Closing the innovation gap in the Adriatic Region: Greece

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Chapter 5
Greece

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HIGHLIGHTS

- Greece is a southeastern European country with a population of 10,96 million (in 2014).
- Tourism and maritime industries are the two most important economic activities in Greece, which, since 2009, have been plagued by the ongoing economic recession.
- Brain drain is a major problem in Greece with the OECD ranking it first in terms of emigration of its over-qualified work-force.
- Greece is positioned rather low according to GDP per capita.
- Greece is ranked above the Regional mean with regards to the number of SCImago scientific journal articles.
- Consistent with the Adriatic Region as a whole, Greek SMEs show a relatively poor level of internationalisation with the dominant presence being on the national market, followed by Western and Central Europe and other Adriatic Region countries.
- The level of received support through innovation incentives from the government, Regional authorities and the EU is low for all measured forms of financing in both Greece and the Adriatic Region as a whole.
- Regarding the micro determinants of innovation, knowledge hiding in both Greece (1,66) and the Adriatic Region (2,31) rarely occurs.
- Cultural intelligence is almost equally ranked in respondents from both Greece (4,61) and the Adriatic Region (4,54).

5.1 GENERAL OVERVIEW

Greece is a country in south-east Europe; situated on the Adriatic coastal edge, it consists of two mainland peninsulas and thousands of islands throughout the Aegean and Ionian seas. Greece's population, according to the latest Census (2011), amounted 10,96 million inhabitants and has been mostly stable over the last 15 years (European Union, 2015).

After the period of military Junta (1967-1974), Greece has gone through political reforms in a period characterised by political stability. The Constitution of Greece was created by the Fifth Revisional Parliament of the Hellenes, and entered into force in 1975. Since then it has been significantly revised three times, in 1986, 2001 and 2008. Since its initial establishment in 1975, the Constitution has established Greece as a presidential parliamentary democracy. During the four years before entering the Euro-zone (1997-2001), as well as the five years since (2002-2007), Greece has seen a rapid growth of its economy, accompanied by a wave of its population relocating to the two largest cities, i.e., Athens and Thessaloniki (CIA World Fact book, 2015).

One of the largest problems faced by Greece, other than the effects of the economic recession, is the large brain drain, which has been increasing over the period 2009-2015. A large proportion of university graduates leave the country due to the inability to find employment suited to their skills and knowledge and because of the rapidly deteriorating work conditions. Over 350.000 Greeks, or 3% of the population, emigrated between 2010 and 2013, with almost 270.000 being young people aged between 20 and 39 (Innovation Union Competitiveness Report, 2013; International Monetary Fund, 2014).

The current political, economic and social climate does not support entrepreneurial spirit, since there is substantial political turbulence, a lack of financing from financial institutions and frequent changes in taxation and business regulations. On the rare occasion that some start-ups manage to succeed, they frequently change their headquarters of operations since the bureaucracy, heavy taxation and recently imposed capital controls do not provide a fertile ground in which to conduct business (World Economic Forum, 2014).

Despite the negative political and economic climate, Greece still remains the largest economy in the Balkans and continues to be an important regional investor. Greece is the second largest foreign investor of capital in Albania, the third largest foreign investor in Bulgaria and one of the top three foreign investors in Romania and Serbia (World Economic Forum, 2014).

After the beginning of the global financial crisis in 2008, Greece has suffered severe consequences in the following years. More indicatively, in 2015, the real growth of GDP was -3,9% and the Consumer Index reduced by 3,2% this was mainly because of the changes in the employment sector, the available income, credit expansion and consumers' trust levels (European Union, 2015). Public consumption was estimated to have been reduced by 5,9%, mainly as a result of the permanent measures that were implemented by the Government and that have affected the employment and wages of the public sector (European Union, 2015; World Bank, 2015).

On the other hand, it is estimated that the contribution of the external factors to the change in GDP will be positive again (2,9%) in 2016 (CIA World Fact Book, 2015). This evolution is deriving from the fact that real imports have significantly declined (-4,8%) and real exports have made an important recovery (3,8% instead of -20,1% in 2009) (OECD, 2015). This is due to the increase of competitiveness of costs. Specifically, the real weighted exchange price reduced by 0,5% with the consumers' index as the base or 2,4% units of employment cost (International Monetary Fund, 2014). Meanwhile, all the cumulative losses in competiveness, dating from 2000 and later are up to 18,1% (with the consumers' index as the base) or 17,9% (in comparison with the other 35 industrial countries); thus, this underlines the restoration of competiveness as one of the main goals of the Greek medium–term fiscal policy (Innovation Union Competitiveness Report, 2014; OECD, 2015).

Regarding the productive side of the economy, industrial production reduced by 5,8%, with processing presenting a reduction of 5%, mines and quarries 6,5% and electric power 9,2% (European Union, 2015). Only water supply has shown a slight increase, of 0.7%. The constructions activity index had a significant reduction, of 31.6%, confirming the expectation of the enterprises that were active in this sector (EKT, 2015).

Inflation had an average increase of 4,7%, mainly reflecting the enforcement of new direct and indirect taxes, whereby 70% of the total price alteration can be attributed to them (International Monetary Fund, 2014). As a result of this sharp reduction in economic activity, the unemployment rate rose by 26,3% in the third quarter of 2014 (OECD, 2015). This rate explodes to 49,8% for young employees aged between 15 and 24 years old.

