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The impacts of economic crisis on Magnesia and the role of innovation in recovery and development

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ABSTRACT

The international crisis that started in the "Subordinated bonds" in the US was a critical factor in the crisis engulfing Greece. Important realities highlighted, as the dynamic of the production model that followed for decades, chronic structural problems and the political weakness of the eurozone.

Although, the lack of direct management of the economic crisis from the side of the eurozone, the European Union has provided to support member states in order to eliminate regional disparities through the transfer of EU funds. These funds can generate multiplier effects for the economic development of the region, only if complement policies that strengthen the peculiarities of each area's productive formation.

In the case of Magnesia economic boost could be given, if political will will be taken in order to support clusters, so as the debt crisis will not operate as a dramatic catalyst of regional development.

Key words: crisis, research, innovation, business, regional development, clusters.

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ABBREVIATIONS

ALDE: Alliance of Liberals and Democrats for Europe.

CAP: Common Agricultural Policy.

CERETETH: Centre for Research and Technology of Thessaly.

CERTH: Center for Research and Technology-Hellas.

CIVEX: Citizenship, Governance, Institutional and External Affairs.

CoR: Committee of the Regions.

COTER: Territorial Cohesion Policy.

CSC: Center for Strategy and Competitiveness.

CSF: Community Support Framework.

CSF-FPA: Common Strategic Framework-Framework Partnership Agreement.

DIMAR: Democratic Left.

EA: European Alliance.

EAFRD: European Agricultural Fund for Rural Development.

EBN: Network European Business.

ECB: European Central Bank.

ECOFIN: Economic and Financial Affairs Council.

ECOS: Economic and Social Policy.

ECR: European Conservatives and Reformists.

EDP: Excessive Deficit Procedure.

EDUC: Education, Youth, Culture and Research.

EFSF: European Financial Stability Facility.

ELSTAT: Greek Statistical Authority.

EMFF: European Maritime and Fisheries Fund.

ENVE: Environment, Climate Change and Energy.

EPP: European People's Party.

ERDF: European Regional Development Fund.

ERDF: European Regional Development Fund.

ESF: European Social Fund.

ESIF: European Structural and Investment Funds.

ESM: European Stability Mechanism.

EU: European Union.

FIT&CG: Federation of Industries of Thessaly and Central Greece.

GDP: Gross Domestic Product.

GNI: Gross National Income.

GNP: Gross National Product.

GSRT: General Secretariat for Research and Technology.

HTCI: Hellenic Technology Clusters Initiative.

ICT: Information and Communications Technology.

IMF: International Monetary Fund.

IPED-T: Intelligent Pole of Expertise and Development of Thessaly.

IRETETH: Institute for Research and Technology of Thessaly.

IT: Information Technology.

NAT: Natural Resources.

ND: New Democracy.

NDC: National Documentation Centre.

NSRF: National Strategic Reference Framework.

OMTs: Outright Monetary Transactions.

OP: Operational Programme.

OPCM: Operational Programme Competitiveness and Entrepreneurship.

PA: Priority Axis.

PASOK: Panhellenic Socialist Movement.

PES: Party of European Socialists.

PIB: Public Investment Budget.

PSI: Private Sector Involvement.

R&D: Research and Development.

RB: Regular Budget.

RCIT: Regional Council of Innovation of Thessaly.

RDP: Rural Development Programmes.

RIP: Regional Innovation Poles.

RIP-TH: Regional Innovation Pole of Thessaly.

RIS: Regional Innovation Strategy.

ROP: Regional Operational Programme.

RTD+I: Research Technological Development +Information.

RTDI: Research, Technological Development and Innovation.

SA: Societe Anonyme.

SMEs: Small and Medium Enterprises.

SWOT: Strengths, Weaknesses, Opportunities and Threats.

TAP: Trans Adriatic Pipeline.

TEN-T: Trans-European Transport Network.

TEPATH: Technology Park of Thessaly.

TFEU: Treaty on the Functioning of the European Union.

US: United States.

UTH: University of Thessaly.

TEI: Technological Educational Institution.

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INTRODUCTION

Greece belongs to the EU since 1981 and joined the Eurozone in 2001. In 2008 the economy fell into recession, the solvency of the Greek state came to doubt in the last two months of 2009 and a dramatic increase in the cost of borrowing was noted. From 2010 onwards the 2008 global banking crisis, triggered primarily by the financial meltdown in the US, Greece faced debt crisis, which has included it in tripartite monitoring (EU, ECB, IMF).

Along with the harsh economic reality that the country faces, one of the European Union's policies that aims at reducing the existing regional disparities and the prevention of new ones through the transfer of EU funds to the regions that have problems, particularly through the financial instruments of the Union known as Structural Funds, is the regional policy. The EU's regional policy took its present form in 1988, when it was decided to coordinate the action of the Structural Funds and their action was included in the logic of the multiannual financial programming. During the fiscal periods which followed, the resources of the regional policy increased substantially. Specifically, for the period 2014-2020 the support from the Common Strategic Framework-Framework Partnership Agreement (CSF-FPA) will be € 376 bn. The Committee of Regions is the institution that plays an important role in the management of EU regional interventions.

For the period 2014-2020, EU supports the regional research & innovation strategy for smart specialization (RIS3). Smart Specialization is a strategic approach of economic development based on targeted support of research and innovation. Magnification of investments in research and development imply productivity growth. Growth of productivity and incorporation of new technology and innovation in manufacturing activities lend countries their competitive advantages. Competitive advantages are factors that may increase the potential output of a region's or country's economy. Regions or countries that have such advantages dominate in the international trade, which translates into more exports.

The question that is trying to be answered is how a solution to the economic crisis experienced by the region could be provided according to the survey, so as the powerful regional policy and the significant RIS3 can generate multiplier effects for the region's development. As it will be mentioned, in the past, one way was to create permanent links between research facilities and production space (Regional

Innovation Pole of Thessaly). The question that arises is whether it is useful to repeat or to offer another solution, as spending on R&D is taking place, the University, the TEI and research institutions are producing research results but the economic performance of enterprises is declining.

To investigate the way in which this question could be answered, the following procedure was followed, except the bibliographic research. Data collection from the Greek Statistical Authority, the National Documentation Centre, the University & TEI of Thessaly, the Federation of Industries of Thessaly & Central Greece, the Commercial Chamber of Magnesia and the Institute for Research & Technology of Thessaly. Selection of institutions and individuals for interviews. Formulation of questions for each interview. Conduct of interviews and writing the dissertation taking into account the interviews too. The dissertation was structured in the following sections.

The first section refers to the economic crisis and Greece. More analytically, it refers to the production structure, investment activity & structural problems of the Greek economy. To the international crisis and its relationship with national developments and to the policy failure of the eurozone. The second section refers to the European regional policy. Its structural funds are mentioned and the impact that will have on the region through the operational programme of Thessaly for the period 2024-2020 is reported. In the third section the regional research & innovation strategy for smart specialization is displayed and the assessment of the current situation of the regional innovation system of Thessaly according to SWOT analysis.

In the third section the results of the survey are reflected. A survey that conducted through the way that mentioned above and from the institutions that mentioned too. Finally, in the last section I led to the conclusion that clusters could give the boost to the region of Thessaly, so I describe the positive results that arising from their existence and operation. Moreover, I refer to the cluster of metal and the cluster of agrifood and I explain the reason that I believe their existence will create multiple results for the regional development.

1. ECONOMIC CRISIS AND GREECE

1.1 INTRODUCTION

Greece is a small country located in the southeastern part of Europe. It belongs to the EU since 1981 and joined the Eurozone in 2001. It has a production structure and basis grounded mainly on tourism (Tables: 1.1, 1.2, 1.3, 1.4. An.1), merchant marine (Table 1.5, An.1) and the production of agricultural products (Table 1.6, An.1). However, its production structure, is characterized by lots of unused productive possibilities –advantages and many deficiencies, leading to the introduction of several products (Table 1.7, An.1). It is worth noting that Greece has a considerable geopolitical position, functioning as the link between three continents.

The country achieved to show in comparison with the average mean of Eurozone high annual growth rates of GNP, and particularly in the period 2001-2007 showed a temporary growth (Table 1.8, An.1). Factors that contributed to this event were governments' expenses which strengthened the final consumption expenditure (public and private), deficits in the external balance of goods and services, productivity growth in certain sectors of the Greek economy, "the increase of Greek economy in liquidity because of easy and cheap loans, the release of certain markets, the exploitation of the Balkan countries' market for export, investment & Olympic infrastructure" (Kotios, 2011: 7).

Moreover, inflows of EU Community Structural Funds in the 2000-2006 period created conditions for higher growth (Table 1.9, An.1). Specifically, the European Union supported Greece at that time by a) the Community Support Framework b) Community Initiatives and c) the Cohesion Fund. The four Community Initiatives of the EU Structural Funds for the period 2000-2006 are: *EQUAL* (equality in the labor market), *LEADER* (rural development), *URBAN II* (urban development) and *INTERREG III* (cross-border, transnational, interregional cooperation), whose total public cost amounts to *1.28 billion euros* (of which the Community contribution is *904 million. euros*).

While in 2008 the economy fell into recession (Table 1.10, An.1), the solvency of the Greek state came to doubt in the last two months of 2009 and a dramatic increase in the cost of borrowing was noted. Since 2010 onwards the 2008 autumn of the global banking crisis, triggered primarily by the financial meltdown in the US,

Greece faces debt crisis, which has included it in tripartite monitoring (EU, ECB, IMF).

The public debt was unsustainable due to "(a) the panic in the financial markets that led to the collapse of liquidity, (b) the recession brought by the worldwide crash and, of course, in Greece too (which reduced tax revenues of Greek state) (c) the lack of support capability of the ECB or joint borrowing with other Member States" (Varoufakis et.all, 2014: 34).

In summary, Greece is an economy with serious structural problems, e.g. the bureaucratic public sector (Table 1.11, An.1), which can address them effectively via proper implementation of policies in the long term and via thorough consolidation.

1.2 GREEK ECONOMY, PRODUCTION STRUCTURE, INVESTMENT ACTIVITY & STRUCTURAL PROBLEMS

The entrance in the Eurozone did not bring significant changes in the structure of productive activity in Greece. Perhaps the most important distortion is "the concentration of a large part of the available resources to activities addressing only within (mainly controlled by the public sector) or the resale of imported goods" (Report of the Governor of the Bank of Greece, 2011: 24, 25). While in the Single Market of the EU competition was increased, in Greece certain policies dominated such as:

- Permanent deficit fiscal policy covering consumer expenses even in periods of growth. After joining the Eurozone costs continued to rise, while state revenues were not tuned in (Table 1.12, An.1).
- Increase the general governmental debt (Table 1.12, An.1).
- Swelling of the shadow economy. An important difference of structural nature between Greece and other EU countries is located more in revenue rather than in expenditure. The level of expenditure is not different from that of the EU (before the crisis, about 45% GNP), but the government's ability to collect taxes is much lower. The State abstained from the effective taxation of the informal economy that prevailed in all layers (Table 1.13, An.1).
- Swelling of the state and excessive appointments in narrow and broader public sector, regardless of the actual needs and financial resources. Creation of

infrastructure with long-term financial commitments (eg, higher institutes, hospitals), also regardless of the real needs and only for customer reasons (Table 1.14, An.1).

- Fast growing private consumption (Table 1.15, An.1).
- Development of construction (Table 1.15, An.1).
- Lack of openness of goods and entrepreneurial culture, so that development can not benefit from the multiple world market (Table 1.15, An.1).
- Continuous decline in national savings (Table 1.15, An.1).
- Reduction in labor productivity (Table 1.15, An.1).
- Low short-term & long-term rates (due to integration in the Eurozone) which encouraged private and state lending (Table 1.15, An.1).
- An unstable macroeconomic environment (frequent changes in taxation, social security and the whole legal framework in general) (Table 1.16, An.1).
- "Existence of closed professions (eg transport) and oligopolies in key sectors (eg banking, insurance, energy, fuel, wholesale trade)" (Constantinou, 2011: 134-135).
- Not effective absorption of EU funds, "due to limited liquidity and repeated administrative obstacles in managing and controlling programs" (Report of the Governor of the Bank of Greece, 2012: 116).
- Indicators of competitiveness of enterprises and development of the country were at a low level (Table 1.17, An.1).
- Offer of goods and services characterized by inefficient use of resources. Social expenditure eg did not reach those who was supposed to support and thus did not significantly reduce the poverty rate, e.g. "Notional pensions rose to 41576 as identified during audits of 2011-2013 in total insurance funds, according to data submitted by the Minister of Labour Yiannis Vroutsis in the Plenary of the Parliament" (www.aftodioikisi.gr, on 28 November 2014).
- Increase of the wage cost in the whole economy (Table 1.18, An.1).
- Deficit in current account balance over time (Table 1.19, An.1).
- Traditional methods of production, lack of modernization and use of new technologies and the Information Society despite the amount of subsidy paid over time (Table 1.20, An.1).

1.3 INTERNATIONAL CRISIS AS A CATALYST OF NATIONAL DEVELOPMENTS

The international crisis that started in the "Subordinated bonds" in the US was a critical factor in the crisis engulfing many European countries, including Greece. After 2007, the international turmoil in financial systems and the decided rescue plans revealed significant realities.

The most important outcome of the global crisis is that price stability does not guarantee financial stability. "Before the crisis of 2007-2009 few economists were concerned about the financial stability, lulled by low inflation and high growth environment of the past two decades" (Hardouvelis, 2013: 2).

The financial system in powerful countries of the West was oriented to the removal of wealth from the world system and from the national social space. But the resources available to support important financial institutions showed that the unavailability of funds for social objectives was a matter of policy options.

Finally, a strong political counterweight which could halt the neoliberal forces which follow strategies of crucial influence on the shrinkage of the social element was absent and is still absent from the international scene.

1.4 POLICY FAILURE OF THE EUROZONE

European leaders faced a serious problem not addressed to their other colleagues: the flimsy architecture of the Eurozone. In particular, the Eurozone consists of member states without the support of central bank and a common central bank (ECB), lacking a state able to support in turn, with a common fiscal policy, the common Eurozone monetary policy. Above all, there is a distinction between the common monetary policy and fragmented fiscal policy. "The rules under which the ECB operated throughout its presence were unnecessary constraints including exclusive focus on the objective of inflation and prohibiting the acquisition of national debt" (Lapavitsas et.all, 2010: 365). Also, there is no provision for centralized fiscal transfers, which could alleviate some of the stresses created by the common monetary policy.

There hadn´t been any mechanism established yet, related to financial assistance during crises, as happened in 2007-2009, so each state was left to guard

itself in its domestic economy. The absence of such a mechanism became clearer in 2010 when Greece went bankrupt.

Important steps in the Eurozone have certainly been made since 2010 to tackle crisis and accomplish the smooth functioning of the monetary union:

- The European Financial Stability Facility (EFSF) was established and then the European Stability Mechanism (ESM) in order to provide immediate liquidity to countries in a credit crunch. EFSF was created as a temporary crisis resolution mechanism from the Eurozone Member States in June 2010. It has provided financial assistance by issuing bonds and other debt securities on the capital markets. The permanent EMS rescue mechanism operates in accordance with a decision made by the European Council in December 2010. Member States of the Eurozone signed an intergovernmental treaty for its establishment on 2 February 2012. The EMS was inaugurated on 8 October 2012. "Today it is the only mechanism for addressing new applications for financial assistance from the Member States of the Eurozone" (http://www.efsf.europa.eu/about/index.htm, on 19 March 2015).
- The ECB has acquired the ability to intervene in bond markets indefinitely when a country faces a strong upward pressure on borrowing costs. The Board of the European Central Bank (ECB) made on 6 September 2012 decisions on a range of technical features regarding "Eurosystem outright transactions in secondary markets of governmental bonds aimed at ensuring an appropriate monetary policy transmission mechanism" (http://www.ecb.europa.eu/press/pr/date/2012/html/pr120906_1.en.html, on 19 March 2015). It is known as Outright Monetary Transactions (OMTs).
- The European Council decided to establish the European Semester in 2010. Each year, "the Commission undertakes a detailed analysis of the financial program, macroeconomic and structural reforms in each Member State of the EU" (http://ec.europa.eu/europe2020/ making-it-happen / index_el.htm, on 19 March 2015).
- New rules, set in the "legislative package of six measures" entered into force in December 2011. Additional rules for Eurozone countries to strengthen budgetary surveillance came into force in May 2013. At this moment, greater emphasis is given on reducing the high public debt. "It is now possible to

initiate the excessive deficit procedure (EDP) not only due to the existence of an excessive governmental deficit but national debt too" (European Commission, 2013: 2). The Eurozone countries are now required to submit their draft budget for the following year to the Commission to assess whether they are consistent with the requirements of the Stability and Growth Pact and the European Semester. Moreover, more emphasis is given today on the enforcement of fiscal rules which, for the Eurozone countries, is supported by a credible sanctions mechanism.

