Innovation and Entrepreneurship during and after the Greek Crisis

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1. Introduction

Entrepreneurship and innovation are two of the most important factors in the production of goods and services, new investments, competitiveness and ultimately the economic growth and prosperity of a country (Parker 2009).

The startup, operation, growth and closure of companies and their innovative performance depend on many political, economic, technical, social, institutional and psychological factors that make up the so-called business and innovative 'ecosystem'.

Economic crises of all kinds affect the start-up and operation of businesses and pose new challenges to research and innovation. In particular, economic downturn and unemployment are the two economic phenomena with the greatest influence on the life cycle of enterprises (Parker 2012, Fairlie 2013, Koellinger, and Thurik 2012).

Since the onset of the global economic crisis, the study of the interdependence between the business cycle and entrepreneurship and innovation has increased significantly (Plehn-Dujowich 2012). In particular, a significant part of the relevant research activity was devoted to investigating the relationship between the financial cycle and self-employment or start-ups (Caliendo and Kritikos 2010).

There are three competing views on the role of business cycles on self-employment and early stage entrepreneurship during a recession. Some researchers contend that during economic recessions, unemployed laid-off workers or unemployed individuals are pushed into self-employment or startups because of weak labor market opportunities. Some empirical works result that there is a positive and significant relationship between unemployment rates and the probability of new business startups (Parker...
2009, Fritsch et. al. 2015), Other researchers have found conflicting evidence regarding the relationship between unemployment rates and business start-ups (Vegetti and Adascalitei 2017, González-Perniaa et. al. 2018). They report a negative relationship between the self-employment rate and the unemployment rate or found that the recession is a time of considerable decline in entrepreneurial activity. Other researchers found that self-employment decisions are uncorrelated with the unemployment rate (Shane 2011).

Therefore, the relationship between economic cycles and entrepreneurship warrants further research as the entrepreneurship literature provides mixed results on the effect of business cycles on business start-up rates. Moreover, little is known about the effect of sudden shocks in the economy on different stages of the entrepreneurial process.

As far as the relationship between economic downturn and innovation is concerned, economic analysis and empirical research conclude that innovation may be the positive side of the recession (Caballero and Hammour 1994, Francois and Lloyd-Ellis 2003). The decline in demand and production, the increase in competition, the decrease in income and employment have the so-called wake up effect on individuals and businesses (Peters et. al. 2014, Archibugi et. al. 2013). Everybody is forced to think harder, to come up with new ideas to deal with problems, this is the way solutions are found, and new ideas are developed. In addition to the pressure of recession for change, positive external conditions emerge favoring innovation such as easier talent acquisition, lower costs due to increased unemployment, the development of new financial instruments and the various incentives that States apply in restructuring policies. In addition, some research shows that entry into markets with new ideas is more favorable during the recession, due to lower costs and weaker incumbent companies. For all the above reasons the view that "Recession is the mother of innovation" seems to dominate. On the other hand, in the Global Innovation Report 2019 (Soumitra et. al. 2019) the best ranks are for countries with strong economies.

In the case of businesses, decreasing demand and increasing competition are pushing for innovative solutions in all areas of business operation, such as
organization, human resource utilization, operating costs, supply, production and distribution, technology, external collaborations, etc. create positive conditions for product or service innovations and innovations in production or/and marketing processes.

The impact of the Greek crisis on entrepreneurship and innovation has been the subject of intensive research. With few exceptions (e.g. IME-GSEVEE 2019, National Documentations Center 2019), research focuses on special or side aspects, such as the impact of the crisis on the motivation for starting a business, on management strategies, on the family structure of Greek firms, on entrepreneurs’ perceptions, on the business environment or on the impact of new institutions on business activities (Tsakanikas et. al. 2018, Vassiliadis and Vassiliadis 2014, Vlados, and Chatzinikolaou 2019, Giannacourou et. al. 2015, Giotopoulos and Vettas, 2018, Kotios et. al. 2018).

The following presentation is an attempt to explore the relationship between the Greek economic crisis, entrepreneurship, and innovation.

The questions we will attempt to answer are:

- What were the major challenges for entrepreneurship and innovation brought about by the financial crisis?
- What were the effects of the balance between closing down businesses and setting up new ones?
- What were the impacts on entrepreneurship in the individual sectors and in different regions?
- Have there been changes in the size and legal form of businesses?
- Have there been trends in reallocation to other countries with a more favorable business environment?
- What was the impact on business extroversion?
- What were the impacts on the innovative performance of Greek business sector?
What were the main economic policy interventions to improve the business environment and foster innovation during the crisis?