Small and medium sized enterprises (SMEs) are very important for the Greek economy, accounting for 85 % of all employment and contributing to the Gross Value Added (GVA) by 70% (European Union, 2015). The great majority of SMEs in Greece have 0 to 9 employees (96,6%) (European Union, 2015).

The crisis that has been present in Greece over the last five years has resulted in the continuous decline of GVA of SMEs. Specifically, it was reduced by 38% from the years 2010 to 2013 (European Union, 2015). Also, 723.598 fewer employees were employed in SMEs during the aforementioned period (International Monetary Fund, 2014).

5.1.2 OVERVIEW OF THE RESEARCH AND INNOVATION ACTORS AND ACTIVITIES IN THE COUNTRY

The initiatives that have been put into action in Greece fall under the umbrella program ESPA, which is coordinated by the General Secretariat for Research and Technology (GSRT), while several calls targeted higher education institutes, high-tech start-ups and SMEs. However, there is a general consensus that, overall, the contributions of the first ESPA cycle have been below expected levels. This outcome is evident in Greece's innovation system, since cooperation of research and education institutes with industry has been below the expected levels.

In response to the European innovation gap, the European Institute of Innovation and Technology (EIT), founded in 2008, strongly contributes to the objectives set out for Europe 2020, in particular by addressing societal challenges in a manner that is complementary to other initiatives in these areas. With regard to each of the pillars comprising the knowledge triangle (higher education, research and technology and business), the European higher education institutions act as a catalyst in knowledge triangle interactions by creating and disseminating knowledge that is valuable for society and businesses. In Greece, while there is consensus regarding the strategic role that higher education institutes can play, there is a lack of processes and mechanisms through which scientific outcomes can be successfully integrated to existing innovation practices in industry. This is a major issue that requires legislative action to enable higher education institutes to work in collaboration with industry.

The mission of the Greek Higher Education system is to ensure a high level of theoretical and life-long training for the scientific workforce of the country. The Greek Higher Education system includes:

- 19 Universities,
- 2 Polytechnics (Technical Universities),
- The Higher Fine Arts Institute, and
- The School of Pedagogical and Technological Education (ASPETE).

The role of Technological Education Institutes (TEI) is to contribute to the country's development and to make progress in the fields of science and applied research. The focus is on the absorption and transfer of scientific data into production processes with particular emphasis on providing a well-trained specialised work force, capable of filling positions in knowledge-intensive positions. The courses provided in TEIs are more practically oriented than in universities. Currently, in Greece there are 14 TEIs, each one composed of at least two faculties, with each faculty comprising two or more departments.

Overall, the primary actors that contribute to research and innovation development in Greece are:

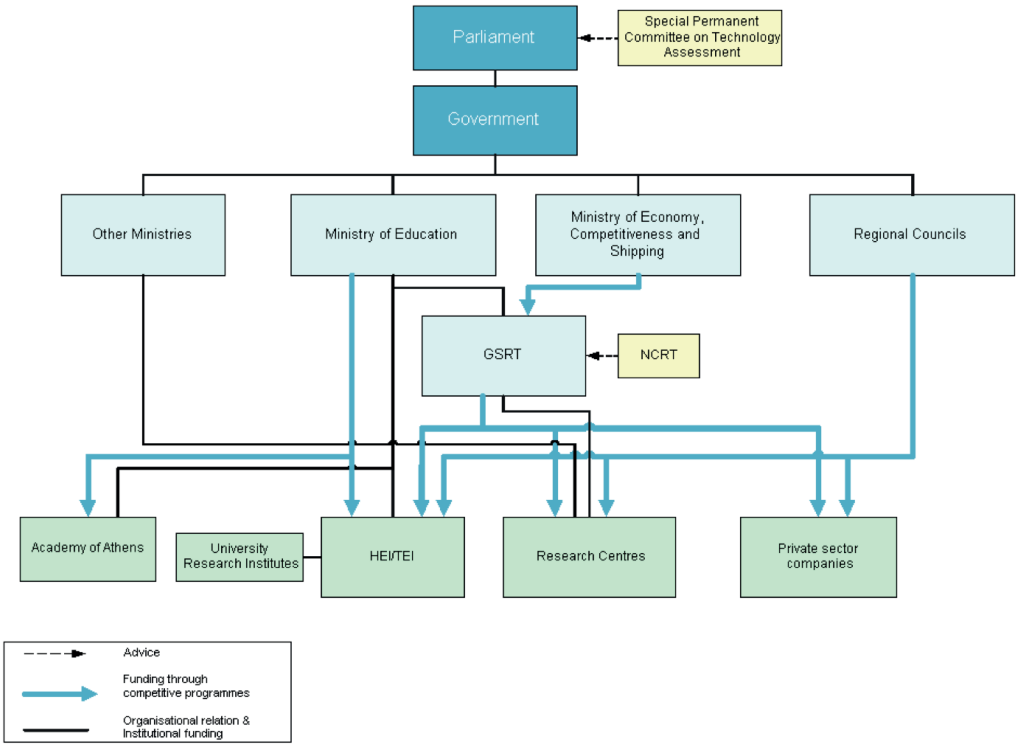
- Higher Education Institutes (HEI) / Technological Education Institutes (TEIs),
- University Research Institutes,
- Research Centres,
- Academy of Athens,
- Private sector companies.