- In June 2012 the EU Member States decided that monetary union should be supported by the so-called *Banking Association* onwards, in other words "the joint supervision of the financial system and the common mechanism for resolving financial crises" (http: // ec. europa.eu/greece/news/economic-news/economic4_el.htm, on 19 March 2015).
- Banking union automatically includes all Eurozone member countries and voluntarily as many of the remaining EU member states as they wish so. *The pillars of the Banking Association are: (1) The Single Supervisory Mechanism* which will create a new financial supervisory system that comprises the ECB and the national competent authorities of EU countries involved. The mechanism came into force on 4 November 2013 and became fully operational by November 2014 (2) *The Single Resolution Mechanism* that will ensure that if a bank that is subject to the single supervisory mechanism faces, despite tighter supervision, serious difficulties, the consolidation will be dealt in an efficient manner. The Single Resolution Mechanism will apply to all banks supervised by the Single Supervisory Mechanism. The Single Resolution Mechanism entered into force on 1 January 2015, while the rescue with the same instruments and consolidation functions will apply from 1 January 2016, as set out in the Directive for the recovery and consolidation of banks.

1.5 PUBLIC DEBT-BANKRUPTCY-IMF, EU, ECB & GREECE

Since the autumn of 2008 due to the global economic crisis that broke out, the Greek economy derailed and deficit and debt began to rise rapidly (Table 1.21, An.1). In January 2009 the rating *agency Standard & Poor's* downgraded the long-term

credit rating of Greece from *A to A*- increasing the cost of borrowing country. On 20 October 2009 Finance Minister C.. Papakonstantinou announced the ECOFIN that the deficit for 2009 would range as a percentage of GNP to 12.7% instead of 6% that had calculated the previous government. On 22 October 2009 the rating agency *Fitch* downgraded Greece from level *A to A*-. on 8 December 2009 the rating agency *Fitch* downgraded Greece from *A-to BBB* +. On 16 December 2009, the rating agency *Standard and Poor's* downgraded Greece from level *A-to BBB* + on 23 December 2009 & the rating agency *Moody's* downgraded Greece from level *A1 to A2*. On 21 January 2010 the spread of 10-year bonds exceeded 300 units. On 9 April 2010 the rating agency *Fitch* downgraded Greece from level *BBB + to BBB-*. On 22 April 2010 the rating agency *Moody's* downgraded Greece from level *A2 to A3*.

On 23 April 2010 the Greek government officially submitted a request to the EU for the activation of the just constituted support mechanism for the Greek economy. On 27 April 2010, the rating agency *Standard & Poor's* downgraded Greece from level *BBB + to BB +* & on 28 April 2010 *the spread of 10-year bonds exceeded 1000 units*. On 3 May 2010 submitted a request for assistance to the International Monetary Fund enclosing *the Memorandum of economic and financial policy* and *the Memorandum of Understanding on specific economic policy conditions*. On 5 May 2010 the Greek Parliament passed the law 3845/2010.

The loan had a total height of 110 billion euros (80 billion European loans and 30 billion from the IMF). The interest rates on these loans amounted to over 5%, while Greece would hardly borrow alone in international markets and if so on onerous terms. It was provided for the disbursement of the loan that Greece would implement the program of fiscal consolidation and structural reforms (L.3845 / 2010)[1] for the period 2010-2012.

Fiscal consolidation by reducing public expenditure and increasing tax rates leads to a decrease in demand in the economy, which would reduce investment and employment, so the deep recession that has been created makes it difficult in turn to

[1] L.3845 / 2010 "Measures for the implementation of the support mechanism for the Greek economy by the Member States of the Eurozone and the IMF", Gov. A'65 / 6.5.2010. The law includes four annexes: the first contains a statement of the Heads of State and Government of the Eurozone from 25 March 2010 on creating support mechanism for the Eurozone, the second is another statement of the same people to activate this mechanism for Greece, the third contains "The Memorandum of Economic and Financial Policies" and the fourth the "Memorandum of Understanding on specific economic policy conditions".

achieve its objectives. In 2011 it becomes evident that the original objectives of the program were not achieved. In June 2011, the Parliament approved a *medium-term strategic framework* for the period 2012-2015, but in the meantime, the political system has become fluid. The Greek government imposed new taxes, made some formal institutional regulations (eg founding the Hellenic Republic Asset Development Fund for privatization), but was generally moving slowly.

In February 2012 the transitional government negotiated and reached a second loan package, curtailment of private debt (PSI) and a renewed economic adjustment program *Memorandum II* or *second adjustment program*. The new agreement does not differ as to the general direction of the preceding, but lengthened the adaptation period for two years (2015-2016), authorized the repurchase of part of the Greek debt with loans from the (EFSF), extended the repayment of loans to the Greece from EU mechanisms from 15 to 30 years and reduced the previous loan rates. It also "predicted tax measures and spending cuts of around 19 billion euros to eliminate the deficit in 2013, accompanied by extended technical assistance to develop the use of any kind of external resources, etc." (Valinakis et.all, 2014 : 21-22).

After two elections in June 2012 a new government was formed under A.Samaras with the support of ND, PASOK and the DIMAR. After a period of uncertainty for the implementation of the Memorandum II the Parliament passed the *December 2012 update of the medium-term fiscal adjustment program 2013-2016.*

On the EU side, additional initiatives serving mainly the goal of development were launched, such as strengthening technical assistance and reducing the share of the national participation in projects and activities of the NSRF, as fiscal austerity does not preclude the absorption of EU funds. But the fact is that the emphasis on public expenditure cuts, increasing tax rates and exceptional contributions threw the economy into a vicious cycle, resulting in the removal of perspectives of returning to growth.

An example of a more general fiscal austerity in the past few years of economic crisis in the country, are tables (1.22, 1.23. An.1). The first table is contained in L.4093/2012 (GG 222 A). The second table is a reference to the first and includes in the draft the law "Updating the Medium Term Fiscal Strategy 2013-2016".

In table (1.22, An.1) the fall of cost in the vast majority of operators per year is observed in their entirety. Specifically, the provision of 2014 compared to the

estimate of 2012 has observed a reduction of the ceiling expenditure by 2,602 million euros in the Ministry of Labour, Social Security and Welfare. This is the largest decline, then follows the General Government Expenditure by 2,385 million euros & then the Ministry of Education, Culture and Sport with 973,000 euros, while the decrease in total is 8,945 million euros.

Table (1.23, An.1) shows a drop in expenditure in the vast majority of institutions, in addition to general governmental expenditure increases by year (due to increased interest and on RB). In all shows an initial drop and then gradually in the last two years, with an increase in interest, drop in other sizes and stability in the last three years of the PIB. Specifically, in the provision of 2016 compared with the forecast of 2013 is observed in Ministry of Labour, Social Security and Welfare a reduction of the expenditure ceiling by 2,474 million euros. This is the largest decline, followed by the Ministry of Health with 792,000 euros & then the Ministry of Education, Culture and Sport with 781,000 euros, while the decrease in total is 3,923 million euros.

A comparison of the two tables leads to the conclusion that the biggest increase in general governmental expenditure in the second table, ie 18,091,000 million euros (provision 2016), is smaller than the largest reduction in the general governmental expenditure in the first table, ie 19,347,000 million euros (prediction 2013) Even if the decline in the costs of all is gradual in the second table (after the first drop) in relation with the first, another year has been added (provision 2016).

1.6 CONCLUSIONS

European Monetary Union and the entire EU are based on legal rules and procedures. There is no provision in the Treaty in European Union and in the Treaty on the Functioning of the Union permitting the expulsion of a country from the EMU although each country has the right to return to the national currency if preferred.

Voluntary withdrawal from the EMU is an option that involves great risk. Returning to the national currency (the drachma) Greece will become the tool of monetary policy and the cherishing the possibility of issuing money in times of crisis. Also, "in a freely floating regime, the new drachma would suffer substantial depreciation, helping to increase exports of goods and services" (Kotios et.all, 2011: 269). Greece could still pursue an expansionary monetary policy. Certainly

devaluations do not always have a positive impact on exports, either because of low elasticity of foreign demand or due to increased costs due to the high prices of imported raw materials and intermediate products. The adjustment of wages to inflation is a factor that should be taken seriously into consideration. On the other hand, the external debt (Table 1.24, An.1), will increase significantly when converted into drachmas making debt service particularly difficult. The largest risk is inflation as the country could enter into a vicious circle of devaluation and inflation which could degenerate into devastating hyperinflation.

Therefore, a solution to the debt crisis will be ideal to be offered by Greece and the other Eurozone Member States inside the euro, which will be accompanied by the implementation strategy of a strong development policy. In any other case, the country is heading in a prolonged stalemate, extending the economic crisis in a social, humanitarian and political one. A typical example is the Greek crisis of 1932 and the escape from the rule of the Golden thirties. The first years after its escape, the country entered a period of instability. "The economy rebounded significantly only when the dictatorial regime won in 1936 and imposed the mechanism for disciplining wages" (Christodoulakis, 2014: 67-68).

2. REGIONAL POLICY OF THE EUROPEAN UNION

2.1 INTRODUCTION

The main objective of European regional policy is to reduce the existing regional disparities and the prevention of new ones through the transfer of EU funds to the regions that have problems, particularly through the financial instruments of the Union known as Structural Funds. The joint EU regional policy is not intended to replace the national regional policies. In accordance with the principle of subsidiarity, Member States with their own regional policies are those who primarily need to solve regional problems by building infrastructure and enhancing investments that create jobs. But the common regional policy coordinates national regional policies through guidelines and through "the wording of certain principles to be followed in order to avoid competition between national reinforcement of the Member States" (Mousis, 2011: 216). It also coordinates the various policies and EU funding instruments to give them a regional dimension and thus increase their influence in areas that are in the greatest need for assistance.

The Committee of Regions[2] plays an important role in predicting regional trends and in the management of EU regional interventions. "Its establishment was in particular the result of an urgent demand from countries with a federal constitution (Germany, Belgium) or with autonomous regions (Spain)." (Stephanou, 2007: 208).

By 1975, there was no consistent policy for reducing inequality. Only in 1975 the European Regional Development Fund (ERDF) was founded and began to gradually implement a policy of strengthening the regional policies of the Member States. The EU's regional policy (also called structural policy or cohesion policy) took its present form in 1988, when it was decided to coordinate the action of the Structural Funds and their action was included in the logic of the multiannual financial programming. During the fiscal periods which followed, the resources of the structural policy increased substantially. Specifically "(Community Support Framework) CSF I (1989-1993): € 98 bn. CSF II (1994-1999): € 156 bn. CSF III

[2] which was established by the Maastricht Treaty signed on 7 February 1992 and came into force on 1 November 1993 (Official Journal: EE C 191 on 29 July 1992) to establish the position of regions in the institutional system of the Union. The Committee holds its first plenary session in Brussels in March 1994.

(2000-2006): € 216 bn. (National Strategic Reference Framework) NSRF (2007-2013): € 350 bn. (Common Strategic Framework-Framework Partnership Agreement) CSF-FPA (2014-2020): € 376 bn." (Maroulis, 2013: 13).

In conclusion, the structural funds of the European Union are: The European Social Fund, the European Regional Development Fund, the European Agricultural Fund for Rural Development, the European Maritime and Fisheries Fund and the Cohesion Fund.

2.2 COMMITTEE OF THE REGIONS

(1) FOUNDATIONS OF COMMITTEE OF THE REGIONS

Source: http://cor.europa.eu/el/about/Pages/index.aspx, (on 3 January 2015).

Local and regional authorities are responsible for the implementation of the majority of EU policy, since "about two-thirds of EU legislation are implemented at regional level" (Committee of the Regions, 2014: 6). For this reason the Committee of the Regions (CoR) was established with the Treaty on European Union to provide the possibility for the local and regional authorities to express their views on the proposed EU legislation in order to better adapt it to citizens' needs.

The EU Treaties provide that it is necessary to consult the Committee of the Regions on proposals that may have local or regional impact. In practice, this means that CoR be consulted on the majority of EU legislation. The European Commission, the European Parliament and the Council may also consult the CoR and even beyond these areas, if they consider that their work draws local or regional impact. The CoR also has the ability to set priorities in the EU agenda, as has "the right to issue own-initiative opinions which are sent to the European Commission, the Council and Parliament" (European Commission, 2006: 33). The CoR also has the right to

challenge the EU Commission, Parliament and Council in the absence of consideration of the views of their part and, in extreme cases, with the entry into force of the Lisbon Treaty after ratification by all EU Member States, acquired the (privileged) right of appeal to the Court of the European Union (Protocol No. 2 on the application of the principles of subsidiarity and proportionality, Article 8) when CoR considers that its opinion is not properly asked.

Following the accession of Croatia to the EU on 1 July 2013 the CoR numbers 353 States, regional and local elected representatives from 28 EU countries. The number of members from each EU country is proportional to its population. The numbers by country are listed in the table (2.1, An.1).

The President is elected for a term of two and a half years, directs the work of the committee, chairs plenary sessions and officially represents the CoR. Today is Michel Lebrun, alderman in Viroinval of Belgium, from the European People's Party and was elected on 26 June 2014.

CoR´s work is performed by six commissions:

- Commission "Territorial Cohesion Policy" (COTER).
- Commission "Economic and Social Policy" (ECOS).
- Commission "Environment, Climate Change and Energy" (ENVE).
- Commission "Education, Youth, Culture and Research" (EDUC).
- Commission "Citizenship, Governance, Institutional and External Affairs" (CIVEX).
- Commission "Natural resources" (NAT).

These commissions, made up of CoR members, prepare draft opinions on proposed EU legislation. The draft opinions are put to the vote, which includes all CoR members, during one of the six plenary sessions that take place annually. The opinions adopted by them are communicated to the other EU institutions and other stakeholders to contribute to EU decision-making process.

The Committee of the Regions also represents five political groups:

- The Group of the European People's Party (EPP).

- The group of the Party of European Socialists (PES), which includes members of the wider left space and the Greens.
- The group of the Alliance of Liberals and Democrats for Europe (ALDE).
- The European Alliance (EA).
- The group of European Conservatives and Reformists (ECR).

The three guiding principles of the CoR are:

- *Subsidiarity*: decisions need to be taken at the level of government that best serves the public interest. The EU should not take initiatives that can be better implemented by national, regional and local authorities.
- *Proximity principle*: all levels of government should work with the utmost transparency and as close as possible to the public, so that citizens know who is responsible for what, and how they can make their views known.
- *Principle of Partnership*: European, national, regional and local authorities need to work together at all stages of decision making and the implementation of EU policies permit.

With the *Treaty of Lisbon* (2009) it became legally binding on the European Parliament, the Commission and the Council to consult the CoR in establishing laws with potential regional impact • climate change and energy were also added in fields of mandatory consultation with the CoR.