What are the prospects for the innovative development of Greek enterprises and what needs be done in order to improve business environment in Greece?

2. The most significant challenges of the Greek crisis for entrepreneurship and innovation

Following the onset of the Greek public debt and competitiveness crisis, an adjustment policy was introduced in the country with two main objectives: consolidating public finances and balancing the large current account deficit of the time that means the consolidation of the twin deficits.

In the context of fiscal adjustment policy, the emphasis was primarily on increasing taxation and secondly, on reducing public spending. In addition, internal devaluation attempted to reduce imports and increase exports. At the same time, institutional and structural adjustment measures, as well as a privatization program, were adopted and implemented with varying degrees of success (Kotios et. al. 2018).

The country's overall adjustment policy and structural weaknesses led to a prolonged recession and rising unemployment rates. At the same time, due to the weaknesses of the Greek banks and an outflow of capital to other countries, liquidity drastically decreased, resulting in a massive reduction in business credit and increased interest rates. Social and political tensions created a climate of uncertainty and exacerbated the climate in the economy, resulting in a decline of investment and the discouragement of foreign investors. Rising unemployment rates resulted in a Brain drain of young highly educated and trained individuals that caused a loss of potential start-uppers and a shortage of important, skilled workers. To sum up, in addition to the country’s traditional negative factors for entrepreneurship and innovation, such as bureaucracy, overregulation, state interventionism in the economy, market rigidities, low degree of innovation, the dependence of growth on
domestic consumption, low international competitiveness and high concentration of resources in consumer services sectors, new ones arose, such as political and macroeconomic uncertainty, the drastic decline in domestic demand, the credit crunch and higher taxation. As a result, the country’s business and innovation ecosystem deteriorated dramatically, putting the country in a self-sustaining vicious circle of recession, whereby Greece lost about 25% of its GDP and saw unemployment surpass 27% (Kotios et. al. 2018).

3. Impact of the crisis on the quantity of entrepreneurship

Following the onset of the crisis, and especially in the first year of the implementation of the austerity policy (2011), the sharp decline in domestic demand and the deterioration of the economic climate took a massive toll on the production process with a very large number of businesses closing. As the relevant statistics show, in the following years the evolution was not linear. Thus, there were years when the new businesses exceeded the number of closing businesses, and vice versa.

*The sector of Agriculture, forestry and fishing has been excluded, because after 2014 its registration has changed radically, making the data before and after 2014 not comparable

Source: ELSTAT, own calculations
In summary, the main findings of the statistical analysis show that:

- The total number of businesses in Greece (excluding agriculture) declined significantly during the crisis from 1,087,396 to 874,306, with turnover and employment suffering a similar decline. In all sectors (excluding agriculture) the number of businesses from 2011 to 2016 decreased by 24.3%.

- Business closing was stronger in 2011 and 2016 due to the deteriorating economic environment and the introduction of capital controls.

- The decline in domestic demand and the inability to increase exports also led to a reduction in the capacity utilization rate in operating companies.

- After achieving positive growth rates in 2017 and exit from the adjustment programs (August 2018) there has been a trend of increasing start up rates. New financial instruments and state aid have also contributed to this.
4. Motivation of early stage entrepreneurship in Greece

As regards early-stage entrepreneurial activity (nascent, that means uprising businesses and real businesses that started one from a maximum of 42 months). Chart 3 shows that the evolution of the Total Early-Stage Entrepreneurial Activity Index (TEA) is not linear. The fluctuations in the index TEA are due to factors such as unemployment, business climate, taxation etc. During the whole period of the crisis the TEA Index in Greece is one of the lowest in EU.

![Chart 3: Evolution of Early Stage Entrepreneurship (% of Greek population 18-64)](image)

**Source: ELSTAT, own calculations**

The quality of entrepreneurship is related, inter alia, to the motivation for doing business. Thus, a categorization has been established between necessity-driven entrepreneurs and opportunity-driven entrepreneurs. In the case of Greece, from the beginning of the crisis to 2014 the percentage of new opportunity-driven entrepreneurs decreased. Also, despite the fluctuations, the average percentage of necessity-driven entrepreneurs has increased.