The main research contributors are the universities and their research institutes, with only a minimal participation by the TEIs. The Ministry of Education provides universities and TEIs with general funds and recently provided funding for research teams to reinforce the potential of basic research (EKT, 2015). The structure of the Greek national innovation system is demonstrated in Figure 5.1.

At the operational level, all responsibilities for policy making are concentrated in the Ministry of Education, Life Long Learning and Religious Affairs. The General Secretariat for Research and Technology (GSRT) has been the main research policy maker and funder of research since the early 1980s. The majority of research centres are supervised by the GSRT.

The main advisory body on research, the National Council for Research and Technology (NCRT), is attached to the GSRT and contributes to setting priorities for research funding. In addition to the funding distributed by the GSRT, the Ministry of Education contributes to R&D funding through the general university funds (GUFs). The Ministry of Rural Development and the Ministry of Defence also provide some funding for research, but to a much smaller extent than the GSRT. The funding role of the Regional Councils has increased, due to the fact that an increasing amount of public funding is now distributed through the Regional Operational Programmes. However, the councils have no involvement in RTDI policy making.

Figure 5.1 – Structure of the Greek national innovation system



Source: Erawatch. (2014).

5.1.3 Recent changes in R&D and innovation system in the country

Greece has introduced a broad range of programmes and initiatives aimed at training enough researchers to meet its R&D targets and at promoting attractive employment conditions in public research institutions. This initiative has been taken by the GSRT, which has developed a roadmap of activities for the upcoming years, ending in 2020.

The planned implementation of the GSRT has built on the weaknesses identified in the Lisbon Strategy in order to improve the effectiveness of all participating parties by better allocating tasks and responsibilities and providing pathways for enhanced knowledge transfer within the knowledge triangle. The roadmap is heavily dependent upon the national/regional priorities of Greece in order to improve competitiveness after five consecutive years of recession. Special attention has

been given to the core competences of each region, as well as the higher education departments and research institutes that can contribute to strengthening them. The majority of higher education institutions have set up Technology Transfer Offices (TTOs) in which business executives can seek empirically supported information about best practices and new trends in the global corporate environment. In addition, the TTOs serve as catalysts for start-ups, since, on most occasions, they are located within university grounds and are, therefore, easy to access by students that want to transform their business ideas into viable companies. By bringing together business insiders, investors and researchers with deep knowledge on specific areas, TTOs act as hubs through which knowledge triangles are actualised. Frequent lectures also serve as a good initiating point to bring together all parties. Here, informal meetings are held, contacts are made and information is exchanged (EKT, 2015).

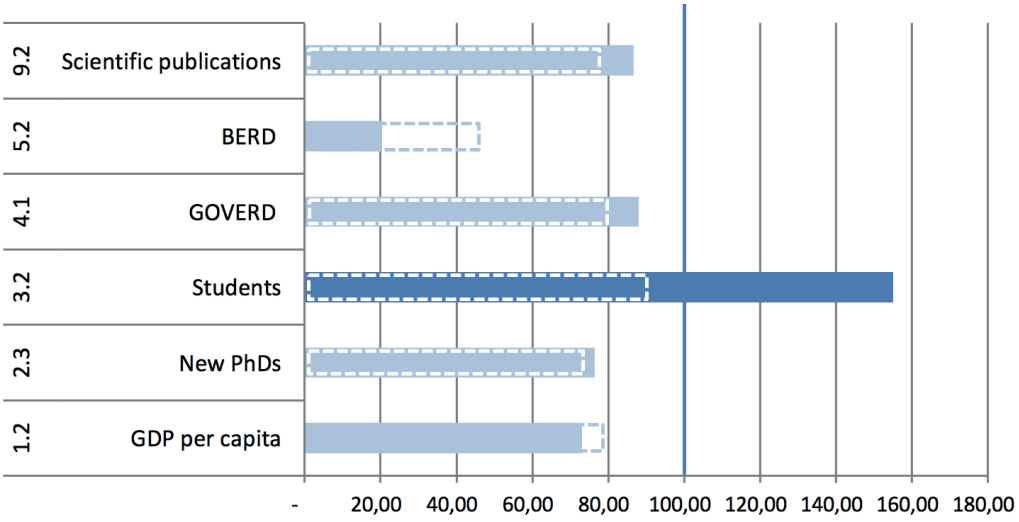
Recently, within July 2016, the first independent institute responsible for the central funding of universities, TEIs, and research centres has been established in Greece. The so-called Greek Research and Innovation Institute (ELIDEK) will operate under the governance of a management board including Greek academics that work abroad. The institute will evaluate and fund qualitative research with financial resources derived from the Programme of Public Investment and the European Investment Bank (EIB).

5.2 MACRO-LEVEL ANALYSIS OF INNOVATION ENABLERS AND INHIBITORS

In this section, the most relevant macro-indicators of innovation in the country are presented[1]. These indicators concern six categories of the national innovation system: the economic situation of the country, figures regarding human resources including the education system, the innovation investments made by both the public and private sectors and the scientific output. The indicators are synthetically represented in Figure 5.2 and described after that. In the figure, 100 represents the EU average, while the dotted part of the histogram shows the Adriatic Region average.