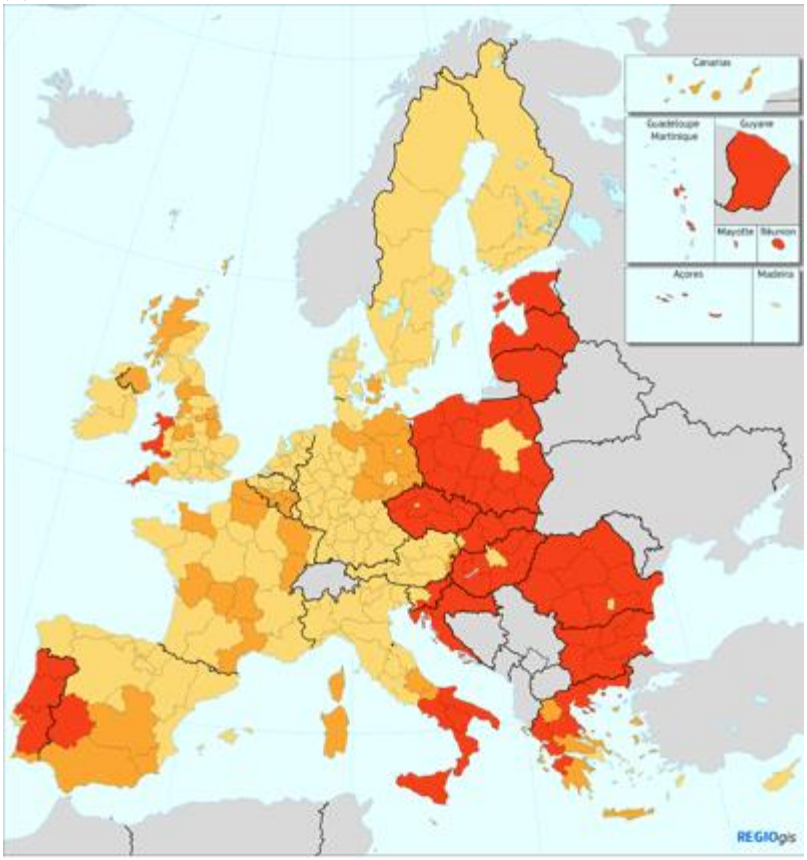
In conclusion the CoR opened the competition "*European Entrepreneurial Region for the year 2016*". Each municipality or district of EU engaging in business and long-term strategies - regardless of size, financial capacity or capabilities- can participate until 16 March 2015. The most successful, grand and promising strategies will be recorded and will be rewarded in the next two years.

The Committee of the Regions took the initiative "European Entrepreneurial Region" for the first time in 2009 with the purpose of consolidating the principles of *the Act on Small Businesses (Small Business Act)* on the one hand (Adopted in June 2008 and reflects the Commission's political will to recognize the central role of SMEs in the EU economy and for the first time puts into place a comprehensive policy framework for SMEs in the EU and its Member States) at local and regional level and facilitating the achievement of innovation-related and entrepreneurship-

development objectives of the EU Strategy "Europe 2020" on the other hand. Through this competition an opportunity is provided for local and regional authorities to show their commitment to the goal, on the promotion of small and medium enterprises and entrepreneurs as major economic aid actors on the one hand and on the use of their abilities to create growth and jobs on the other hand.

2.3 STRUCTURAL FUNDS

(1) ALL MEMBER STATES



Eligibility of structural funds (ERDF and ESF)2014-2020

- *Less developed regions (GDP / capita <75% of EU-27 average)*
- *Transition regions (GDP / capita between> = 75% and <90% of EU-27 average)*
- *More developed regions (GDP / capita> = 90% of EU-27 average)*

Source: http://ec.europa.eu/regional_policy/atlas/index_en.cfm?PAY=EU, (on 6 January 2015).

2.3.1 EUROPEAN SOCIAL FUND

The ESF invests in people, and aims to improve opportunities for employment and training across the European Union. It also aims to improve the situation of the most vulnerable people at risk of poverty. The interventions of ESF are covering all regions of the EU. "The period 2014-2020 more than 80 billion have been pledged for investment in human capital in the Member States, and an additional amount of at least 3.2 billion euros for the Initiative 'Youth Employment'" (http://ec.europa.eu/regional_policy/thefunds/social/index_el.cfm, on 4 January 2015). Furthermore, 20% of ESF investment will be implemented towards activities that will improve social inclusion and combat poverty.

In the programming period 2014-2020, the ESF will focus on the following objectives: "(a) promoting employment and support labor mobility, (b) promoting social integration and combat poverty, (c) investing in education, skills and lifelong learning, (d) strengthening institutional capacity and efficient public administration" (http://ec.europa.eu/esf/main.jsp?catId=62&langId=el, on 4 January 2015).

On May 23, 2014, the Committee adopted a partnership agreement with Greece, paving the way for funding of nearly 4 billion euros (current prices) from the European Social Fund (ESF) in the next seven years.

2.3.1.1 BUDGET ESF IN GREECE 2014-2020

For the period 2014-2020, ESF allocations amount to 24.8% of the Structural Funds' budget. The minimum share entered for the first time since 2014 sets substantially the end to the gradual reduction of the ECB's share in the last 25 years. The ESF budget is indicated in the table (2.2, An.1).

Additionally, "171.5 million euros will be given as part of the Initiative for Youth Employment" (European Commission, 2014: 1). This new tool is dedicated to address the extremely high levels of youth unemployment. In the period *2014-2015*, this allocation will support primarily the *Guarantee Program for Youth*, the development and implementation of which forms the main instrument to support youth employment in Greece.

2.3.2. EUROPEAN REGIONAL DEVELOPMENT FUND

The ERDF aims to strengthen economic and social cohesion in the European Union by correcting imbalances between regions. It focuses its investments on several key priority areas. This is known as "thematic concentration":

- Research and innovation.
- Digital Agenda.
- Supporting small and medium enterprises (SMEs).
- Economy with reduced carbon.

The ERDF resources allocated to these priorities will depend on the category of the region.

- In the more developed regions, at least 80% of funding should focus on two, at least, of these priorities.
- In Transition regions, this applies to 60% of funding.
- In less developed regions, the percentage is 50%.

Moreover, some ERDF resources should be channeled specifically to projects that promote the economy with low-carbon:

- More developed regions: 20%.
- Transition regions: 15%.
- Less developed regions: 12%.

2.3.2.1 TERRITORIAL EUROPEAN COOPERATION

"In the financing of the European Territorial Cooperation programs, at least 80% of the funds will focus on four priority areas" (ec.europa.eu/regional_policy/thefunds/regional/index_el.cfm, on 6 January 2015). The European territorial cooperation is a key to building a common European area and the cornerstone of European integration. It has a clear European added value: ensuring that the borders are not barriers, bringing closer the Europeans, helping to solve common problems, facilitating the exchange of ideas, the sharing of resources and encouraging taking strategic action to achieve common goals.

2.3.2.2 SPECIFIC SOIL CHARACTERISTICS

The ERDF also pays particular attention to specific territorial characteristics. ERDF actions are designed to reduce the economic, environmental and social problems in urban areas, with special focus on sustainable urban development. At least 5% of ERDF resources are set aside for this area, through "integrated operations" that cities manage.

The areas that are naturally disadvantaged because of geographical features (remote, mountainous or sparsely populated areas) benefit from special treatment. Finally, the outermost regions also benefit from specific assistance from the ERDF to address possible disadvantages due to their remote location.

2.3.3 COHESION FUND

The Cohesion Fund targets Member States whose Gross National Income (GNI) per capita is less than 90% of the European average. It aims to reduce economic and social disparities and promote sustainable development. Now subject to the same rules of programming, management and monitoring as the ERDF and the ESF through regulations of common ordinances. For the period 2014-2020, the Cohesion Fund concerns Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.

The Cohesion Fund has a total of *63.4 billion euros* for activities in the following categories:

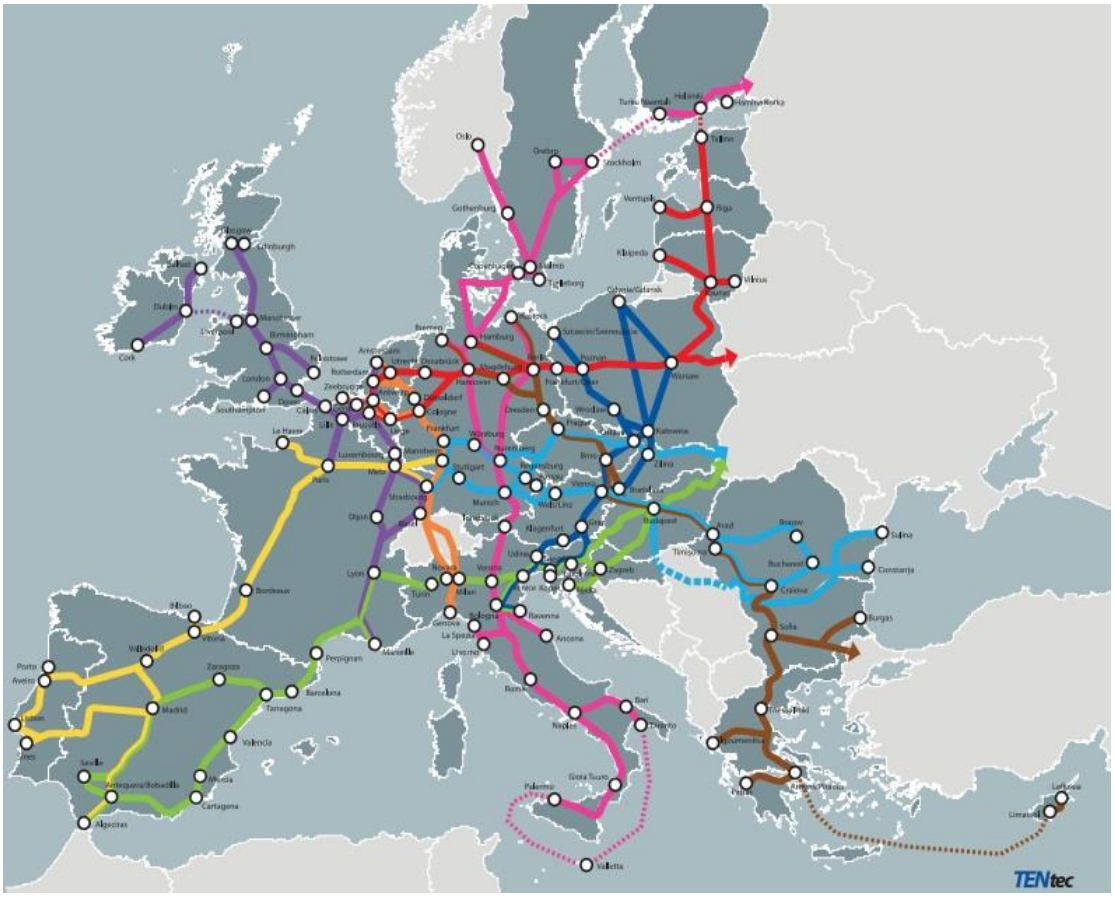
- *Trans-European transport networks, in particular priority projects of European interest* as defined by the EU. The Cohesion Fund will support infrastructure projects under the "*Connecting Europe Facility*".
- *Environment*: in this case the Cohesion Fund can also support projects related to energy or transport if there is a clear benefit to the environment in terms of energy efficiency, renewable energy, developing rail transport, supporting intermodality, strengthening public transport etc.

"The financial assistance of the Cohesion Fund can be suspended by Council decision (made by a qualified majority) if the Member State presents excessive budget deficit and has not resolved the situation or has not taken the appropriate action to do

so" (http: // ec.europa.eu/regional_policy/thefunds/cohesion/index_el.cfm, on 6 January 2015).

2.3.3.1 NEW INFRASTRUCTURE POLICY IN EUROPE

(2) TRANS-EUROPEAN TRANSPORT NETWORK (TEN-T CORE NETWORK CORRIDORS)



Source: http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/corridors/doc/ten-t-corridor-map-2013.pdf, (on 6 January 2015).

Transport is vital to the European economy as without good connections Europe cannot grow or prosper. The new European infrastructure policy will create a powerful European transport network which will pass through 28 States and be linked to neighboring countries and rest of the world to promote growth and competitiveness. This network will connect the East with the West and will replace the current "patchwork" transport network with a genuinely European.

Thanks to the new policy EU funding tripled to *26 billion euros* for transport in period *2014-2020*, while the financing of transport focuses on a clearly defined core network. The core network will be the backbone of transport in the single European market. Up to 2030 bottlenecks will be eliminated, infrastructure will be upgraded and streamline cross-border transport for both passengers and businesses will be modernized throughout the EU. The creation of the network will be promoted by creating nine major transport corridors for which Member States would cooperate with stakeholders, while simultaneously it will contribute to the concentration of limited resources and the achievement of results.

Greece has one core network corridor crossing the country. The *eastern corridor / Eastern Mediterranean corridor* connects the German port of Bremen, Hamburg and Rostock via the Czech Republic and Slovakia, while one branch is passing through Austria, then through Hungary to the Romanian port of Constance, the Bulgarian port Tower, with links to Turkey, to the Greek ports of Thessaloniki and Piraeus and through "motorway" connection with Cyprus. "It includes railways, roads, airports, ports, rapid urban railways & inland waterways of the River Elbe. The main bottleneck is the part of the railway network Timişoara – Sofia " (http://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/doc/ten-t-country-fiches/merged-files/gr.pdf, on 1 June 2015).

The new central TEN-T network will be supported by extensive road network, which will be connected to the core network at regional and national level. The aim is to ensure that gradually, throughout the EU, the TEN-T will help strengthen the internal market, strengthening territorial, economic and social cohesion and reducing greenhouse gas emissions.

Overall, the new transport network will provide:

- Safer movements with less congestion.
- Easier and faster travel.
- As well as less impact on the climate.

2.3.4 EUROPEAN MARITIME AND FISHERIES FUND (EMFF)

The EMFF is the Fund for Marine and EU fisheries policy for the period 2014-2020. It is one of the five European Structural and Investment Funds (ESIF) that complement one another and support the recovery in Europe based on growth and employment. "According to the distribution of funding by Member State, Greece will receive for the period *2014-2020* the amount of € *388,8 million*." (Http://ec.europa.eu/fisheries/cfp/emff/index_el .htm, on 8 January 2015).

The Fund:

- Helps fishermen in their transition to sustainable fisheries.
- Supports coastal communities to diversify their economies.
- Funds projects that create new jobs and improve the quality of life in European coastal areas.
- Facilitates access to finance.

The Fund's resources are used to co-finance projects with national resources.

- Each country receives a share of the Fund's total budget, depending on the size of the fisheries sector.
- Then it draws up an operational plan, which explains how it intends to spend the allocated resources.
- Once the EU Commission approves the plan, it is up to national authorities to decide which projects will be funded.
- National authorities and the European Commission are jointly responsible for implementing the program.

2.3.5 EUROPEAN AGRICULTURAL FUND FOR RURAL DEVELOPMENT (EAFRD)

The agricultural policy of the EU is constantly evolving in order to respond to new challenges that rural areas are facing. The most recent reform (Regulation (EE) No. 1306/2013 of the European Parliament and of the Council of 17 December 2013), as part of the overall redesign of the Common Agricultural Policy of the European

Union (CAP), was substantially completed in December 2013 with the adoption of key legislation for the period 2014-2020.

According to the strategy "*Europe 2020*" and the overall objectives of the CAP, the policy of EU rural development for 2014-2020 has three *long-term strategic objectives*:

- Improving the competitiveness of agriculture.
- Sustainable management of natural resources and climate change.
- Balanced territorial development of rural economies and communities, including creating and maintaining jobs.

"The reform of 2013 retains many of the key features of rural development policy for 2007-2013, for example the policy will be implemented by national and / *or regional rural development programs* (RDP) *of seven year duration* "(http://ec.europa.eu/agriculture/rural-development-2014-2020/index_el.htm, on 8 January 2015).

The reform of 2013 introduced, however, changes:

- Improving the strategic approach in the design of the RDP.
- Reinforcing the content of rural development measures.
- Simplifying the rules and / or reducing administrative burdens where possible.
- Linking rural development policy more closely with the other European Structural Funds and Investment.

Member States should establish the RDP by at least four of the six common EU priorities:

1. Promotion of knowledge transfer and innovation in agriculture, forestry and rural areas.
2. Improvement of the viability / competitiveness of all sub-sectors of agriculture and promotion of innovative agricultural technologies and sustainable management of forests.
3. Promotion the organization of the food chain, animal welfare and risk management in agriculture.