In 2017, 29% of early-stage entrepreneurs are necessity-driven entrepreneurs, while 37% are opportunity driven entrepreneurs.
Compared to the EU average, opportunity-driven entrepreneurship is at a much lower level, while necessity-driven entrepreneurship is at a higher level. Consequently, the expected counter-cyclical effects of early stage entrepreneurship in Greece are lower than in other EU countries.

Indeed, according to a recent report (IME GSEVEE 2019), Greek opportunity driven entrepreneurs had a much better performance (e.g. higher turnovers, employment, profitability, exports, innovations, networking) than those started their business out of necessity.

**Chart 4:** Evolution of necessity and demand driven entrepreneurship in Greece (% of Early Stage Entrepreneurship)

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Necessity-driven entrepreneurs, ☛ opportunity driven entrepreneurs

**Source: GEM 2017/2018**

5. **Impact on the sectoral and geographical structure of entrepreneurship.**

As the Tables 1 and 2, the crisis impact on businesses was different in the individual sectors and regions of the country.

By studying the individual sectors, we observe that out of the 18 sectors (excluding agriculture) in which the total number of enterprises decreased, there are 8 sectors in which the number of enterprises increased. The sectors
of energy, transport, tourism, technical and scientific professions, education, health and social services, can be characterized as dynamic sectors, which have been highlighted by the crisis and act as mechanisms for overcoming economic downturn.

The sectors with a very strong reduction in entrepreneurship were Wholesale and retail trade, construction, manufacturing and administrative and support services.

**Table 1: Sectors with increased number of entities**

<table>
<thead>
<tr>
<th>Sector</th>
<th>2008</th>
<th>2016</th>
<th>2016-2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity, gas, steam and air conditioning supply</td>
<td>4.209</td>
<td>5.761</td>
<td>1.552</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>42.816</td>
<td>59.193</td>
<td>16.377</td>
</tr>
<tr>
<td>Accommodation and food service activities</td>
<td>108.902</td>
<td>109.338</td>
<td>436</td>
</tr>
<tr>
<td>Financial and Insurance activities</td>
<td>4.922</td>
<td>16.481</td>
<td>11.559</td>
</tr>
<tr>
<td>Professional, scientific and technical activities</td>
<td>123.270</td>
<td>138.501</td>
<td>15.231</td>
</tr>
<tr>
<td>Education</td>
<td>7.318</td>
<td>20.574</td>
<td>13.256</td>
</tr>
<tr>
<td>Human health and social work activities</td>
<td>4.314</td>
<td>57.182</td>
<td>52.868</td>
</tr>
<tr>
<td>Arts, entertainment and recreation</td>
<td>17.005</td>
<td>19.740</td>
<td>2.735</td>
</tr>
</tbody>
</table>

*Source: IME GSEVEE 2019*
## Table 2: Sectors with decreased number of entities

<table>
<thead>
<tr>
<th>Sector</th>
<th>2008</th>
<th>2016</th>
<th>2016-2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining and quarrying</td>
<td>1.044</td>
<td>537</td>
<td>-507</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>85.388</td>
<td>56.426</td>
<td>-28.962</td>
</tr>
<tr>
<td>Water supply, sewerage, waste management and remediation activities</td>
<td>2.087</td>
<td>1.761</td>
<td>-326</td>
</tr>
<tr>
<td>Construction</td>
<td>128.541</td>
<td>59.762</td>
<td>-68.779</td>
</tr>
<tr>
<td>Wholesale and retail trade; repair of motor vehicles and motorcycles</td>
<td>311.932</td>
<td>232.026</td>
<td>-79.906</td>
</tr>
<tr>
<td>Information and communication</td>
<td>19.052</td>
<td>16.947</td>
<td>-2.105</td>
</tr>
<tr>
<td>Real estate activities</td>
<td>9.288</td>
<td>6.639</td>
<td>-2.649</td>
</tr>
<tr>
<td>Administrative and support service activities</td>
<td>27.224</td>
<td>18.165</td>
<td>-9.059</td>
</tr>
<tr>
<td>Public administration and defence; compulsory social security</td>
<td>1.323</td>
<td>926</td>
<td>-397</td>
</tr>
<tr>
<td>Other service activities</td>
<td>37.634</td>
<td>4.714</td>
<td>-2.920</td>
</tr>
</tbody>
</table>