1 A more detailed picture about the country's innovation profile can be found at: http://www.adriaticinnovationmap.eu/country-profile/

Figure 5.2 – The Greek Innovation System, selected indicators



The economic data include the general economic figures of the country, such as GDP per capita, total exports, unemployment rate, current account deficit, etc. In the analysis for Greece, we have included GDP per capita and compared it to the Adriatic Region mean, as well as the EU-28 mean. The Greek GDP per capita places the country slightly above the average of the Adriatic Region. The Region itself is also positioned lower than the EU-28 average GDP per capita.

The human factor plays a critical role in innovation, as the competitive advantage built on human resources is not easily imitable. In order to assess and compare human resources in Greece with the Regional average and EU 20 average, we have included the total number of new PhD graduates (as a percentage of the active population) in the analysis. In this regard, Greece stands slightly worse, as it is below both the Regional and EU-28 means.

Education plays a central role in building the country's innovation capacity. The indicator of educational capabilities that was taken into account in this dimension is the number of students (tertiary education participation). The total number of students in Greece lies clearly above the Regional mean and the EU-28 mean, which may be interpreted in a positive way as a possible enabler of innovation activities and growth of future knowledge sector participants.

The public sector is the part of the economy that consists of state-owned institutions and nationalised industries and services provided by local authorities. The commitment of the public sector to the generation of new ideas is measured by government expenditure on R&D. In Greece, government expenditure on R&D, relative to the GDP, is above the Regional mean, but below the EU-28 mean.

The private sector represents an engine of economic growth and job creation, as commercial enterprises constantly incorporate new technologies in their businesses due to market pressures and an imperative to stay competitive. To measure this, we have used business expenditure on R&D in the country. Greece lags significantly behind the Region regarding business expenditure on R&D, while the Region lags behind the EU-28 countries.

The scientific output of a country is closely related to its innovation capacity; at the same time, it can be used as an indicator of a country's innovation performance. To measure this, the number of SCImago scientific journal articles (per million active population) has been used. The number of SCImago scientific journal articles is, in relative terms, higher for Greece than the Regional mean, yet below the EU-28 average.

5.3 MESO-LEVEL ANALYSIS OF INNOVATION ENABLERS AND INHIBITORS

The survey of innovative micro, small and medium companies in Greece included enterprises from three administrative regions within the Greek Adriatic Region: the Ionian Islands, Epirus and Western Greece, which constitute the IPA Adriatic eligible area.

The total number of enterprises in the Greek Adriatic Region (13.526) was extracted from the local Chambers of Commerce in each administrative region. The selected enterprises were classified based on the Eurostat classification scheme into: A – Agriculture, forestry and fishing, B – Mining and Quarrying, C- Manufacturing, D – Electricity, gas, steam, and air-conditioning supply, E – Water supply, sewerage, waste management, and remediation activities, F – Construction, G – Wholesale and retail trade, repair of motor vehicles and motorcycles, H – Transportation and storage, I – Accommodation and food service activities, J – Information and communication, K – Financial and insurance activities, L – Real estate activities, L – Real estate activities, M – Professional, scientific and technical activities, N – Administrative and support service activities, O - Public administra-

tion and defence, compulsory social security, P – Education, Q- Human health and social work activities, R – Arts, entertainment and recreation, S – Other service activities, T – Activities of households as employers, undifferentiated goods- and service-producing activities of households for own use, U – Activities of extraterritorial organisations and bodies. The survey sample was based on all registered medium-sized enterprises from each of the 15 focus categories of national activity. The final stratified random sample included 1.219 SMEs.

The survey took place between July-December 2014. A total of 135 respondents were reached after three reminder rounds were administered via the online survey platform LimeSurvey (11% response rate). A total of 85 responses were completed at the level of 70% (cut-off criteria) and, hence, were retained for further analysis, yielding an effective response rate of 6.9%.

The majority of the respondents (80%) were service-performers, predominantly companies offering professional, scientific and technical services. The average number of employees in the sample was 25, and the average turnover was around 1,25 million Euros. The average sales and exports in total sales ratio increased in the period from 2010-2013. Most enterprises mainly employed a majority of lower qualified workers employed (including secondary school education), followed by employees with college education (master's degrees).

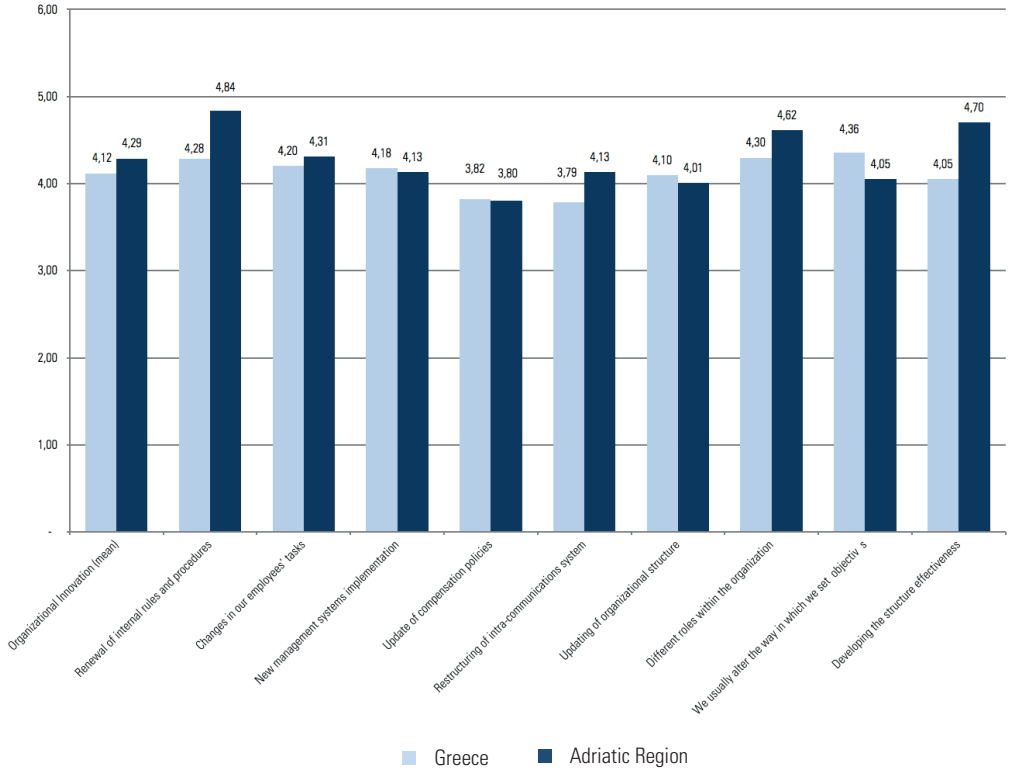
During the research process, no methodological difficulties were encountered. The researchers gathered data through direct email with key respondents within firms, sending three email reminders to ensure an adequate response rate.