4. Restoration, conservation and enhancement of ecosystems related to agriculture and forestry.

5. Increase of resource efficiency and supporting the shift towards a low carbon economy that is resilient to climate change, in the areas of agriculture, food production and forestry.

6. Combat social exclusion and poverty, boost economic development in rural areas.

Each of the rural development priorities includes individual intervention areas ("focus areas"). Under the RDP, Member States / regions define quantitative targets for each focus area, after analyzing the needs of the area covered by the RDP. Then, they identify the measures they will take to achieve these objectives as well as the amount of funding provided for each measure.

Funding comes in part from the *European Agricultural Fund for Rural Development (EAFRD)* and partly by national / regional and sometimes private sources.

2.4 OPERATIONAL PROGRAMME OF THESSALY (2014-2020)

The Ministry of Regional Development and Competitiveness, announced that operational programs of the new programming period 2014 to 2020 (Table 2.3, An.1), which are expected to enhance the recovery process and development of the country were signed on 22 December 2014 by the Commissioners for Regional Policy (Johannes Hahn) and Social Affairs (Marianne Thyssen).

The Operational Programme Thessaly (funded by ERDF: 263,809,880.00 € & ESF: 57,094,659.00 €) aims to contribute to the main strategic objectives of the region as the reversal of shrinking business and production activities and to enhance the competitiveness, attractiveness and extrovert character of the region.

"The support of the OP will contribute significantly to the promotion of the following key national development priorities, and to the achievement of the 'Europe 2020' goals for smart, sustainable and inclusive growth" (http://ec.europa.eu/regional_policy/country/op/index.cfm?cci=2014GR16M2OP003&lan=EN&lang=el, on 8 January 2015):

- "Reinforcement of competitiveness and output of firms (especially SMEs) focusing on innovation and increasing the added value of the Region" (ERDF -

15.43% of EU funding): increased capacity for research and strengthening the links between universities and entrepreneurship, promotion of local production and effects of SMEs through investment in innovation and technological development.

- "Promotion and development of human resource skills" (ESF – 17.45% of EU funding): tackling unemployment, particularly in young men and women, improvement of the quality of social welfare and health services, alleviation from poverty and social discrimination.
- "Infrastructure for the support and development of human resources" (ERDF - 7.79% of EU funding): improving access to health services and social services, urban regeneration and promote social inclusion through support to charitable enterprises additional with the ECB.
- "Environmental protection - Transition to an environmentally friendly economy" (ERDF - 25.02% of EU funding): increasing energy efficiency in public buildings is expected to contribute to significant savings in energy consumption in the public sector, while the OP promotes waste recycling operations and improvement of water quality.
- "Development - Modernization - Completion of infrastructure for social and economic development" (ERDF-32.47% of EU funding).
- "Promoting the use of ICT" (ERDF - 1.5% and ECB 0.34% of EU funding respectively): technical assistance.

"Expected impact" (http://ec.europa.eu/regional_policy/country/op/index.cfm?cci=2014GR16M2OP003&lan=EN&lang=el, on 8 January 2015):

- Supporting 1,000 SMEs.
- Support and creation of over 200 social enterprises.
- 200 business plans should be supported for social enterprises.
- Creation equivalent to at least 400 new full-time jobs.
- Improved water supply to 38,000 extra people.
- Increase energy efficiency in public buildings to achieve annual energy consumption savings in the public sector of about 5,550,000 kWh.

- Completion and upgrading of 87 km road and TEN-T rail network, improving secondary and tertiary links to the TEN-T.

2.5 CONCLUSIONS

The objectives of the common regional policy in accordance with Articles 174-178 TFEU are to strengthen economic, social and territorial cohesion of the EU, the coordination of national regional policies, the transfer of resources from wealthier areas, regional aid for continuous and balanced progress of the EU as well as the best use of market mechanisms and balanced growth within the common market.

On 23 May 2014 the new NSRF 2014-2020 was approved of total budget for Greece *€ 20,84 billion* (Community Assistance), *€ 26 billion* (public expenditure), co-financed by the Funds ERDF, ESF, Cohesion Fund, EAFRD and EMFF.

The priorities which will be supported by the new NSRF is to strengthen the competitiveness and internationalization of enterprises, the development and utilization of human resources, environmental protection and the transition to a friendly environment, development, modernization and completion of infrastructure access and improvement of institutional capacity and efficiency of public administration and of local government.

In conclusion, table (2.4, An.1) refers to the breakdown of allocations for the Structural and Investment Funds to Greece in the periods 2007-13 and 2014-2020.

3. THE STRATEGIC ROLE OF INNOVATION FOR REGIONAL DEVELOPMENT ACCORDING TO THE EUROPEAN UNION

3.1 INTRODUCTION

Nowadays, the development process is considered to be the most important aim and objective of the exercise of all policies of a country. Through this, employment is increased gradually in areas or countries, structure modernizes, purchasing power increases and ultimately citizens' levels of prosperity increase.

"Today, the growth process of an economy is defined by the annual GDP growth, the indicator that measures the production's financial increase in an economy at current and constant prices" (Constantinou, 2011: 343).

In some period of time, the increase of economic prosperity which is enjoyed by the people of a country, is defined as development. "The most important indicator of development is the long-term growth rate of per capita GDP, while other indicators are used, such as indicators related to the level of health, education and longevity"(http://el.wikipedia.org/wiki/Οικονομική_ανάπτυξη, on 31 May 2015).

Both growth and development refer to actual deflated sizes, namely they refer to the increase of products' and services' quantity and quality. Conversely, the nominal growth and / or development concern the increase in prices of goods and factors of production.

Environmental pollution, the actual data regarding to the exhaustion of world fossil fuel reserves, as the problems of overpopulation and problems of insufficient global agricultural resources have formed the basis of socialist and ecological movement of green and sustainable development.

Competitive advantages are one of the factors that may increase the potential output of a region's or country's economy. Regions or countries that have them dominate in the international trade, which translates into more exports. Then, this translates into more income for exporters, increasing multiplicatively of active demand and incomes broadly in the economy, increase of production and GDP.

Certainly, "growth of productivity and incorporation of new technology and innovation in manufacturing activities lend countries their competitive advantages" (Constantinou, 2005: 118) and the pursuit of productivity's growth "implies

magnification of investments in research and development, but also in education" (Roumeliotis, 2009: 406).

3.2 NATIONAL/REGIONAL RESEARCH & INNOVATION STRATEGY FOR SMART SPECIALIZATION (RIS3)

Smart Specialization is a strategic approach of economic development based on targeted support of research and innovation. For the period 2014-2020, "the elaboration of RIS3 strategies is provided for activating investments in research, innovation and digital convergence by the structural funds of the European Union" (Komninos et.all: 477). RIS3 is designed for all regions of the European Union, under the same theoretical umbrella of competitiveness, development and common standards.

National/regional research and innovation strategies for smart specialization (RIS3) are integrated, place-based economic transformation agendas that do five important things:

- They focus policy support and investments on key national/regional priorities, challenges and needs for knowledge-based development, including ICT-related measures.
- They build on each country's /region's strengths, competitive advantages and potential for excellence.
- They support technological as well as practice-based innovation and aim to stimulate private sector investment.
- They get stakeholders fully involved and encourage innovation and experimentation.
- They are evidence-based and include sound monitoring and evaluation systems.

"RIS3 can be seen as an economic transformation agenda based on four general principles summarized in four ´Cs´" (Foray et.all, 2012:17):

- *(Tough) Choices and Critical mass*: limited number of priorities on the basis of own strengths and international specialization – avoid duplication and fragmentation in the European Research Area – concentrate funding sources ensuring more effective budgetary management.

- *Competitive Advantage*: mobilize talent by matching RTD + I capacities and business needs through an entrepreneurial discovery process.
- *Connectivity and Clusters*: develop world class clusters and provide arenas for related variety/cross-sector links internally in the region and externally, which drive specialized technological diversification – match what you have with what the rest of the world has.
- *Collaborative Leadership*: efficient innovation systems as a collective endeavour based on public-private partnership (quadruple helix) – experimental platform to give voice to unusual suspects.

3.3 REGIONAL RESEARCH & INNOVATION STRATEGY FOR SMART SPECIALIZATION (RIS3) IN THESSALY

The Regional Council of Innovation of Thessaly (RCIT), as has been established by decision of the Regional Council of Thessaly and it works, reforms to its composition in order to exercise the role of strategic supervision and coordinating body of Thessaly's RIS3. According to this decision, the number of (RCIT) members will be limited so as to remain a small, flexible and efficient shape, with members from parts of the quad helix: research community, business community, self-government and civil society.

For the efficient and effective implementation of regional strategy for smart specialization in Thessaly, Regional Innovation Agency of Thessaly has been established, which is a company of regional scale in order to promote innovation in Thessaly and constitutes the administrative and executive body of the governing system.

The vision of RIS3 for Thessaly2020 consists the following targets. Firstly, an increase of 20% in agri-food complex. Secondly, an increase of 20% in exports of metal – building materials, which is the second most important sector of the regional economy. Thirdly, an increase of 20% is dedicated to tourism and to the need of holding more foreigners in Thessaly. An increase of 200% in per capita R&D business expenditures, "shows the direction that must be followed by Thessaly so as the strategy of gradual convergence regarding to smart development by European standards to be achieved: it deals with the apparently weakest point of the regional

innovation system" (Special Management Service O.P. of Thesally, 2015: 56). The last achievement will be the basis of the economy's transformation.

The regional innovation strategy based on smart specialization is not a programme and therefore does not have its own budget. The actions that will be identified will be financed in absolute priority by the Regional Operational Programme (ROP), Sectoral Operational Programmes on research, innovation, entrepreneurship, competitiveness, rural development, information-communication technologies and human resources, purely European projects in the same fields and finally, by private investments.

RIS3 in Thessaly will be executed in two cycles, from 2015 to 2017 and from 2018 to 2020, with a wide-ranging review and evaluation process between the two. Appraisal has a significant difference compared with the appraisals that took place in the previous programming periods. This time examines all the programmes that are implemented in Thessaly and not only ROP. Therefore, recipients of evaluative conclusions are not necessarily participants/stakeholders in the Region.

3.4 REGIONAL INNOVATION SYSTEM OF THESSALY

"The impression and critical assessment of the current situation of the regional innovation system based on RIS3 KEY methodology leads to the conclusions of SWOT analysis" (Special Management Service OP of Thesally, 2015: 43):

(1) Strengths:

- Full structure of the academic and research sector regarding the cured disciplines and weak performance in R&D expenditure in the areas of government and higher education at European level.
- Regional scientific specialization compatible with the regional economy.
- Important evidence of excellence in offered knowledge.
- Satisfactory performance of UTH & IRETETH in European R&D competitive programmes.
- Satisfactory performance on the adequacy of human resources with tertiary qualifications.
- Satisfactory performance in establishing spin-off companies to commercialize research results.

(2) Weaknesses:

- Inadequate connection between research and production.
- Lack of coherent research strategy in all academic institutions.
- Little relevance of scientific excellence areas with the structure of the regional economy.
- Extremely low business performance in R&D expenditure both at national and European level.
- The structure of the regional economy is not conducive to knowledge-intensive entrepreneurship.
- Discontinuity in the design and implementation of regional scale strategy for research, technological development and innovation (RTDI).
- Lack of "Focal enterprises" in all sectors of the regional economy.
- Particularly poor performance in refresh rate of human resource skills.
- Negligible participation of companies in European competitive R&D programmes.
- Lack of access to venture funds.
- Lack of intermediate structures for connecting RTD with businesses.

(3) Opportunities:

- Exploitation of Smart Specialization for orientation part of the research potential in RTDI actions that are compatible with the needs of local businesses.
- The Programme ORIZON2020.
- The utilization of the new legal framework for higher education and research.
- Logic of Smart Specialization combined with increased availability of resources at regional level during the new programming period allow the production of tailored RTDI strategies.
- Wide availability of support and best practices from the European Commission to regions.

(4) Threats:

- The trend for funding only excellent proposals, irrespective of geographical origination, in the program ORIZON2020.

- The macroeconomic environment affects the turnover of businesses adversely and hence the available resources for R&D.
- Timeless deficit of valid and timely data for the appraisal of RTDI policies.

3.5 CONCLUSIONS

In conclusion, smart specialization links research and innovation with economic development in novel ways such as the entrepreneurial process of discovery and the setting of priorities by policy makers in close cooperation with local actors. Moreover, "this process is carried out with an eye on the outside world, forcing regions to be ambitious but realistic about what can be achieved while linking local assets and capabilities to external sources of knowledge and value chains" (Theocharous, 2012: 60) .

However, while each regional or national strategy will share common features, the place based approach shows us that understanding the local context is crucial in their successful design.

It is worth to be mentioned that amid a period of economic crisis that is experienced by the country, the legitimacy of RIS3 increases through the participation of civil society in the governance system as "civil society that is independent from the state and from the market can appear as a kind of protective wall against the state's arbitrariness and against the domination of a commercial and speculative logic" (Sarris, 2010: 3). Moreover, citizen's participation in public issues is enhanced and citizen's role in the decision-making process is expanded. Through this process, participative democracy is enhanced and finally the quality of democracy is reinforced.

4. THE COURSE OF BUSINESS, RESEARCH AND INNOVATION IN MAGNESIA AND IN THESSALY DURING THE CRISIS

4.1 INTRODUCTION

This chapter is trying to answer the question of how a solution to the economic crisis experienced by the region could be provided according to the survey. As it will be mentioned, in the past, one way was to create permanent links between research facilities and production space (Regional Innovation Pole of Thessaly). The question that arises is whether it is useful to repeat or to offer another solution, as spending on R&D is taking place, the University, the TEI and research institutions are producing research results but the economic performance of enterprises is declining.

Initially, there is a reference to available indicators of Greek innovation of enterprises for 2010-2012, which emerged as a result of research conducted by the National Documentation Centre and the Greek Statistical Authority. Then, the operating objectives of the Regional Innovation Pole of Thessaly and the results of its actions are presented. Furthermore, the details on the level of the trade balance in Thessaly and Magnesia appear as well as the level of expenditure on R&D in Thessaly. Moreover, the course of the research programmes of the University of Thessaly & ATEI of Thessaly is indicated before joining the memorandum, with the accession to it and four years later.

Then, the elements that characterize the course of business during the first semester of 2014 and which continue to emphasize the difficult environment and the adverse conditions under which the domestic capacity attempts, are presented. The major issues plaguing business and appearing that if not treated promptly and effectively productive activity will continue to diverge are particularly limited bank financing and burdens of taxation, energy, non-wage costs and bureaucracy.

Also, the development of key figures of the balance sheet (2013) in business refers to a highly problematic situation that has to do basically with the main pillars of their business operation: The low sales, the negative capital adequacy and the negative course of their performance.

Thus, there is a detailed report on the impact of the economic crisis as expressed in the sizes of the Chamber of Magnesia and the parts of it, in which there was a fall of active enterprises with the exception of the tourist service which

originally showed a rise and then stability. In addition, information about the functioning of the Institute for Research and Technology in Thessaly and the impact of the crisis on it is included. Another effect of the economic crisis in the region appears to be the shutdown of the Technology Park of Thessaly. Finally, it is worth mentioning that for the first time the region of Thessaly assumes financial support for research, technological development and innovation through the Regional Operational Programme of Thessaly 2014-2020.

4.2 AVAILABLE INDICATORS OF INNOVATION

This section presents the overall picture as far as business investment throughout the country in innovation are concerned, according to the latest available data, whether investing in research and development, as well as the cooperation developing with universities, public or private research institutions etc.

The statistical survey on innovation in Greek companies for the period 2010-2012 (*Community Innovation Survey*) was conducted by the National Documentation Centre (NDC) in cooperation with the Greek Statistical Authority (ELSTAT). The research refers to 15,000 Greek enterprises with 10 employees and over in different industries.

All "types" of innovation that a business can develop are reported: the production of a new -for the enterprise- or significantly improved product (good or service), the implementation of a new or significantly improved process, the implementation of a new or significantly improved organizational method or marketing method.