*Source: IME GSEVEE 2019*

As regards the evolution of business activity in Greek regions, Table 4 shows that in all Greek regions the number of entities has decreased. The decline in the number of businesses was milder in island tourist areas and stronger in metropolitan areas with high concentration of diminishing economic activities like retail trade, construction and industry (e.g. Attica, Central Macedonia).
Chart 5: Evolution of businesses in Greek regions

6. Impact of the crisis on the size and legal form of Greek companies

Concerning the structure of enterprises (excluding agriculture) by number of employees, Table 3 shows that:

- The percentage of very small entities, which employs up to 4 persons, has decreased. In all other categories the percentages have increased.
- The reduction of small enterprises (0-9 employees) amounted to 1.56% or from 97.15% to 95.58%.
- The total share of medium and large enterprises increased from 6.04% to 10.49%.

In conclusion, there is no radical change in the structure of businesses based on the number of employees during the crisis.
Table 3: Changes in the size of companies (in % of total number)

<table>
<thead>
<tr>
<th>Number of employees</th>
<th>2008</th>
<th>2016</th>
<th>Change between 2008 and 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>93,96</td>
<td>89,51</td>
<td>-4,45</td>
</tr>
<tr>
<td>5-9</td>
<td>3,18</td>
<td>6,07</td>
<td>2,89</td>
</tr>
<tr>
<td>10-19</td>
<td>1,55</td>
<td>2,61</td>
<td>1,06</td>
</tr>
<tr>
<td>20-29</td>
<td>0,49</td>
<td>0,74</td>
<td>0,25</td>
</tr>
<tr>
<td>30-49</td>
<td>0,38</td>
<td>0,51</td>
<td>0,13</td>
</tr>
<tr>
<td>50-99</td>
<td>0,23</td>
<td>0,30</td>
<td>0,07</td>
</tr>
<tr>
<td>&gt;100</td>
<td>0,20</td>
<td>0,28</td>
<td>0,08</td>
</tr>
</tbody>
</table>

Source: IME GSEVEE 2019

Chart 6: legal forms of Greek companies

Source: ELSTAT

Regarding the legal form of business, the following are found (see chart):

- Self-employment in the legal form of a sole proprietorship or general partnership is still predominant.
During the crisis there has been a significant increase in other legal types, mainly due to the favorable arrangements for setting up and operating a new type of business, the Private Company (IKE). In 2017, ca. 22% of new business registrations were Private Companies (57% sole proprietorships, 2% Ltd.). Often these are not startups but conversions from other legal forms.

The number of S.A. and Limited companies remains relatively low.

In conclusion, the financial crisis in Greece has increased the proportion of individual business and micro-enterprises, in the form of sole proprietorships and PCs.

7. The impact of economic crisis on firm relocation

The deterioration of the economic environment and the excessive increase in taxation caused a wave of business exodus from Greece. Between 2008-2016, all foreign banks with customer service networks, except HSBC, withdrew from Greece, with the most typical being Citigroup and BNP Paribas, followed by Credit Agricole, Societe Generale and the Portuguese Banco Commercial Portugues. Commercial companies such as Carrefour, Makro and Fnac departed, as well as manufacturing and energy companies such as Contitech, the multinational Bolton Group, BP and Shell. The flight of foreign companies from Greece caused a drastic reduction of the FDI Stock by about 40%, when in other EU countries it was growing.

At the same time, many Greek companies fled the country in order to avoid high taxation. The countries chosen as tax headquarters were Bulgaria and Cyprus. After 2015 there is a new wave of reallocation that is primarily due to the introduction of capital controls in Greece. According to the Greek General Electronic Commercial Registry (G.E.MI.), between 2014-2016, approximately 18,000 companies relocated to the Balkans. Most relocated companies have no employees or any local activity, because the reallocation was mainly tax-driven (Kapitsinis 2019).
7. The impact on business extroversion

The Greek economic crisis was not only a crisis of public debt, but also a crisis of competitiveness, as well as a crisis of the Greek economic production model. A sustained exit from the crisis required an increase in exports and an increase in foreign direct investment as a counterbalance to the decline in domestic demand and domestic investments.

One of the focal points of the adjustment policy was the transformation of the productive paradigm of Greece from a closed consumption driven economy to an open export and investment driven economy. Despite this target, due to the rigidities of the economic, social and political order and to the deficiencies of the adjustment policy, until recently a substantial transformation remained elusive. Only after 2017 the external sector had a substantial contribution to GDP Growth.