5.3.1 ORGANIZATIONAL INNOVATION

Organizational innovation according to the surveyed companies in Greece mostly reflects organizational effectiveness and the renewal of the internal rules and procedures. However, the analysis of data indicates a general lack of innovative behaviour, especially in terms of compensation policies, as well as restructuring communication systems.

The analysis of the collected data on different aspects of organizational innovation points to no major differences between Greece and the Regional average. However, Greece is slightly behind in the majority of the organizational innovation measures. Greece exceeds the Regional average regarding the measures of new management system implementation, updating the organizational structure, and altering the way in which objectives are set. On the other hand, Greece is well behind the Adriatic Region average in developing structural effectiveness and renewing internal rules and procedures.

Chart 5.1 – Organizational innovation
(Greece in comparison to the Adriatic Region average)

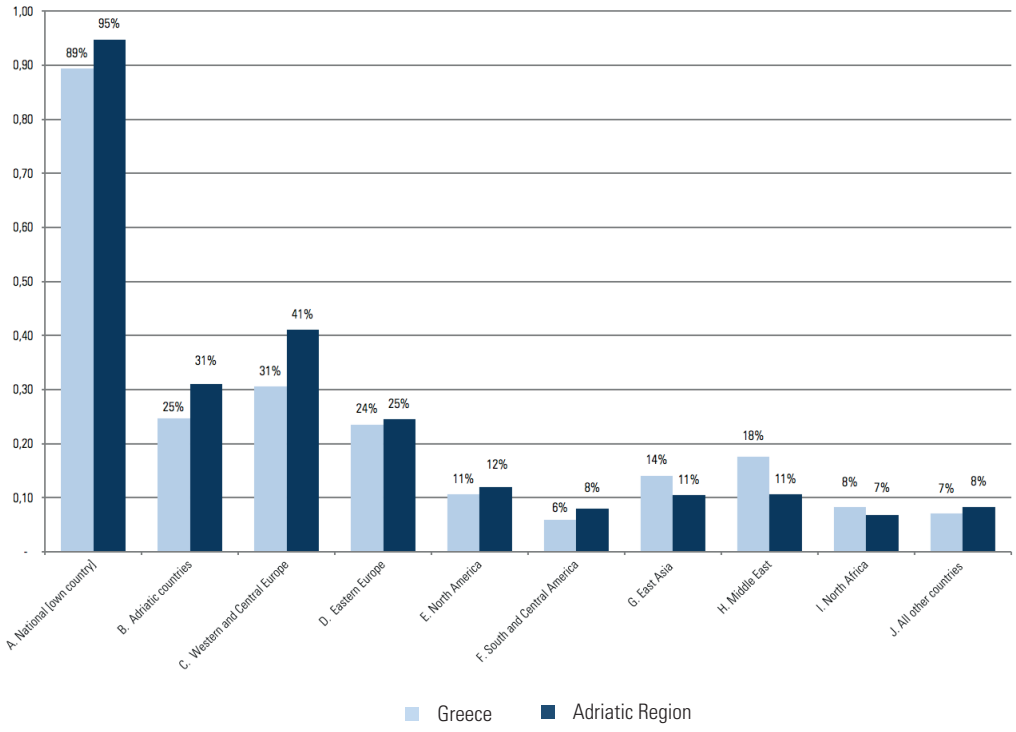


5.3.2 INTERNATIONALIZATION LEVEL AS INNOVATION ENABLER

During the period 2011-2013, most surveyed companies in Greece were mostly present in international markets (mostly in the Balkan Region). However, they were cutting down on operations due to the economic recession faced in the country. This cut-down is reflected in the international market reach, where Greece is behind the Adriatic Region average when it comes to exports in other Adriatic countries and Western, Central and Eastern Europe. This is also the case when taking into account North America and South and Central America. Surprisingly, Greece is considerably above the Adriatic Region average when taking into account East Asia, the Middle East and North Africa.