As shown by the survey results (Table 4.1, An.1), three years from 2010 to 2012, the 52.31% of Greek companies appears innovative in at least one of the above types of innovation. The majority of enterprises are innovative in marketing (36.79%) and in the organization of the company (30.24%). The 25.58% of companies develops innovation process, while the 19.51% develops innovations in products, either goods or services.

For the development of innovations in processes and / or products (technological innovation) significant investments are required. The Greek enterprises that innovate in products and / or processes are progressing according to the table (4.2, An.1) to the purchase of machinery, equipment, software and installations

(73.55% of enterprises with product innovations and / or procedure), invest in activities such as design of products, promotion / introduction of innovations into the market and the training of staff (70.52%), carry out R&D activities (34.08%), opt to acquire external knowledge from other businesses / organizations (33.75%), while a smaller percentage of them outsource R&D activities to third parties (16.24%).

The development of innovations in products and / or procedures is the result of cooperation for the 38.19% of companies that record any innovation of that kind (Table 4.3, An.1). The main partners are suppliers (equipment, materials, software), clients (private sector), advisers and private laboratories, universities and colleges, other companies in the same group, public research institutions, competitive business and finally, customers from the public sector.

Since an overall picture was presented the elements reported in other sections refer solely to the region of Thessaly and Magnesia.

4.4 REGIONAL INNOVATION POLE OF THESSALY

Initially, the effort that was made in the period 2006-2008 through the Regional Innovation Pole of Thessaly is presented to create lasting links between research facilities and production space so as to give special impetus to the development of the region.

The Regional Innovation Pole of Thessaly joined "the Operational Program 'Competitiveness' Priority Axis 4: Technological Innovation and Research, Measure 4.6: Creation of Regional Innovation Poles- Eastern Thessaloniki Innovation Zone & in Practice 4.6.1: Creation of Regional Innovation Poles (RIP)" (IRETETH, 2014: 10). The start date was on 1 November 2006 and expiry date was on 31 October 2008. The total budget was 5,000,000 €, with public expenditure of 3,599,084 €. Coordinator of the project was the Technology Park of Thessaly involving 46 more organizations. "It was the culmination of a collective effort of local enterprises, Research (University and Technological Educational Institute), Technological Institutions and regional authorities" (Press release, 2007: 4).

The creation of RIP-TH supported the strategic development of Thessaly exploiting existing competitive advantage, primary production, and the development of economic sectors such as: (a) processing of food and beverages (b) agrarian products (textiles - cotton - furniture) and (c) the production of biofuels. "The RIP-TH

linked the above strategy with all stakeholders and particularly promoted the establishment of permanent links between universities, research centers and productive bodies" (Innovation Pole of Thessaly: 3). The intended result was to improve the competitiveness of enterprises and development of entrepreneurship in the region.

In table (4.4, An.1) can be observed for each of the sub-indices whether the final price obtained exceeds the original target. For example, RIP-TH developed in 2006-2008 a total number of tools, methodologies, products and services that exceeded the target set at 39%. A similar picture exists for most other indicators. As regards to the information, the objective was oversubscribed by 67%, in the indicator that concerns the benefited companies the goal was oversubscribed by 82%, in the indicator for benefited research entities the goal was oversubscribed by 275% and in the indicator for new business creation the goal was oversubscribed by 20%.

On the other hand, there are weaknesses in the implementation of objectives relating to job creation and patenting. In these two criteria, the work and individual actions of the RIP-TH did not manage to achieve the set goals and are at a greater or lesser extent from those. While the aim of the new jobs was achieved at a rate of 103%, the jobs target during the project was reached at a rate of 81% (excluding the obvious difficulty of increasing female employment) while the patenting goal was achieved by 50%. However, the fact that RIP-TH overset in a short time most goals was a very encouraging message.

Completing the table (4.5, An.1) the main results of RIP-TH in the region of Thessaly are included.

4.3 BALANCE OF TRADE AND EXPENDITURES FOR R&D IN THESSALY

This section is a reference to the level of imports and exports in Thessaly, Magnesia and the level of expenditures on research and development in Thessaly. These figures show how the area was affected by the economic crisis in certain sizes.

According to the table (4.6, An.1), in 2008 the trade balance was negative in Thessaly (-413,537,623 €). Then, in 2009 turned into a positive (52,915,847 €) presenting a large reduction of the deviation, as imports fell by 500,073,370 € whereas exports fell only by 33,619,900 €. Until 2013 the trade balance was positive. More specifically, in 2010 it presented large increase compared with 208,622,341 € in

2009, while in 2011 the rise was more moderate in comparison with 2010 by 40,936,637 €. In 2012 it rose in comparison with 2011 by 204,454,917 €, while in 2013 the rise that was presented in comparison with 2012 was 57,565,909 €. Also, what is observed in this period is that imports have declined steadily, except in 2011 when they increased compared to 2010 only by 13,951,160 €. Still, exports showed an upward trend, with the exception of 2009 when they decreased compared to 2008 by 33,619,900 €. The limited demand on the internal market led much business to seek new customers in foreign markets.

According to the table (4.7, An.1), the trade balance in 2008 and 2009 was negative in Magnesia (-419,499,264 € & -49,341,722 € respectively). Of course the difference was reduced by 370,157,542 €. In 2010 the trade balance was positive for the first time (47,698,443 €) as imports decreased and exports increased. In 2011 it presented a positive growth (147,006,205 €) mainly since exports rose significantly by 97,070,977 €. The rise in the trade balance of Magnesia continued with less intensity in the years 2012 and 2013 (226,332,103 € & 275,666,050 € respectively). Still, imports in the period 2008-2013 fell in all years, with a large margin in 2009 decreased by 401,597,887 € compared to 2008. Exports grew these years except in 2009 when they decreased by 31,440,345 € in relation to 2008 & 2013 when they decreased by 9,152,950 € compared to 2012.

The reference to expenditure on research and development in all sectors, according to the table (4.8, An.1) in 2003, 2005 and 2011 showed an increase in Thessaly and the whole country in general, especially in Thessaly, in 2011, with difference 16,9 € per inhabitant compared to 2005. More specifically, in the business sector in Thessaly in 2005 expenditures fell significantly over 6,9 € per inhabitant compared to 2003 and in 2011 rose by only 0,8 € per inhabitant compared to 2005. In this area, the country level rise occurred in the years 2003, 2005, 2011 and 2013 with little upward difference in 2013 at 1,2 € compared to 2011.

In the government sector, in Thessaly the rising expenditure on research and development was 12,6 € per head in 2011 compared to 2005. At the country level a rise occurred in all years (2003, 2005, 2011 and 2013). In the higher education sector in Thessaly, the rise in 2005 was 10,4 € per inhabitant compared to 2003, while in 2011 the increase was only 3,9 € per inhabitant compared to 2005. A fall was observed countrywide only in 2013 at 2 € per inhabitant compared to 2011.

In the private nonprofit sector countrywide expenditure was moving at very low levels, eg 2011 was 1,3 € per inhabitant. In Thessaly expenditure was at its lowest level as observed in this table, for 2011 was 0,1 € per inhabitant.

4.5 UNIVERSITY OF THESSALY & TEI OF THESSALY

Apart from businesses, the University of Thessaly and TEI of Thessaly may contribute to the development of the region through their research programs. Therefore, they provide information about their total number in three different years, highlighting the impact of the economic crisis on their funding.

According to the table (4.9, An.1) of the University of Thessaly research programs funded by the General Secretariat of Research & Technology grew in the years 2005, 2010 and 2014 (17, 22 and 43 respectively). Despite the fact that the Audit Committee has funded 66 research projects in 2005, in 2010 they were decreased by 46, retaining pretty much the same number in 2014. The finance via ministries declined in only 7 programs in 2010, maintaining almost the same level as for 2014. Finance from the European Union for the three years in question remained unaffected, while the funding from companies increased by 45 in 2010 research projects in relation to 2005 and despite this, substantial changes have been made in 2014.

Regarding the kind of research programs (Table 4.10, An.1), the number of research programs has been stable for the years 2005, 2010 and 2014 (99, 105 and 101 respectively). The educational program exhibited relative increase from 8 in 2005 to 20 in 2014 and the studies grew from 4 in 2005 to 14 in 2014. Finally, the conferences-workshops while decreased by 12 in 2010 compared with 2005, in 2014 increased by 19 compared to 2010.

Considering the total number of research projects, a fall was presented in 2010 in the number of 20 projects compared to 2005 and in 2014 presented a significant increase of 70 projects compared to 2010, reaching 266 programs.

Regarding the total number of research programs of TEI Thessaly for the years 2007, 2010 and 2014 (Table 4.11, An.1), it is initially observed to be much less in comparison to the number of corresponding programs by the University in the years 2005, 2010 and 2014. However, unlike the University in 2010 the number increased

by 33 programmes and 2014 decreased by 12 compared to 2010 reaching 33 research projects.

4.6 FEDERATION OF INDUSTRIES OF THESSALY & CENTRAL GREECE

In the period from 26 June 2014 to 21 July 2014 a survey by the Association of Industries in Thessaly and Central Greece in 90 manufacturing enterprises in the prefectures of Thessaly and Central Greece was carried out. The survey confirmed the negative trend of the production figures, the serious skepticism dominating the business community, but also the need for greater determination on policies for economic recovery. The identity of the research is presented in the table (4.12, An.1).

According to the results of the first half of 2014, in the capital goods industry over seven of ten enterprises state that their results are similar or more positive results than these of the second half of 2013. Consumer goods also indicate high prevalence of positive or similar results while the intermediates continue to have a high rate in the worst results (Table 4.13, An.1).

Based on the results of previous semesters, from the second half of 2013 on begins the recovery and the first half of 2014 is the half with the more similar results for businesses, while the negative results are continuing to be limited (Table 4.14, An.1). The continuing recession manifested by reduced demand results in pressure of orders and production. During the first half of 2014 the rate of decline that is particularly visible ranges from 10% to 30%, while other areas of reductions are moving in low concentrations. Across a group of companies that is more than half is developing, indicating no negative change. Comparing the figure for the first half of 2014 with that of previous semesters shows that the improvement that occurs has to do with the movement of the companies from the high rates of reductions in the range 10% - 30%, which is why the region presents relative increase (Table 4.15, An.1).

The image of the soother tackle of the effects of the crisis seems to guarantee more what is to be done with the state of labor relations. As seen in the first half of 2014, businesses in contrast to previous semesters, opt to limit corrective actions to address labor costs (Table 4.16, An.1).

The image appears to be positively specified in relation to investments. Compared to previous semesters, the first semester of 2014 shows businesses to be more determined to take initiatives for investments, which may denote even their

cautious optimism. However, a high percentage still maintains distances from similar initiatives, an element which introduces the concern to serve the necessity of the modernizing production (Table 4.17, An.1).

Limiting the demand on the internal market led many businesses to seek new customers in foreign markets. It is clear, and from the data in table (4.18, An.1) that the export orientation worked and still works relieving the intense pressure of reduced domestic demand.

The dramatic absence of policies to strengthen the liquidity and competitiveness of enterprises and the economy emerges from the table (4.19, An.1). As is particularly clear, enterprises set as priority option the reduction of costs by external sources such as those of aimless taxation, the high non-wage costs and high energy costs and the by-every-way-and-means reinforcement of the market liquidity.

It is more than obvious that businesses of production, which are the first to suffer the severe pressure of the crisis in recent years, have realized from the beginning that development is a process that matures through reforms in the economy and the state to enable the formation of a strong development program (Table 4.20, An.1). Obviously, the sluggish reforms define their respective rates of recovery in the economy.

The ongoing economic crisis and the intensity that distinguishes it is fully reflected in the financial results of companies, recorded on the balance sheets of the use in 2013. The sample consists of 266 companies distributed geographically according to the table (4.21, An.1).

Table (4.22, An.1) reflected from all the tested every year businesses, how many of them were profitable compared to the previous year. It is observed that during the period 2008-2013, during the first two years 2008-2009 the highest percentage of profitable companies in the sample is displayed amounting to 61.74%.

Over the next two-year periods a decrease of profitable enterprises in the whole sample is observed, by 6 percentage points over the period 2009-2010 (percentage of profitable 55.52%) and by 10 percentage points in the period 2010-2011 (percentage of profitable 45.57%), so less than half of enterprises' sample were profitable.

Then the two year period 2011-2012 shows a relative increase in the proportion of profitable amounts to 53.39%, and 2012-2013 even a small increase is noted and the rate is 54.51%. Therefore, profitable enterprises outnumber the harmful ones.

According to the table (4.23, An.1) total liabilities of enterprises in 2013 are reduced compared with those of 2012 by 4.65%. Generally the limited size of that has to do with the drastic reduction in demand due to a reduction in consumption, the liquidity crunch caused by the negative credit growth and investment apnea, which are the products of these two parameters.

Concerning the turnover of enterprises, according to the table (4.24, An.1) it showed in 2011 a severe drop in sales compared with 2010, which continued in 2012 compared with 2011, a much smaller percentage, around to 11.62%. In 2013 the drop continued with even less, amounting to 2.28% compared to 2012, showing that the decline in domestic demand continues.

In conclusion, the size of equity capital is a key element of confirmation of viability of enterprises. In table (4.25, An.1) the image is extremely unfavorable since for the fourth consecutive time of two years recorded losses in equity of capital as a result of accumulation of negative results in previous years. This development has the effect of reducing equity capital by 6.24% in 2013 compared to 2012.

4.7 COMMERCIAL CHAMBER OF MAGNESIA

Traders of Magnesia, according to the table (4.26, An.1), had shown in 2005 an increase in entries from the deletions in 158 companies. However, in 2010, deletions outweighed the entries of 150 companies. In 2014 deletions outweighed again the entries in 177 companies. In 2010, the active commercial enterprises were 512 fewer than in 2005, while 2014 there were 604 less active compared with 2010.

In the manufacturing part of the county of Magnesia, according to the table (4.27, An.1), the year 2005 presented an increase in deletions in connection with the entries by 46 companies. In 2010, deletions outweighed the entries in 31 companies, while in 2014 the deletions exceeded entries in 81 companies. In 2010, the active enterprises were 611 fewer than the active companies in 2005 and in 2014 there were 252 fewer than in 2010.

In the tourist part of the county, according to the table (4.28, An.1), 2005 entries exceeded the deletions by 36 companies. In 2010, entries outperform deletions by 173 businesses and 2014 deletions increased by 13 companies compared with entries. In 2010, for the first time in relation to the remaining segments, a growth of

active enterprises was presented compared to 2005 by 45 companies. In 2014, the active businesses fell by 4 compared to 2010.

Completing the services division, according to the table (4.29, An.1) in 2005, entries outperform deletions by 140 companies. In 2010, the deletions exceeded entries by 29 enterprises and in 2014 deletions beat entries in 179 companies. In 2010, active enterprises decreased by 694 compared with 2005 & in 2014, active enterprises decreased by 896 compared with 2010.

4.8 INSTITUTE FOR RESEARCH & TECHNOLOGY OF THESSALY (IRETETH)

The Institute for Research and Technology of Thessaly (IRETETH), a non-profit research and technological development organization headquartered in Volos-Thessaly, is the result of merging of the four Institutes of the Centre for Research and Technology of Thessaly (CERETETH), which was established in January 2006. IRETETH/CERETETH became a member of the Center for Research and Technology – Hellas (CERTH) established in Thessaloniki and is administered by the Ministry of Education, Religious Affairs and Long Life Learning. "IRETETH, in its present structure, continues to support the research areas of CERETETH" (http://ireteth.certh.gr/el/?page_id=492, on 14 February 2015):

- Mechatronics Research Unit:
  - Materials/Micromechanics/Embedded Systems/ Information & Telematic Systems/Educational Technologies/Energy.
  - Industrial–mechatronics, Agro-mechatronics, Bio-mechatronics/ Bio-mechanics.
- Agricultural Systems Research Unit:
  - Sustainable agricultural production and timber technology.
- Health and Quality of Life Research Unit:
  - Biomedical Research and Technology.
  - Kinesiology: Human-movement biology aiming at increases in bodily performance and improvements in quality of life.