With regard to the goal of business extroversion, ten years after the start of the crisis and after the implementation of three adjustment programs, the following findings suggest the continued introversion and low competitiveness of Greek enterprises:

- During the crisis there has been a drastic decline in import activity and a gradual slight increase in exports, especially in the last 2 years. Consequently, Greece remains a closed economy. In 2018 exports accounts 33% of GDP, compared to 23% in 2008. But the GDP of 2018 was about 25% lower than of 2008.
- The structure of sectoral composition of exports and their geographical orientation between 2008 and 2018 remains almost unchanged.
- Greece has global revealed comparative advantage in 22 out of 63 product groups, accounting to 69.5% of Greek exports, and excluding petroleum products to 40.4%. Most of the groups with comparative advantages include products with low global productivity level, mainly food and beverages, petroleum products, metals.
- The technological content of Greek exports is very low. In 2018, the performance of medium and high-tech product exports in Greece relative to that of EU (EU=100) stood at 8.3 (9.4 in 2008).
Chart 7: Trade Balance – Good and Services (Current prices, in Mio Euros)

Source: EUROSTAT

Chart 8: Trade openness (export + imports as % of GDP)

Source: EUROSTAT
Some Greek SMEs have become more export-oriented during the crisis. Focusing on the manufacturing sector, the share of exporting SMEs has increased by almost 10%. Despite this development, only a small percentage of Greek enterprises exports, estimated around 3% in 2018. Consequently, Greek exports are still highly concentrated. The top 5 exporters account for 23% of total goods exports. The top 1.000 firms account for more than 80% of Greek exports.

The participation of Greek companies in the global value chain increased only slightly, from about 37% in 2008 to 40% in 2018. The backward and forward participation of Greek companies in global value chains counts to lower in EU.
8. Impact of the crisis on the innovation activities of Greek enterprises

The positive impact of recession on innovation is verified in the case of the Greek crisis. Between 2011 and 2018, the country improved its overall research and innovation performance. Thus, according to the relevant EU reports and the EU Innovation Scoreboard, Greece, although still a member of the “Moderate Innovators” category, has significantly improved its position. In particular, in the period 2011-2018, Greek Innovation has been improved by 20.2%, the second best improvement in the EU (8.8% being the EU average). The Chart 8 shows the continuous improvement of Greek Innovation during the crisis years.

**Chart 10: Innovation Scoreboard of Greece**

Source: EU, European Innovation Scoreboard 2019
According to the European Innovation Scoreboard 2019 of the EU, Greece improved its performance indicators in the fields of Human Resources, Innovators and Linkages. Regarding the innovative performance of Greek companies during the crisis strong improvement is observed in the fields of SMEs product/process innovations, SMEs marketing/organizational innovations, SMEs innovating in-house and Innovative SMEs collaborating with others. Despite the improvement in activities like R&D expenditure in the business sector, PCT patent, trade mark and design applications the divergence from the EU average is still very large. The weakest innovation dimensions in Greece are still the Finance and Support of innovation, the attractiveness of research systems and the Innovation friendly environment rank were Greece is last (EIS 2019 report).

From the National Documentation Center’s periodic reports and other empirical research on the innovative actions and performance of Greek businesses during the crisis years, the following key conclusions emerge:
The proportion of innovative businesses in general has increased by more than 10 percentage points and is about 60% from about 50% before the crisis.

The proportion of innovative businesses in Industry is higher than in the Services sector, where the picture is relatively more complex.

The improvement in Greek company innovation performance includes both companies that innovate in products and/or processes as well as those that innovate in organization and/or marketing.

In the early years of the crisis, innovations in organization and/or marketing were more than innovations in products and/or processes whereas in recent years, there has been a faster increase in process innovations.

The percentage of companies with product innovations is still the lowest (about 30%).

The total number of patents, which declined after the onset of the crisis, began to increase after 2016. In 2018 the number of patent applications from Greece to the European Patent Office saw an increase of 18 over the estimated period, peaking at 120 applications. Despite this increase, Greece, with about 10 patents per million inhabitants, belongs to the lowest performing countries (EU average of about 120 patents / 1 million inhabitants).

From the analysis above, it is clear that recession in Greece has actually increased the efforts of the state and businesses to improve innovation, an improvement evident in almost all indicators. However, Greek companies are falling behind other competing countries, especially in product and process innovation.