As demonstrated, the national markets are the most represented areas in both Greece and the Adriatic Region as a whole. In Greece, 89% of respondents were active in the domestic market, while for the Adriatic Region the average rate amounts to 95%. In both cases, the next most prevalent markets where companies sold their goods and services were those of Western, Central and Eastern Europe, as well as the Adriatic Region. However, in these markets, there is difference between Greece and the Adriatic Region's average: for instance, in the case of Western and Central Europe, Greece lags behind the Region's average for nearly 10 percentage points, while in the case of the Adriatic Countries, the variation is slightly lower, although still substantial, with a difference of 6 percentage points in favour of the Adriatic Region average. The least represented countries to which Greek companies export their products and services are those of South and Central America, as well as other countries that do not belong to the aforementioned groups.

Chart 5.2 – Geographic markets where enterprises sold goods and/or services during 2011, 2012 and 2013
(Greece in comparison to the Adriatic Region average)

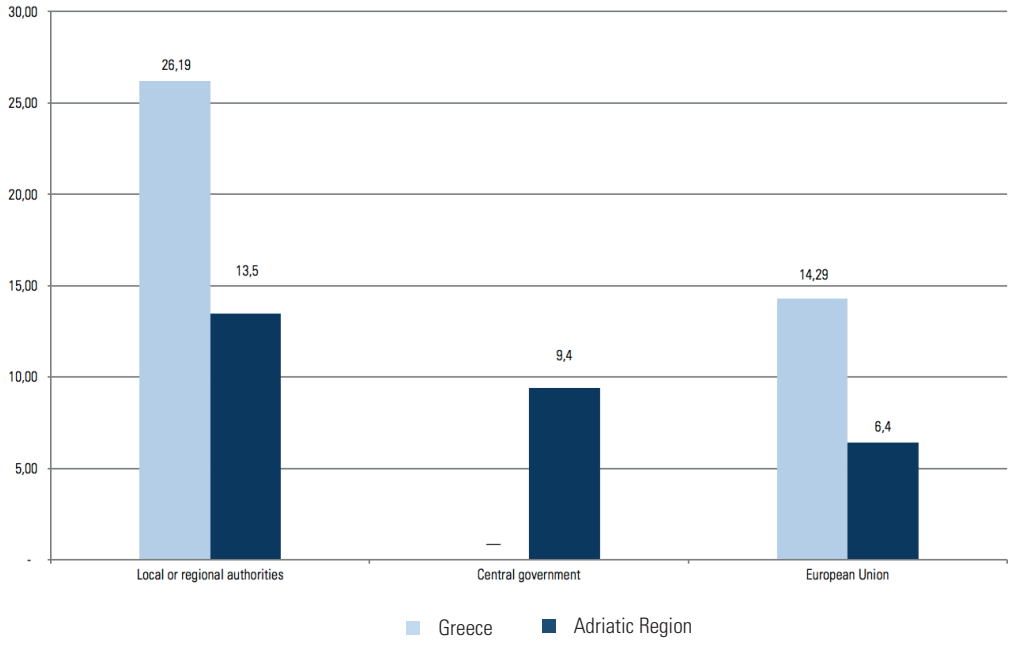


5.3.3 INNOVATION INCENTIVES AS INNOVATION ENABLERS

The majority of innovating companies in Greece within the three-year period of 2011-2013 did not receive any kind of central government financial support for innovative activities. The vast majority of funding came from the Regional authorities (26,19%), and, to a lesser extent, the European Union (14,29%). Evidence shows that compared to the Adriatic Region average, Greek SMEs have easy access to local, regional and even European money flows.

It is evident that the level of received support from central government agencies in Greece is non-existent. The main sources of financial support come from local or Regional authorities, followed by the financial support of the European Union.

Chart 5.3 – Public financial support (%) for the innovation activities of enterprises during the 2011, 2012 and 2013 coming from the government (Greece in comparison to the Adriatic Region average)



5.4 MICRO FOUNDATIONS OF INNOVATION

In Greece, four innovative companies participated in the study. The first company was in the beverage industry established in Greece and exporting to the EU. The second company was in the mattress manufacturing industry operating in Greece. The third company was in the food industry providing its products in the Greek, EU and Asian markets. Finally, the fourth company was in the construction industry and commercialises its products and services only in Greece.