IRETETH aims to bring researchers from the academic community, technicians, businesses, investors, financial institutions and other market forces

together in order to cooperate, so that synergies can be created which will contribute to the growth of the local economy.

"From its inception in 2006 until September of 2014, CERETETH/IRETETH-CERTH has managed *over 93* European and National programmes, which have generated revenues of *over €21,300,000*" (IRETETH's presentation, 2014: 28)**.** More analytically, in its research activities & financial data are included the following:

- 53 European programs amounting to*14,3 million* €.
- 40 National programs amounting to ***7****million* €.
- Services Rendered amounting to*2,4 million* €.
- 15 Business Vouchers amounting to *105,000* €.
- Research Donations amounting to *1,0 million* €.
- Training Seminars worth *129,000* €.
- Regular Public Funding amounting to *5 million* €.

❖ IRETETH/CERTH is expecting to receive from program matching funds *1,794,530.78* €.

As a result of the economic crisis, the personnel of IRETETH began to be reduced from 2010. In 2012, it reached 140 people. Then, in 2013 the personnel increased by 34 people and in 2014 it reached 187 people, very close to 2009 (table 4.30, An.1).

For the period 2007 to 2013, in accordance with the annual budget of IRETETH (table 4.31, An.1), we can notice the following. In 2010, the regular public budget funding decreased by 295,002 € in relation to 2007. The funding remained the same for 2013 too. Public investment funds-national projects & studies increased gradually with a difference of 572,275.59 € the years 2007 and 2013. In 2013, income from the EU framework programs reached 2,300,894.34 €, while in 2007 was zero. In 2007, although income from R&D contracted by firms and other private legal entities was 6,510 €, in 2010 & in 2013 was zero.

Moreover, income from sales of products and services, studies, test, etc to third parties from 118,804 € in 2007 reached 769,180.25 € in 2013. Finally, in 2010 the total income increased by 2,739,991.48 € in comparison with 2007 and in 2013 the total income increased by 1,260,803.49 € in comparison with 2010.

"IRETETH includes the following Start Ups and Clusters" (Houstis, on 10 February 2015):

- *NovaMechanica SA* (Spin-off company): Metrology of material properties (elastomers, piezomagnetic materials, textiles, cement & ceramics) and design of functional surfaces (armored clothing & special purpose coatings).
- *BioOlymbus* (Spin-off company): Study, development, certification, scientific documentation and commercial exploitation of technologically innovative, original, scientific, high-technology immunodiagnostic methods, applications and innovative immunobiologic products.
- *Greek Cluster of Wood & Furniture* (Cluster): Develop cooperative actions within the industry, strengthen competitiveness, improve the financial conditions of the companies, create economies of scale, promote research and development.
- *Noowit* start up (information processing).
- Cluster of *agrofood* (submitted proposal in EU).

IRETETH/CERTH is the only major public interdisciplinary research organization in the Region of Central Greece devoted to world-class basic and applied research at the interfaces of physical sciences, engineering, agriculture, and life sciences. It offers internationally-oriented training of graduate students and post-docs & supports a significant number of high quality jobs for the graduates of the region. "IRETETH/CERTH provides services and consultation to a variety of enterprises and the local government, it will continue playing a significant role in the development of the Region of Thessaly and in spite of the socio-economic crisis, the institute keeps moving on" (Houstis, on 10 February 2015).

IRETETH supports that the regions of Thessaly and continental Greece need strong research infrastructure to realize their new development program for the period 2014-2020. So, there is a need for an independent self sufficient research organization to support the regional development. For this reason, it proposed the development of Research and Innovation Center for Central Greece (JASON) and IRETETH could serve as a basis for JASON. "The Center will be structured around Research Intensive Clusters and Business Clusters provided maximum flexibility and adaptation to research/economic trends" (IRETETH's presentation, 2014: 50). To conclude, the

proposal is supported by the *Association of Industries in Thessaly and Central Greece* and the Secretary of General Secretariat for Research and Technology, Dr Vassilakos, has announced a similar Center for the Region of West Greece.

4.9 TECHNOLOGY PARK OF THESSALY

To Technology Park of Thessaly - TEPATH SA was founded on 10 November 2001 from 39 entities of the region of Thessaly in Volos based on I.A. A', with main shareholder EBETAM & capital share of 520,909.76 Euros. "The main role of TEPATH was to disseminate the knowledge produced in academia and research institutes with the aim of creating a new growth pole in Thessaly "(Regulation of Operation of TEPATH SA). Thus, TEPATH intended to act as "Incubator" of new companies, where small but dynamic emerging businesses would promote innovation in cooperation with research institutes and would develop new products and services. Its specific goals included:

1. The encouragement of the exploitation of research through the creation of new high-tech companies by researchers (spin-offs).
2. The encouragement of the upgrading of existing production units by introducing new technologies.
3. Encourage and support local and regional development.
4. The contribution to the technological modernization of the country.
5. Education and training of managers.

"The connection of TEPATH with Educational and Research-Technology fabric of the country with stable relations of cooperation is a necessary condition for achieving the broader objectives" (TEPATH Company Profile, 2007: 4).

In the vast majority of businesses that TEPATH hosted and supported were new and therefore it operated more as a business incubator. Only three were pre-existing since they worked before joining the TEPATH (Like KOMEL SA, FTS AE, GIANNIKOS SA).

The established companies produced a series of innovative products and provided innovations in services in those times like:

- *Greek Infrared Raythermic Technology - EYAT,* Andreas Karagiannis, built a series of infrared ovens.

- *Fasmetrics SA* provided a range of innovative services to mobile operators and telecommunications.
- *Future Technology Systems SA* provided high value-added technologies in the field of Industrial Design, rapid prototyping and reverse design.
- *Komel SA* provided systems and services in the field of industrial automation.
- *Pixel Selective Plating* exported to China innovative products (especially accessories) of mobile telephony.
- *Tectrans Hellas SA* provided advanced technology transfer services from Germany to Greece and China and more.

Today, only the top four are still active from these companies.

The company hosted startups mainly in the construction site, because of the particularly large drop in turnover of all construction sectors. The impact of the economic crisis was that companies were unable to cope with these sudden changes so "they can not fulfill their obligations towards TEPATH & only under strict legal framework and in collaboration with major technology product development companies would the Park reopen in the near future "(Thomaidis, on 16 February 2015).

4.10 REGIONAL OPERATIONAL PROGRAMME OF THESSALY 2014-2020

"For the first time the region of Thessaly assumes financial support for research, technological development and innovation through the Regional Operational Programme of Thessaly 2014-2020" (Voulgaris, on 6 March 2015). During the previous programming period 2007-2013, the funding of research and innovation was included in the Operational Competitiveness-Entrepreneurship Programme whose promoter was the General Secretariat for Research and Technology.

One of the main development needs of the region during the period 2014-2020 is the area of research, innovation and linking research to production. The individual needs which should be addressed to reduce inequalities and mitigate the disadvantages of Thessaly, for this area are:

- Support the development of research infrastructures (institutions and laboratories) research and technology towards achieving the objectives of smart specialization.

- Strengthening the outward orientation of the research system of the region and the creation of networks with other research institutions in the country and abroad.
- Maintaining and developing the research potential of the Region, as well as attracting researchers and engaging the orientation in the association of research and technology with businesses.
- Strengthening links in the research and business sectors with the cooperation and support of the regional administration.

It is worth mentioning that according to the reasons for choosing the thematic objective on strengthening research, technological development and innovation it is stated that "The rate of gross expenditure on research in the Region for the Regional Product is low and a very low degree of implementation of innovation and research products from the entrepreneurial base of the Region has been established" (European Commission, 2014: 21).

According to the architecture of the NSRF 2014-2020, 320,9 million Euros of are allocated in the ROP of Thessaly 2014-2020 of which ERDF 263,81 million. ECB and 57,09 million., ie 3.23% of ERDF and the ESF 1.55% in the NSRF. Also on the financing of the operations of RIS3 Thessaly "the thematic research objective, technological development & innovation assessment of the ceiling of public expenditure to the ROP Thessaly 2014-2020 are 11,250,000 €" (Managing Authority Operational Programme of Thessaly, 2015: 69).

4.11 CONCLUSIONS

The impact of the economic crisis in the productive space and research fabric of the area was mentioned in the previous sections with specific elements. The challenge now is how the economic crisis experienced by the region can be handled. The two proposals are presented below since the most important parts of interviews that have been carried out in the investigation have been mentioned.

Firstly, as far as the possibility of university cooperation with the productive activities of the private sector to produce innovative products is concerned, Mesalouris (on 20 January 2015) notes that the problem is the lack of openness and publicity. Individuals are not aware of the possibilities of the university (eg workshops). However, as he claims, if the university collaborates with individuals it doesn´t finance but provides the infrastructure that it has and is entitled to 40% of the commercial exploitation.

On the other hand, according to Thomaidis (on16 February 2015) another problem that arises is that the results of research professors from university labs are made public, so access to these is undergone from large companies from abroad & the domestic ones which are mostly have of small size do not dare to take risks to invest in these investigations as the research result can be already used by other larger companies from abroad.

The problem of the size of enterprises is pointed by Papadoulis too (on 15 January 2015) since he answered the question whether the emphasis has been on producing innovative products by saying that the size of enterprises needs to be large to devote 5% of turnover in innovation and be satisfactory. Therefore, one reason that prohibits the cooperation between institutions and businesses is that businesses are small.

Ultimately, in the question whether the close cooperation of research with the productive area could be a solution to the economic crisis experienced by the region or if the cost of research is subversive for entrepreneurs, Houstis (on 10 February 2015) supported that this was the target and this was why the Regional Innovation Pole was created as it contributed mainly to the use of innovative technologies (eg IT) while reducing the production costs. However, companies do not change their production process, are not convinced and do not endeavour the necessary economic

opening. For these reasons, he said that the tool today is clusters, which also receive state funding and are successful in the European Union.

So factors such as culture that may not flourish, the economic power across the country that is not appropriate and the fear of entrepreneurs to risk, as well as fragmentation of policies not being masters conclude in that the problem starts from businesses´ size. Therefore, the next chapter will refer to clusters.

At this point since the first suggestion has been made, the second will be will be reported as Kolovos noted (on 31 March 2015), not ignoring the importance of clusters in the region, arguing that there is still danger even in this proposal. Through the experience that he gained in the operation of the Centre for Business and Technological Development of Thessaly, which was a specialized unit to support and promote entrepreneurship in the Region of Thessaly and closed in 2010 as funded by the previous NSRF, he points out that the most important point is to provide comprehensive information of economic potential of the region to enable the operators to know whether their interest to invest may lay in the area or not.

In particular, he considers that a legislative decision should be made, establishing the voluntary commitment of a body such as the Region or even the University and in particular the section dealing with regional development, to have the independent activity of drafting the annual report on entrepreneurship in the region so that certified information will be provided that is currently lacking, after a thorough data collection from different organizations and final presentation of the productive vectors.

5. SECTORAL CLUSTERS IN THESSALY

5.1 INTRODUCTION

Clusters develop over time, they are not a phenomenon that just appears or disappears overnight. Some clusters develop from networks of small - and medium - enterprises. Others are linked to a keystone company or university. "The keystone company give rise to a cluster by providing the launch pad for new companies or attracting suppliers. Spin-offs develop around university, drawing on the human capital and ideas of the key academic institution" (Ketels et.all, 2008: 381). There is no single model for clusters, but many models manifesting the circumstances of location and sector specificity. "Regions differ in many important ways such as level of development, locus of decision making, institutional arrangements, legal structures, business structures & administrative efficiency" (Enright, 2004: 20).

Among the most frequent sources of cluster development are specific aspects of the location, specific business environment conditions, related clusters and the long-term impact of specific entrepreneurial decisions by private or public sector leaders. The process that leads from any of these starting conditions to the fully developed clusters with companies in all relevant related fields takes many years, often decades.

A regional cluster is defined by Porter (2000: 16) as "a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities" (Tallman et.all, 2004: 258). In innovation clusters "actors depend on each other and businesses can have the roles of a customer, a supplier or a subcontractor exchanging knowledge while being engaged in mutual learning" (Natsaridou et.all, 2012: 10). This procedure is supplemented by the presence of and interaction with universities and other relating structures.

In the following subsections firstly a reference takes place about Corallia, which is the first organization for the development of innovation clusters in Greece and shows its useful role. Then, the strongest regional clusters in Thessaly for 2011 according to the European Cluster Observatory star rating will be presented and the programme KRHPIS, which began in 2013 and its duration is estimated to 2015, and the research clusters that it has developed in Thessaly will be displayed.

5.2 THE FIRST ORGANIZATION FOR THE DEVELOPMENT OF INNOVATION CLUSTERS IN GREECE

In 2005, the foundation of Corallia as the Hellenic Technology Clusters Initiative (HTCI) took place. As the first organization established in Greece for the structured and systematic management and development of innovation clusters, Corallia works in the field of cohesive and productive innovative ecosystems within which actors operate in a coordinated manner, in specific sectors and regions of the country, and where a competitive advantage and export orientation exists.

In those clusters, Corallia acts as a cluster facilitator (cluster initiative or cluster organization) implementing targeted support actions, which involve all innovation ecosystem actors, including industry, universities, research centers, financial institutions, regional and national authorities, infrastructure providers, suppliers and buyers, media, etc.

"Corallia has already developed and currently supports the growth of three highly-specialized cluster initiatives in Greece, in knowledge-intensive thematic sectors" (http://corallia.org/el/activity-fields/clusters.html, on 20 May 2015), namely the mi-Cluster (nano/microelectronics-based systems and applications) that initiated in 2006, the si-Cluster (space technologies and applications) that established in 2009 and the gi-Cluster (gaming and creative technologies & applications) that established in 2011.

To date, Corallia has been awarded as best practice and has received honorary distinctions. In 2015, an important distinction was bestowed upon Corallia for being among the four most effective smart specialisation applications in Europe through the three clusters it coordinates - gi, mi and si clusters. Moreover, Corallia became part of the internationally acknowledged network european business innovation centres EBN and got the excellence certificate EU|BIC in 2014. Furthermore, Corallia was awarded the Bronze Label of Cluster Management Excellence with top performance for the gi-Cluster (2013), mi-Cluster (2011) and si-Cluster (2013).

In table (5.1, An.1) some of the distinctions that Corallia has acquired during the years of its establishment are presented, illustrating its successful course. Studying the case of Thessaly it is useful to make reference to its operation, as from the research that conducted i was led to the conclusion that the presence of clusters will boost the development of the region. In addition, the existence of Corallia will be

useful and helpful in order to give advices and offer information if this route of economic policy will be followed.

5.3 STAR CLUSTERS IN THESSALY

The European Cluster Observatory, launched in June 2007, is the most comprehensive database on clusters, cluster organizations, and cluster reports in Europe. It is managed by the Center for Strategy and Competitiveness (CSC) at the Stockholm School of Economics and funded by the European Commission's Directorate General for Enterprise and Industry.

In table (5.2, An.1) will be presented the strongest regional clusters in Thessaly in 2011 according to the European Cluster Observatory star rating. In total, there are 80 clusters in Greece that have received at least one star.

Methodology

"The amount and quality of knowledge circulating and spilling over between firms, located in a cluster, is dependent upon the cluster's size, the degree to which it is specialized and the extent to which the locality (the region) is focused upon production in the relevant industries comprising the cluster" (http://www.clusterobservatory.eu/common/galleries/downloads/Star_clusters_Greece.pdf, on 19 May 2015). The European Cluster Observatory shows the extent to which clusters have achieved this specialized critical mass by employing measures of these three factors as described below, and assigning each cluster 0, 1, 2 or 3 Stars depending on how many of the below criteria are met.

- *Size Star*: if employment reaches a sufficient share of total European employment, it is more likely that meaningful economic effects of clusters will be present. The size measure shows whether a cluster is in the top 10% of all clusters in Europe within the same cluster category in terms of the number of employees.