9. Changes in Business environment

The establishment, operation and development of companies depend crucially on the external environment. As already mentioned, this crisis caused a dramatic deterioration of the macroeconomic environment and the business climate, due to lower aggregate demand, shrinking liquidity, declining public and private investment, rising unemployment and sharp political and social instability. At the same time, tax rates on business profits and dividends
increased significantly (29% and 15%, respectively), while liberal professions joined the less favorable tax regime of employees. Additional burdens on businesses are a 100% tax advance payment on next year’s tax and increased employer and employee social contributions.

**Chart 12: Most problematic factors for doing business**

![Chart 12: Most problematic factors for doing business](chart)

**Source: Kotios/Galanos/Poufinas 2018**

A business environment, however, depends both on institutional framework and regulatory rules of the economy, as well as social acceptance of entrepreneurship. It is widely accepted that for entrepreneurship to grow, a low cost, stable, predictable, simple and secure framework that regulates business is necessary. In other words, in addition to political and macroeconomic stability, the general and specific regulatory framework should encourage and favor entrepreneurial action, creating and maintaining a stable environment.

Before referring to the major changes in the business ecosystem, which were adopted mainly in response to the crisis, it should be emphasized that during the crisis years social acceptance and recognition of the value of entrepreneurship, as a vessel to growth and economic prosperity, increased significantly especially for young people. This improvement is particularly
important for Greece, because traditionally the attitudes and perceptions of a large number of Greek citizens ranged from negative to hostile.

Regarding the institutional changes in the business environment, it has been noted that in recent years, in the context of political adjustment, significant reforms in business law have taken place. The legislative changes were intended primarily to simplify and flexibly set up and operate the various corporate forms. To be more concrete, in order to reform and modernize company law, new legislation amended the laws of public limited companies (S.A. or Inc.), limited liability companies (Ltd.), of general partnership companies and of limited partnerships. After 2011 new legislation introduced the new corporate forms of social enterprises and the Private Equity Company that became very popular to start uppers and liberal professions. In order to avoid bureaucracy Greece has launched One Stop Shops to set up a company. Since 2018, a new digital service, Electronic One Stop Shop, offers the possibility to every entrepreneur to conclude the setup of his company in few minutes.

Progress has also been made on the issue of licensing of professions and manufacturing activities with the introduction of an electronic system of notifications. This reduced the number of economic activities requiring ex ante installation and operating permissions.

In addition, significant steps have been taken to improve the institutional framework of the location of economic activities. The newer legislation reinforces support of business parks and business incentives to settle or relocate there. A particularly positive development has been the adoption of the Law on Maritime Spatial Planning, which is the basis for blue growth.

Due to structural weaknesses of the Greek justice system, arbitration and mediation institutions for economic and commercial disputes have been introduced into the Greek legal order. In fact, some disputes regarding market competition and brokerage contracts are compulsorily resolved in out-of-court procedures. 2017 was the first year in Greece for an organized out-of-court procedure for the comprehensive and long-term settlement of Greek business debts to the public sector or to private individuals.
Finally, new financing tools have been developed and utilized to enhance the liquidity of the economy and investment. More specifically, the European Fund for Strategic Investments (the Juncker Plan) supports strategic investments in key areas and helps small businesses to start up, to grow and to expand by providing risk finance. In addition, other EU tools such as the European Investment Bank and the European Investment Funds have also been used in recent years to improve the financial environment for start-ups, as well as new financing tools introduced at national level. Of particular importance to Greek SMEs were loans, guarantees or holdings by EIB through Greek banks, the COSME Loan Guarantee Facility (LGF), the COSME Equity Facility for Growth (EFG) and the INNOVFIN SME Guarantee Facility. The most important new financing instruments at national level, utilizing national, EU and private resources and helping to fill the funding gaps of the country's SMEs are:

- The Hellenic Fund for Entrepreneurship and Development (ETEAN S.A), a 100% state backed financial intermediary in Greece.
- The new fund-of-funds Programme in Greece, the EquiFund, that supports mainly innovative start uppers and SMEs through private equity and venture capital.
- The Infrastructure Fund for investments in the sectors of energy and environment, and
- The Institute for Growth Greek SME Finance S.A., for loans and working capital to Greek SMEs.