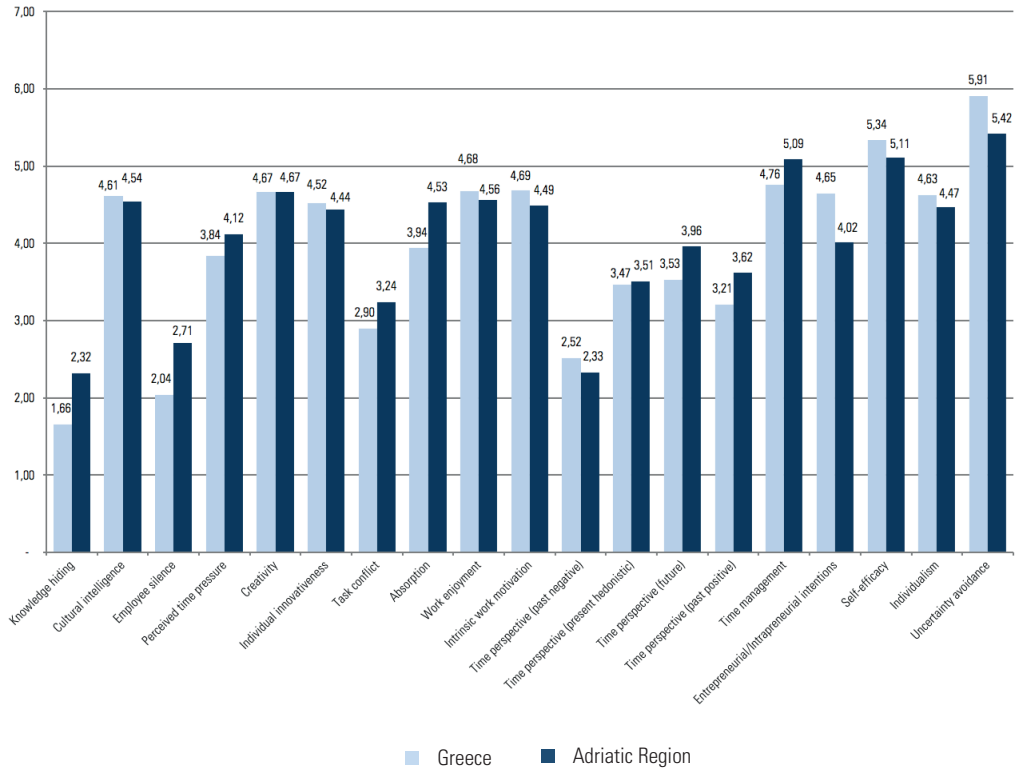
In the sample of surveyed companies in Greece, the gender structure was fairly balanced, with slightly more men (58.1%) than women (41.9%) participating in the workforce. The average employee age in the Greek companies was 34.1 years of age, with the youngest being 22 years old and the oldest 55 years old. The majority of employees of the four selected companies held high school diplomas (44,8%), while the ratio of employees with a bachelor's degree was 43,3%, followed by 11,9% with a master's degree.

The following graph depicts the average descriptive results for Greece contrasted with the Adriatic Region. It is important to take into account certain cross-country interpretation limitations, since the provided answers could be culturally conditioned due to the fact that the questions in the survey mostly deal with individual employee perceptions. In the case of Greece, factors that could have influenced the results were also related to the companies' specific settings and industry of operation. The four Greek companies that participated in the study belong to the light manufacturing industry. The obtained results could have been significantly different if companies from some other innovative sectors were recruited for the study, such as high tech services or consulting services.

The data shows that **knowledge hiding** in both Greece (1,66) and the Adriatic Region (2,31) is a phenomenon that rarely occurs. Interestingly, the econometric data analysis on the Adriatic Region level has shown a slightly positive correlation between knowledge hiding and individual innovativeness, which contradicts the previous empirical studies that claim that knowledge hiding negatively affects innovativeness. Nevertheless, the low representation of knowledge hiding in the surveyed companies in Greece may be interpreted by the fact that the companies surveyed were not in high-tech industries and were relatively small in size.

In this research, **employee silence** is negatively correlated with innovativeness at the Adriatic Region level. This could be connected to the fact that employees do not share their ideas openly. However, this construct was ranked rather low in both Greece (2,04) and the Adriatic Region (2,71), therefore, it may be interpreted that employees do not present much proclivity to silent behaviour.

Chart 5.4 – Micro-determinants of innovation in Greece and the Adriatic Region



According to the analysis results, on the Adriatic Region level, **cultural intelligence** significantly correlates with individual-level innovativeness, which means that the more culturally conscious the employees are, and the more knowledgeable they are about different languages, cultural values, etc., the more innovative they are likely to be. The ranking for Greece (4,61) is slightly higher than that of the Adriatic Region (4,54).

Perceived time pressure, according to the outcomes of the analysis, does not have any significant association with the level of innovativeness in the surveyed companies of the Adriatic Region. This determinant is slightly lower for Greece (3,84) than for the Adriatic Region (4,12).

Creativity is also ranked equally highly in both Greece and the Adriatic Region. As already pointed out, according to this study, the gender and age of employees were strongly associated with innovativeness at the Adriatic Region level. There are certain differences between male and female employees, as well as younger and

older employees, in terms of their innovativeness levels, as well as in terms of the process of individual innovation emergence.

Individual innovativeness is also ranked quite high in Greece (4,67), which is on a par with the Adriatic Region score. Due to the fact that individual innovativeness is perceived as a strong predictor of innovative outcomes, the high levels in both Greece and the overall Adriatic Region level are rather encouraging.

Task conflict is used to evaluate the disagreement between group members, and it is ranked rather low in both Greece (2,90) and the Adriatic Region (3,24). Since, in some empirical studies, task conflict has been identified as a potential innovation inhibitor, low representation of this determinant may be interpreted in a positive way.

Absorption/flow at work, work enjoyment and **intrinsic work motivation** are ranked rather high, but the research has shown no significant correlation of these constructs with individual-level innovativeness in the Adriatic Region. In Greece, the value of absorption (3,94) is slightly lower than at that the Adriatic Region (4,53). On the other hand, when it comes to work enjoyment, the value for Greece (4,48) is almost the same as for the Adriatic Region (4,57).

Intrinsic work motivation surprisingly presents a slightly higher rate in Greece (4,69) compared to the Adriatic Region average (4,49). This factor is very important in innovation development, since having intrinsic aspirations has a strong impact especially in the production of novel products/services.

