schirone D, 2010. Le PMI decisive per lo sviluppo. Bari Economica, vol.3, p. 81-85.
- [9] Rinne M. 2004, "Technology Roadmaps: infrastructure for innovation", Technological Forecasting and Social Change, Vol. 71, n. 1-2, pp. 67-80.
- [10] Scott J.T. 2003, "Absorptive Capacity and the Efficiency of Research Partnerships", Technology Analysis & Strategic Management, Volume 15, Number 2, pp. 247 - 253 .
- [11] Cannarella C., Piccioni V. 2004, DSICTR Working Paper n. 3 "L'innovazione e le resistenze all'innovazione"
- [12] Pavitt K. 1984, Sectoral Patterns of Technical Change, Towards a Taxonomy and a Theory, Research Policy, n. 13