For the promotion of private investments Greece uses a national instrument, the so-called National Development Law (4399/2016 as it has been amended). The law foresees the provision of grants, leasing subsidies, tax exemptions, new employment cost subsidies, stabilization of income tax rates and financing of business risk via equity funds, as requested by the applicant. Furthermore, specific measures, such as the adoption of a “fast-track” mechanism for strategic investments and the establishment of the institution of “Ombudsman”, were introduced to unblock the implementation of investment projects, by facilitating and enhancing the licensing procedures.
Additionally, recent legislation encourages research and development activities of the business sector by introducing tax incentives. For example, in 2016 the deduction of R&D expenditures increased from 100% to 130%. More recent legislation for tax exemptions for R&D capital exempts capital increases from taxes and duties when it is directed to R&D expenditure. Also, profits stemming from products or services which utilize an internationally recognized patent developed in-house are exempted from income tax for three years.

Finally, innovation and entrepreneurship in Greece are supported mainly by the European Structural Funds in the framework of the Cohesion Policy 2014-2020. During this programming period approximately €26 billion are expected to be channeled into the Greek economy (about 5 billion for the promotion of innovation and entrepreneurship).

It can be concluded from the above, that the business environment in Greece during the crisis was influenced by two opposing trends. On one hand, it deteriorated dramatically because of the recession and political and economic uncertainties. While on the other, efforts were made to improve the institutional framework and to cover part of the funding gap through new funding instruments at national and European level. Despite the improvements, all relevant surveys and evaluations show that Greek entrepreneurship and innovation still face serious problems and lag behind other EU countries.

**Chart 13:** Doing Business and Corruption Indices

![Chart 13: Doing Business and Corruption Indices](image)

*Source: Kotios/Galanos/Poufinas 2018*
This raises the question of the challenges and prospects of entrepreneurship and innovation development in post-crisis Greece.

10. The Future of Entrepreneurship and Innovation in Greece

Ten years after the onset of the crisis and after the implementation of three adjustment programs, Greek economy seems to have entered a path of stabilization and growth. Positive developments and conditions, such as the exit from adjustment programs, the removal of capital controls, the restoration of political and macroeconomic stability, and the growing political and social recognition of innovation and entrepreneurship, improve the economic climate and enhance optimism in the markets.

Indeed, as Graph ... shows, the Greek Economic Sentiment Index increased significantly in August 2019 and reached 108.40 points, the highest level after 2007 and significantly higher than the EU average.

![Chart 14: Greek economic sentiment index](source: TradingEconomics.com | European Commission)

However, to maintain a positive business climate and use entrepreneurship and innovation effectively, Greece has to increase efforts to improve the business environment and meet the challenges.
Addressing these challenges requires the development of a coherent policy, focusing on the following key pillars:

- Ensuring political and social stability, eliminating macroeconomic uncertainties and maintaining budgetary discipline.

- Continuing structural and institutional reforms in all areas, modernizing the public sector with a comprehensive application of e-governance and evaluation and pursuing a structural policy to change the productive pattern of the Greek economy.

- Improving the regulatory and institutional framework by reducing red tape related to investments (e.g. investment and construction permits, land use, enforcing contracts, resolving insolvency), simplifying business law and limiting phenomena like bureaucracy, over-legislation and over-regulation.

- Reducing business taxation, rationalizing social contributions, simplifying tax law and limiting tax evasion and the scope of the gray economy.

- Ending the credit crunch and facilitating access to credits and other financial instruments by improving the liquidity situation of the Greek banking system, attracting foreign capital, expanding the actions of the new Hellenic Development Bank, using better the new financial instruments, increasing the absorption of the EU Structural Funds for innovation and investments, improving the national scheme for investment incentives etc.

- Promoting export dynamism by enhancing international competitiveness, supporting export clustering and improving trade credits, cross-border processes and economic diplomacy.

- Removing disincentives, creating favorable internal conditions and implementing a concerted policy towards attracting foreign direct investments.

- Upgrading business, technology, transport, energy, and environmental infrastructure and promoting the digital economy.
Developing human resources by improving technical and vocational education, retraining, and upgrading skills and knowledge for the dynamic sectors of the economy.

Improving the cooperation and networking between the academic and business worlds in the fields of research and innovation and increasing the share of researchers employed in the Greek business sector (19% versus an EU average of 49%).

Stimulating and supporting young people with high educational levels in getting involved in entrepreneurship and focusing on the quality of new ventures more than just the quantity. Greece needs more opportunity versus necessity-driven entrepreneurship.

Fostering the entrepreneurial culture in Greek society and improving entrepreneurship education.

References