- *Specialization Star*: if a region is more specialized in a specific cluster category than the overall economy across all regions, this is likely to be an indication that the economic effects of the regional cluster have been strong enough to attract related economic activity from other regions to this location, and that spill-overs and linkages

will be stronger. The specialization measure compares the proportion of employment in a cluster category in a region over the total employment in the same region, to the proportion of total European employment in that cluster category over total European employment. The measure needs to be at least 2 to receive a star.

- *Focus Star*: if a cluster accounts for a larger share of a region's overall employment, it is more likely that spillover effects and linkages will actually occur instead of being drowned in the economic interaction of other parts of the regional economy. The focus measure shows the extent to which the regional economy is focused upon the industries comprising the cluster category and relates employment in the cluster to total employment in the region. The top 10% of clusters which account for the largest proportion of their region's total employment receive a star.

5.4 KRHPIS PROGRAMME & RESEARCH CLUSTERS

The Intelligent Pole of Expertise & Development of Thessaly: Research, Innovation, Strategies (IPED-T), under the Programme KRHPIS of GSRT, "aims to improve the scientific basis of Thessaly and innovative capacity of the population, enterprises and public organizations of the Region" (http://ireteth.certh.gr/kripis/?p=24, on 20 May 2015).

The actions of IPED-T involve a complex of innovative activities centered on the primary sector and high level services. They place among four major categories that together aim at developing technological capacity and innovation in the productive complex of primary agricultural production (Agrotechnology), in the fields of metal and metalconstrustions, computer science/digital convergence and energy (Mechatronics) and in the fields of health (Biometrics) and quality of life (Kinesiology).

IPED-T project reinforces the strategic planning of IRETETH and Region of Thessaly for the new programming period 2014-2020, and is compatible with the priorities that the European Union (EU) sets for the enhancement of Research and Innovation in the framework of "*Smart Specialization Strategy*".

The "KRHPIS" programme (2013 –2015) addresses to research institutions and to the Greek Nuclear Energy Commission that are supervised by GSRT. "It is responsible for the development of three research clusters and innovation strategies

for Thessaly: technopolis, agropolis, biopolis" (IRETETH's presentation, 2014: 43). The research infrastructure costed 230,000 €. The research personnel has consisted of 5 research positions, 10 postdocs and 15 fellows-graduate students. The funding has been 1.4 million €.

The basic objective of this action is to boost research (fundamental research, industrial / applied research and experimental development) and the potential use of the results that will be derived from it with the implementation of high-level scientific and research projects, which are a useful tool in formulating strategic development of supervised research bodies and Greek Nuclear Energy Commission by GSRT.

The programme is implemented under the Operational Programme 'Competitiveness and Entrepreneurship' (OPCM-II), Priority Axis (P.A.) 1: "Creation and Exploitation of Innovation Supported by Research and Technological Development" as and five Regional Operational Programmes (ROP) of the National Strategic Reference Framework (NSRF) 2007-2013. The action has been funded by the European Regional Development Fund (ERDF) and National resources.

5.5 CONCLUSIONS

Clusters have collective visions, require both cooperation and competition and generate demand for more firms with similar and related capabilities. Furthermore, "clusters are based on social values that foster trust and encourage reciprocity, have open membership and attract needed specialized services to a region" (Rosenfeld, 1997: 7).

In table (5.3, An.1) is represented the specificity of Thessaly's economic sectors. According to the table, clusters that could be developed under the condition of important form of specialization concerns the following sectors of economy. First of all manufacture of motor-trailers is the sector with the highest specificity (3,85). Subsequently, the sectors that follow with high specificity are non-metallic minerals (1,80), crop and animal production (1,78) & production of basic metals (1,71). The sectors that present relative specificity are food industry (1,11), wood (1,04), fabricated metal products (1,32), real estate management (1,08), public administration and defense, compulsory social security (1,06) & education (1,26).

In my point of view, it would be important clusters to be created in the metal and agri-food sectors for the following reasons. To begin with metal sector, it is

significant to be claimed that metal is a key sector for the economy and competitiveness of Europe. In the first decade of the millennium, the steel industry in the EU-27 had total annual production of about 200 million tons, annual turnover of approximately 190 billion € and providing direct employment for about 350,000 EU citizens.

In the sector of metal products and constructions, from the total of 269 companies in the country, 135 are located in the region of Thessaly. The majority of these firms is located in the prefectures of Larisa and Magnesia. In accordance with table (5.4, An.1), metal industries of Thessaly participated in a large percentage, ranging from 23% to 29% in the sales value of this sector at country level, in the years 2008 to 2011.

Potential areas of activity for metal industries are the sector of defence industry and the energy sector. Important units dealing with procurement issues of the defense industry are located in the region of Thessaly. Concerning with the energy sector are noticed:

> (a) developments in international energy map, particularly in the eastern Mediterranean, (b) increase in the penetration of natural gas in the European economy, (c) prospects for exploitation of hydrocarbons in the area of the Ionian and Crete, requiring the installation of metal extraction platforms, (d) pipelines for transmission of natural gas-Adriatic Pipeline (Trans Adriatic Pipeline-TAP). (Fragou, 2015: 20)

From the above is concluded that the country's position is upgraded in the international energy map as a carrier or as an energy producer. Moreover, the construction of metal pipelines for natural gas and their maintenance raise significant employment prospects.

Continuing with the agri-food sector, it would be useful the creation of an agri-food cluster with focus in traditional products of agri-food in Thessaly, with the introduction of new technologies at all stages of the production process (olive, olive oil, dairy, wine, vegetables). In addition, in products with high demand internationally ("food-medicines", superfoods, functional foods) specialization could be promoted through business cooperation with research institutions (IRETETH, University of Thessaly, TEI of Thessaly and National Agricultural Research Foundation).

> It is useful to be noticed that the arable land of Thessaly amounts to 12.68% of arable area of the country and at the regional level Thessaly is second with 13% in the participation of the primary sector in shaping country's GDP. Equally important is employment in the agricultural sector, 24.3% of the population engaged in this field over 16.6% in trade. (Bartzanas, 2015: 3).

Lastly, it should not be ignored that the agricultural sector is a basic supplier in a range of products and services for food and beverage industry, demonstrating the multipliable consequences that an agri-food cluster could have in the economy of the region.

In conclusion, as in Thessaly the size of the enterprises is small and do not favor to invest in collaboration with research institutions in order to produce innovative products, an outlet to the economic crisis that is experienced by the region could be given through sectoral clusters which can create multipliable benefits in the region's economy through the work positions that will create and the products that will produce.

6. CONCLUSIONS

A solution to the debt crisis is tied to be offered by Greece and the other Eurozone Member States inside the euro. The most significant is to be accompanied by the implementation strategy of a strong development policy. In any other case, the country is heading in a prolonged stalemate, extending the economic crisis in a social, humanitarian and political one.

Returning to the national currency (the drachma) Greece will become the tool of monetary policy and the cherishing the possibility of issuing money in times of crisis. Certainly devaluations do not always have a positive impact on exports, either because of low elasticity of foreign demand or due to increased costs due to the high prices of imported raw materials and intermediate products. The largest risk is inflation as the country could enter into a vicious circle of devaluation and inflation which could degenerate into devastating hyperinflation.

While these dilemmas are taking place, the regional policy of the EU exists and offers opportunities. The priorities which will be supported by the new NSRF is to strengthen the competitiveness and internationalization of enterprises, the development and utilization of human resources, environmental protection and the transition to a friendly environment, development, modernization and completion of infrastructure access and improvement of institutional capacity and efficiency of public administration and of local government.

Not only the regional policy, but also the significant RIS3 offers opportunities for the development of the region. Regional research and innovation strategies for smart specialization are integrated, place-based economic transformation agendas that focus policy support and investments on key regional priorities, challenges and needs for knowledge-based development. Build on each region's strengths, competitive advantages and potential for excellence. Aim to stimulate private sector investment and encourage innovation and experimentation. While each regional strategy will share common features, the place based approach shows us that understanding the local context is crucial in their successful design.

The challenge now is how the economic crisis experienced by the region can be handled. According to the survey, the problem of the size of enterprises has been clearly pointed. The size of enterprises needs to be large to devote a small percentage (eg 5%) of turnover in innovation and be satisfactory. So, the reason that prohibits the

cooperation between research institutions and businesses is that businesses are small. As a result companies are not convinced and do not endeavour the necessary economic opening.

Although, other factors exist such as culture that may not flourish, the economic power across the country that is not appropriate and the fear of entrepreneurs to risk, as well as fragmentation of policies not being masters conclude in that the problem starts from businesses´ size. Therefore, the proposal will refer to clusters.

Clusters develop over time, they are not a phenomenon that just appears or disappears overnight. Some clusters develop from networks of small - and medium - enterprises. Others are linked to a keystone company or university. They have collective visions, require both cooperation and competition and generate demand for more firms with similar and related capabilities.

In my point of view, it would be important clusters to be created in the metal and agri-food sectors. In the sector of metal products and constructions, from the total of 269 companies in the country, 135 are located in the region of Thessaly. The majority of these firms is located in the prefectures of Larissa and Magnesia. Moreover, metal industries of Thessaly participated in a large percentage, ranging from 23% to 29% in the sales value of this sector at country level, in the years 2008 to 2011.

Potential areas of activity for metal industries are the sector of defence industry and the energy sector. Important units dealing with procurement issues of the defense industry are located in the region of Thessaly. Concerning with the energy sector are noticed developments in international energy map, particularly in the eastern Mediterranean and the country's position is upgraded as a carrier or as an energy producer. Moreover, the construction of metal pipelines for natural gas and their maintenance raise significant employment prospects.

Continuing with the agri-food sector, it would be useful the creation of an agri-food cluster with focus in traditional products of agri-food in Thessaly and in products with high demand internationally ("food-medicines", superfoods, functional foods), as specialization could be promoted through business cooperation with research institutions of the region.

Furthermore, the arable land of Thessaly amounts to 12.68% of arable area of the country and equally important is employment in the agricultural sector, 24.3% of

the population engaged in this field over 16.6% in trade. In conclusion, the agricultural sector is a basic supplier in a range of products and services for food and beverage industry, demonstrating the multipliable consequences that an agri-food cluster could have in the economy of the region.

ANNEXE 1

TABLE (1.1): TIMELESS EVOLUTION OF HOTEL RESOURCES 1990 – 2013

Year	Facilities	Rooms (000)	Difference % from the previous Year (rooms)
1990	6,423	224,9	
1995	7,387	281,6	7.4%
2000	7,856	309,1	0.2%
2001	8,073	320,5	3.7%
2002	8,285	329,4	2.8%
2003	8,527	339,5	3.1%
2004	8,843	351,9	3.7%
2005	9,036	358,7	1.9%
2006	9,110	364,2	1.5%
2007	9,207	368,0	1.0%
2008	9,227	375,1	1.9%
2009	9,559	383,0	2.1%
2010	9,732	397,7	3.8%
2011	9,653	396,2	-0.4%
2012	9,661	399,0	0.7%
2013*	9,674	400,6	0.4%

* August data.
Source: Hellenic Chamber of Hotels, (2014).

TABLE (1.2): OVERNIGHT STAYS IN ALL HOTEL ACCOMMODATION (EXCEPT CAMPING)

	2007	2008	2009	2010	2011	2012
Overnight stays (thousands)	*64,085*	*64,074*	*64,292*	*65,059*	*69,138*	*63,054*
Nationals	16,675	16,840	18,367	16,815	15,370	12,515
Foreigners	47,410	47,234	45,925	48,244	53,768	50,539

Source: ELSTAT, (2014).

TABLE (1.3): ARRIVALS OF NOT RESIDENTS IN GREECE, BY MEANS OF TRAVEL

	2011	2012	2013
Total	*16,427,247*	*15,517,622*	*17,919,580*
By plane	11,671,155	10,992,903	12,302,448
By train	3,765	…	…
By sea	947,848	790,469	806,960
By car	3,804,479	3,734,249	4,810,172

... = No data available.
Source: ELSTAT, (2014).

TABLE (1.4): NUMBER OF NATIONALS OPERATING PERSONAL TRAVELLING WITH 4 OR MORE NIGHTS

	2007	2008	2009	2010	2011	2012
Total	*4,040,329*	*4,106,151*	*3,976,570*	*3,174,318*	*2,847,268*	*2,720,425*
Males	1,991,331	2,033,086	1,937,506	1,507,085	1,350,129	1,279,931
Females	2,048,997	2,073,065	2,039,064	1,667,233	1,497,139	1,440,494
Age groups:						
15 – 24 years	675,608	675,496	647,404	513,833	374,334	378,570
25 – 44 »	1,654,914	1,664,071	1,588,623	1,204,267	1,149,643	1,088,772
45 – 64 »	1,180,664	1,183,699	1,145,644	962,901	868,559	852,457
65 and over	529,142	582,884	594,899	493,317	454,732	400,626

Source: ELSTAT, (2014).

TABLE (1.5): SHIPS IN GREEK NATIONAL REGISTER (SHIPS OVER 100gt)

Date	Number of ships	Gross Tons
2011	2,014	43,397,583
2010	2,096	43,086,974
2009	2,112	41,358,711
2008	2,082	39,156,211
2007	1,916	36,239,543
2006	1,874	32,765,042

2005	1,901	31,444,245
2004	1,972	32,769,792
2003	1,974	31,915,727
2002	1,965	29,204,859
2001	1,959	29,257,366
2000	1,902	26,895,376
1999	1,850	25,002,463
1998	1,849	25,171,034
1997	1,927	25,708,074
1996	2,013	27,935,053
1995	2,051	30,220,636
1994	2,149	30,535,560
1993	2,166	29,671,983
1992	2,095	26,055,932
1991	2,062	24,082,483
1990	2,031	22,524,329
1989	2,004	20,898,119
1988	2,015	21,368,976
1987	2,061	22,706,257
1986	2,138	24,792,516
1985	2,456	28,646,166
1984	2,788	32,334,886
1983	3,422	37,707,377

Source: Navy Chamber of Greece, (2014).

TABLE (1.6): LAND AND AGRICULTURAL PRODUCTION

	1981	1991	2001	2009	2010	2011[(1)]
1. Cultivating land (thousands of acres)						
Total	*35,723*	*35,343*	*34,656*	*32,294*	*32,033*	*32,186*

Arable	24,238	23,344	22,190	19,855	19,619	19,699
Vegetables	1,221	1,236	1,163	1,049	1,041	1,010
Vines – vineyard with raisins	1,864	1,517	1,321	1,214	1,168	1,156
Tree area	8,400	9,246	9,982	10,176	10,205	10,321
2. Production of some agricultural products (thous. tones)						
Wheat	2,932	3,162	2,196	2,140	1,918	1,920
Cotton	385	594	1,355	816	711	824
Καπνός	131	173	142	27	30	32
Must	521	466	421	358	330	334
Olive oil	250	198	435	325	300	344
Oranges	726	805	1,112	956	905	851
Lemons	214	177	179	77	79	81
Tangerines	49	83	130	134	137	145

(1) = Temporarily data.
Source: ELSTAT, (2014).

TABLE (1.7): COURSE OF TRADE BALANCE

(% of GDP)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Trade balance	*-8.5*	*-7.6*	*-6.5*	*-5.4*	*-6.2*	*-9.4*	*-11.0*	*-11.4*	*-7.7*	*-6.5*
Exports of goods and services	23.0	20.2	18.9	21.3	21.3	21.1	21.5	22.7	18.0	19.8
Imports of goods and services	31.5	27.8	25.3	26.6	27.5	30.5	32.5	34.1	25.7	26.3

Source: ELSTAT, (2011).