Regarding the **time perspectives**, this research has shown that at the Adriatic Region level, only **past positive** and **present hedonistic** time perspective significantly correlate with innovativeness. According to the analysis, past positive time perspectives negatively correlate with innovativeness at the Regional level, and this variable is almost equally ranked in both Greece (3,21), and the Adriatic Region (3,62). Present hedonistic time perspective correlates marginally positively with innovativeness at the Regional level, and it is mid-ranked in both cases, Greece (3,47), and the Adriatic Region (3,52). In contrast, **past negative** and **future time perspectives** did not show any significant correlation with innovativeness in the Region. Since in both cases, past negative time perspectives is ranked rather low, it may be interpreted as a positive result, while future time perspective is mid-ranked in Greece as well as in the Adriatic Region.

According to the analysis of empirical data at the Adriatic Region level, **time management** correlates highly with innovativeness, and it is one of the largest determinants of individual-level innovativeness. This determinant is ranked almost equally high in Greece (4,76) and the Adriatic Region (5,1).

Entrepreneurial and Intrapreneurial intentions are shown to be significantly related with employees' innovativeness at the level of the Adriatic Region. This im-

plies that entrepreneurial skills may be of potential benefit for the company, as they stimulate the innovation processes. This determinant is mid-ranked and it does not differ much between Greece (4,65), and the Adriatic Region (4,03).

Self-efficacy has been identified as an important antecedent of innovativeness in the surveyed companies of the Adriatic Region. In Greece, this determinant is ranked rather high (5,34), which could point to the conclusion that employees in Greece companies are more optimistic regarding their abilities to perform novel tasks.

According to the research, **uncertainty avoidance** as a construct for the measurement of national culture does not significantly correlate with the level of innovativeness in the surveyed companies of the Adriatic Region. However, this determinant holds rather high and nearly equally ranked in both Greece (5,91) and the Adriatic Region (5,43), which implies some specific cultural characteristics of risk aversion in the Adriatic Region.

Individualism, as another construct that measures national culture, is almost equally ranked both in Greece (4,63) and the Adriatic Region (4,48). Similarly to the uncertainty avoidance construct, the empirical analysis has shown that this determinant does not play a significant role in explaining the individual-level innovativeness in the Adriatic Region.

5.5 CONCLUSIONS

Greece is a South-Eastern European country with a population of 10,96 million (in 2014). Since 2009, the Greek economy has suffered severely from the economic recession. The crisis that has been present in Greece over the last five years resulted in the continuous decline of GVA of SMEs. Specifically, it was reduced by 38% from the years 2010 to 2013. The current political, economic, and social climate do not support entrepreneurial spirit, since there is substantial political turbulence, lack of financing from financial institutions, and frequent changes in taxation and business regulations. Despite the negative political and economic climate, Greece still remains the largest economy in the Balkans area and continues to be an important regional investor.

Based on the macro analysis of innovation enablers and inhibitors that was conducted, one of the largest problems faced by Greece is the commonly-known brain drain, which has been increasing over the period 2009-2015. Greece is ranked above the Regional mean with regards to the number of students and delivery of SCIMAGO scientific journal articles. However, Greece is ranked low in private sector funding.

The primary actors that contribute to research and innovation development in Greece are: Higher Education Institutes (HEIs) / Technological Education Institutes

(TEIs), University Research Institutes, Research Centres, the Academy of Athens, and private sector companies. All responsibilities for policy making are concentrated in the Ministry of Education, Life Long Learning and Religious Affairs. The General Secretariat for Research and Technology (GSRT) has been the main research policy maker and funder of research since early 1980s. The majority of research centres are supervised by GSRT.

In July 2016, the first independent institute for research and innovation in Greece, the so-called Greek Research and Innovation Institute (ELIDEK), was established. ELIDEK will have the responsibility for funding and reinforcing the knowledge triangle (higher education – research and technology – business) for the benefit of the Greek economy.

Regarding the meso level of analysis, the organization innovation rates of the Greek SMEs are near the Regional avegarge (slightly lower). Consistent with the Adriatic Region as a whole, Greek SMEs show a relatively poor level of internationalisation, with the dominant presence on the national market, followed by the presence in Western, Central and other Adriatic Region countries. So far, the funding of SMEs mainly comes from the Greek Regional Authorities and EU but not from the central government.

Regarding the micro level of analysis, individul innovativeness for the Greek employees is equal to that of the rest Adriatic Region (almost 4,5). Knowledge hiding in both Greece and Adriatic Region is a phenomenon that rarely occurs. When it happens, it is for the benefit of individual innovatiness. Instead employee silence, which is lower than the Adriatic Region average, negatively correlates with individual innovativeness. Regarding the time perspectives, this research has shown that at the Adriatic Region level, only past positive and present hedonistic time perspective significantly correlate with innovativeness.

Concluding, Greece is quite near the average rate of the Adratin Region regarding the macro, meso and micro enablers and inhibitors of research and innovation development. Its major strength concerns the development of a large pool of highly educated employees which could be innovative for their companies and their country, if the required financial resources are provided. Firms can have access to Regional and EU funding, but so far they have not exploited this opportunity at the highest possible scale. Their chance for increasing their profits is through innovation development, market expansion and internalization. To achieve this goals, the knoweldge triangle of goverment bodies, education/ research instiutues, and private companies should be reinforced. This is the role pursued by the recent foundation of the Greek Research and Innovation Institute.

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