TABLE (1.8): GROSS DOMESTIC PRODUCT AT CONSTANT PRICES 2000, 2001 -2007[(1)]

(In million euro)

	2001	2002	2003	2004	2005	2006	2007
PRODUCTION APPROACH							
Production of goods and services (at basic prices)	224,922	236,837	246,240	255,946	259,529	271,948	282,687
Intermediate consumption (at market prices	100,244	107,047	107,957	110,562	110,637	117,394	121,952
Gross value added (at basic prices)	124,678	129,812	138,168	145,173	148,603	154,287	160,456
Agriculture, hunting and forestry, fishery	7,836	7,540	6,876	7,609	7,591	6,745	6,219
Industry, including energy and construction	27,415	25,069	26,861	27,556	28,735	29,967	30,681
Services	89,426	97,123	104,681	110,389	112,771	118,130	124,319
EXPENDITURE APPROACH							
Final consumption expenditure	127,980	134,663	137,952	143,158	148,625	157,387	163,448
Households and NPISH[(2)]	103,527	108,438	111,988	116,283	121,490	127,831	131,407
households	101,766	106,780	110,301	114,553	119,861	125,440	129,075
NPISH[(2)]	1,761	1,658	1,688	1,732	1,637	2,376	2,320
General Government	24,452	26,218	25,990	26,904	27,208	29,591	32,008
Exports of goods and services	33,878	31,034	31,940	37,470	38,408	40,457	42,786
Imports of goods and services	52,882	52,219	53,768	56,814	55,974	61,384	67,455
External balance of goods and services	-19,004	-21,185	-21,827	-19,344	-17,566	-20,927	-24,669
GROSS DOMESTIC PRODUCT at market prices	*142,001*	*146,885*	*155,615*	*162,412*	*166,116*	*174,697*	*182,173*

[(1)] 2004 - 2007: Temporarily data.
[(2)] Non-Profit Institutions Serving Households.
Source: Direction of National Accounts ELSTAT, (2011).

TABLE (1.9): INFLOWS FROM THE EUROPEAN UNION STRUCTURAL FUNDS 2000-2006

(In billion euro)

	Community Support Framework 2000-2006	Cohesion Fund	TOTAL

Community Participation	22,70	3,24	25,94
National Participation	9,72	2,01	11,73
Total Public Expenditure	32,42	5,25	37,67
Indicative Private Participation	9,53	1,10	10,63
Total	*41,95*	*6,35*	*48,30*

Source: http://www.hellaskps.gr/2000-2006.htm, (on 19 March 2015).

TABLE (1.10): MACROECONOMIC FUNDAMENTALS

(In millions euro)

	2008	2009	2010	2011	2012	2013
GDP at market prices	233,198	231,081	222,151	208,532	193,347	182,054
Deficit (-) / surplus (+) of General government [(1)]	-23,167	-36,157	-24,451	-20,093	-17,267	-23,112
General government debt [(1)(2)]	263,287	299,690	329,514	355,141	303,936[(3)]	318,703

[(1)] Public enterprises that have been reclassified in the sector of General Government are included in the deficit and debt.
[(2)] Debt as is defined by the Maastricht Treaty.
[(3)]) It includes debt reduction under the bond exchange programme (PSI).
Source: ELSTAT, (2014).

TABLE (1.11): MAJOR OBSTACLES TO THE EXERCISE OF ECONOMIC ACTIVITY

Inhibitory factor	*Percentage (%)*
Bureaucracy of the public sector	22.1
Access to finance	13.8
Corruption	13.0
Tax legislation	11.8
Political instability	10.6
Tax rates	8.5
Strict employment context	8.2

Inadequate Infrastructure	3.6
Poor work ethic in the workforce	3.2
Governmental instability	2.5
Other reasons	2.9

Source: World Economic Forum – The Global Competitiveness Report 2011-2012.

TABLE (1.12): MACROECONOMIC FUNDAMENTALS

(As a percentage of GDP)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Income	*43.0*	*40.9*	*40.3*	*39.0*	*38.1*	*38.6*	*39.2*	*40.0*	*39.9*	*37.3*	*39.1*
Taxes on production and imports, being received	13.6	13.3	12.9	12.0	11.7	11.7	12.2	12.5	12.2	11.1	12.4
Taxes on income, being received	9.7	8.6	8.6	7.8	8.0	8.5	8.0	8.0	7.9	8.1	7.6
Social contributions, being received	12.5	12.6	13.6	13.8	13.3	13.4	12.7	12.8	13.0	12.5	12.9
Other current revenue	4.4	5.0	4.0	3.7	3.4	3.4	3.7	4.2	4.6	4.1	4.2
Capital transfers, being received	2.9	1.5	1.2	1.7	1.7	1.6	2.4	2.5	2.2	1.4	2.0
Total Expenditure	*46.7*	*45.3*	*45.1*	*44.7*	*45.5*	*44.0*	*45.2*	*46.6*	*49.7*	*52.9*	*49.5*
Primary Expenditure	*39.3*	*38.8*	*39.5*	*39.8*	*40.7*	*39.3*	*40.5*	*41.9*	*44.7*	*47.6*	*44.0*
Compensation of employees, being paid	10.5	10.4	11.1	10.8	11.5	11.5	11.5	11.1	11.7	13.0	11.8
Social benefits	14.8	15.4	15.4	15.9	15.6	16.3	16.9	17.6	19.3	20.8	20.6
Products and services	6.4	6.2	6.5	6.0	5.5	5.3	5.9	6.8	6.5	7.3	5.8
Subsidies, being paid	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Other current transfers, being paid	1.0	1.0	1.0	1.4	1.8	1.7	1.5	1.7	1.7	1.6	1.7

Capital transfers, being paid	6.4	5.8	5.4	5.5	6.1	4.4	4.6	4.8	5.5	4.9	4.1
Interest, being paid	7.4	6.5	5.6	5.0	4.9	4.6	4.6	4.7	5.0	5.2	5.5
Primary balance	*3.6*	*2.0*	*0.7*	*-0.7*	*-2.6*	*-0.7*	*-1.4*	*-2.0*	*-4.8*	*-10.3*	*-4.9*
General Government Balance [(1)]	*-3.7*	*-4.4*	*-4.8*	*-5.7*	*-7.4*	*-5.3*	*-6.0*	*-6.7*	*-9.8*	*-15.6*	*-10.4*
General Government Balance [(2)]	*-3.7*	*-4.5*	*-4.8*	*-5.6*	*-7.5*	*-5.2*	*-5.7*	*-6.4*	*-9.8*	*-15.4*	*-10.5*
General government debt, according to Maastricht [(3)]	*103.4*	*103.7*	*101.7*	*97.4*	*98.9*	*109.0*	*106.4*	*105.4*	*110.7*	*127.1*	*142.8*

[(1)]Balance according to the European Treaty Lisbon 95 (transactions of exchange bonds are not included).
[(2)] Balance according to PED - Excessive Deficit Procedure (transactions of exchange bonds are included).
[(3)] Debt as is defined by the Maastricht Treaty.
Source: ELSTAT, (2011).

TABLE (1.13): SIZE OF THE SHADOW ECONOMY

(% of GDP)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Greece	28.20	28.10	27.60	26.20	25.10	24.30	25.00	25.40	24.30	24.00
27 E.U.-Countries/Average (unweighted)	22.30	21.90	21.50	20.80	19.90	19.30	19.80	19.50	19.20	18.40

Source: Friedrich Schneider, (on 29 March 2015).

TABLE (1.14): SERVING THE PUBLIC& PENSIONERS OF THE PUBLIC

(In thousands)

	Serving the Public	Pensioners of the Public Total	Public expenditure on central government wages (bn. Euro)	Public expenditure on pensioners of the public (bn. Euro)
1974	148,6	186,4	0,095	0,02
1983	263,8	208,1	0,8	0,25
1996	314,1	346,5	5,7	2,0

2000	432,7	355,6	7,2	2,9
2003	456,5	366,0	9,4	3,5
2005	:	366,0	10,9	4,2
2008	506,7	389,7	13,0	5,9
2009	511,9	403,0	13,1	6,5
2010	692,3	410,8	12,1	6,3
2011	668,0	430,9	11,3	6,6
2012	:	:	10,4	6,6
2013 (March)	667,7	:	:	:

* The figures from 2010 onwards, include and employees of local government
** : = Do not exist available data.
Source: Giannitsis, T., (custody) (2013) *Greece in the crisis,* Athens: Polis, page 133.

TABLE (1.15): MAIN ECONOMIC INDICATORS 1961-2016

(Annual percentage change, unless otherwise stated)

	1961 - 1973	1974 - 1985	1986 - 1990	1991 - 1995	1996 - 2000	2001 - 2005	2006 - 2010	2010	2011	2012	2013	2014	2015	2016
Growth of GDP and its components (real)														
Private consumption	6.8	3.3	3.2	1.9	3.4	4.4	0.2	-7.1	-10.6	-7.8	-2.0	-0.6	1.6	2.2
Government consumption	6.2	5.0	-0.1	0.5	3.1	4.2	1.1	-4.3	-6.6	-5.0	-6.5	-3.1	-2.9	-1.4
Gross fixed capital formation	9.7	-3.2	0.8	-0.4	8.6	1.3	-2.4	-20.9	-16.8	-28.7	-4.6	4.5	11.7	15.0
of which equipment	12.8	0.7	5.4	4.6	18.6	1.8	2.2	-23.6	-22.8	-29.2	-4.4	9.0	13.5	17.0
of which construction	8.9	-3.3	0.8	-2.8	5.1	0.2	-5.5	-22.4	-13.8	-29.6	-16.1	1.2	10.3	12.9
Exports of goods and services	11.5	5.5	3.6	4.3	15.3	2.5	0.5	4.6	0.0	1.2	2.1	5.3	5.4	4.9
Imports of goods and	12.8	3.0	8.4	3.5	14.1	1.9	0.4	-5.5	-9.0	-9.1	-1.6	0.4	2.1	3.4

services														
GDP	8.5	1.7	1.2	1.2	3.7	3.9	-0.3	-5.4	-8.9	-6.6	-3.3	0.6	2.9	3.7
In % of GDP at current prices														
National savings	26.2	27.8	21.5	20.5	19.0	14.9	8.4	4.9	5.3	9.7	9.1	8.9	10.3	11.9
Growth potential														
Labour productivity growth	9.0	0.7	0.5	0.6	2.9	2.3	-0.5	-2.8	-2.1	1.4	0.5	0.0	0.3	-0.3
Monetary conditions														
Long-term interest rate	:	13.6	:	:	9.0	4.5	5.5	9.1	15.8	22.5	10.1	:	:	
Short-term interest rate	:	:	17.8	22.1	11.7	2.8	2.8	0.8	1.4	0.6	0.2	:	:	
Real long-term interest rate [(1)]	:	-4.6	:	:	4.0	1.4	2.6	8.3	14.9	22.4	13.3	:	:	

[(1)] GDP deflator

Source: European Commission, Statistical Annex of European Economy, (Autumn 2014).

TABLE (1.16): STATE OF THE TAX LAWS IN THE YEAR 2013

1. Settings of income tax -N.4110 / 13 -GG 17 A / 23.01.13
2. Amendments to the N.4093 / 12 and other urgent provisions -N.4111 / 13 -GG 18 A / 25.01.13
3. Approval of updating -N.4127 / 13 -GG 50 A / 02.28.13
4. Tax inspection procedure -N.4141 / 13 -GG 81 A / 05.14.13
5. Development provisions for tax and other incentives -N.4146 / 13 -GG 90 A / 18.04.13
6. Urgent measures implementing N.4046 / 12-4093 / 12 and 4127/13 -N.4152 / 13 -GG 107 A / 09.05.13
7. Changes in legislation SA and EIA -N.4156 / 13 -GG 122 A / 05.31.13
8. Documentation pricing in transfer transactions -N.4170 / 13 -GG 163 A / 07.12.13

9. Income tax -N.4172 / 13 -GG 167 A / 23.07.13
10. Tax procedures and other provisions -N.4174 / 13 -GG 170 A / 26.07.13
11. The daily street markets -N.4177 / 13 -GG 173 A / 08.08.13
12. Extension of Article operation Committee 70A -N.4183 / 13 -GG 186 A / 11.09.13
13. Deferred tax provisions -N.4211 / 13 -GG 256 A / 11.28.13
14. Deferred tax provisions -N.4218 / 13 -GG 268 A / 12.10.13
15. Immovable property tax and other provisions -N.4223 / 13 -GG 287 A / 12.31.13

Source: http://www.protothema.gr/blogs/blogger/post/348431/i-uperparagogi-forologikis-nomothesias-os-paradohi-apotuhias/, (29 on March 2015).

TABLE (1.17): INDICATORS OF GLOBAL COMPETITIVENESS: CLASSIFICATION OF GREECE TIMELESS

	1998	1999	2000	2001	2002	2003	2004
Indicator of business competitiveness (for 93 countries)	38	36	33	46	43	39	39
Indicator of development competitiveness (for 93 countries)	:	:	33	36	31	33	35

Source: Ministry of Development, Special Secretariat for Competitiveness, (custody) (2005) *Expansion of International Competitiveness Indicators and Estimation of the Cost from the Lack of Competitiveness in Greek Economy*, Athens, p. 22.

TEBLE (1.18): WAGE COSTS

Real unit labour costs, total economy [(1)]
(2010 = 100)

	EL	EU-28 [(2)]	EU-15 [(3)]
1975	95.5	:	120.6
1980	98.9	:	116.6
1985	106.7	:	109.4
1990	102.3	:	105.1
1995	91.6	:	101.5
2000	93.0	101.8	99.7
2001	91.8	102.0	99.8
2002	97.5	100.9	99.5

2003	95.5	100.7	99.5
2004	94.2	99.2	98.5
2005	100.5	98.7	98.0
2006	96.1	97.8	97.4
2007	95.4	97.1	96.9
2008	96.0	98.3	98.2
2009	100.5	101.3	101.4
2010	100.0	100.0	100.0
2011	99.1	99.0	99.3
2012	95.7	99.5	100.0
2013	91.1	99.5	100.0
2014	91.0	99.6	100.1
2015	90.4	99.3	99.8
2016	91.2	98.6	99.1

(1) Ratio of compensation per employee to nominal GDP per person employed.
(2) Weighted in common currency.
(3) Weighted in common currency, Former EU-15, 1960-91 including D_W.1
Source: European Commission, Statistical annex of European Economy, (Autumn 2014).

TABLE (1.19): BALANCE ON CURRENT TRANSACTIONS WITH THE REST OF THE WORLD (NATIONAL ACCOUNTS)

(Percentage of gross domestic product at market prices)

	EL	EU-28 (1)	EU-15 (2)
1975	0.5	:	-0.1
1980	1.9	:	-1.7
1985	-3.2	:	0.2
1990	-2.9	:	-0.6
1995	-2.8	0.3	0.4
2000	-9.6	-0.7	-0.5
20011	-9.0	-0.3	-0.1
2002	-9.4	0.2	0.4
2003	-10.8	0.1	0.3
2004	-9.3	0.4	0.8

2005	-9.7	0.0	0.4
2006	-12.8	-0.3	0.2
2007	-15.8	-0.5	0.1
2008	-16.3	-1.3	-0.7
2009	-13.2	-0.1	0.1
2010	-12.0	0.0	0.3
2011	-10.5	0.2	0.5
2012	-4.3	1.0	1.2
2013	-2.7	1.4	1.6
2014	-2.8	1.4	1.6
2015	-2.5	1.5	1.7
2016	-2.2	1.5	1.7

(1) 1960-91 including D_W
(2) Former EU-15; 1960-91 including D_W
Source: European Commission, Statistical annex of European Economy, (Autumn 2014).

TABLE (1.20): SUBSIDIES, GENERAL GOVERNMENT

(Percentage of GDP at market prices (excessive deficit procedure))

	EL
1988	1.8
1989	1.3
1990	1.1
1991	0.6
1992	0.5
1993	0.5
1994	0.4
1995	0.4
1996	0.4
1997	0.1
1998	0.1
1999	0.2
2000	0.1

2001	0.1
2002	0.1
2003	0.1
2004	0.1
2005	0.1
2006	0.1
2007	0.1
2008	0.0
2009	0.1
2010	0.1
2011	0.5
2012	0.3
2013	0.3
2014	0.7
2015	0.8
2016	0.7

Source: European Commission, Statistical Annex of European Economy, (Spring 2013) & Statistical Annex of European Economy, (Autumn 2014).

TABLE (1.21): HISTORY OF GREEK DEBT & OF DEFICITS (1999-2011)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Public debt (bn. €)	118,6	141,0	151,9	159,2	168,0	183,2	195,4	224,2	239,3	263,3	299,7	329,5	355,7
% of GDP	94.9	104.4	104.7	102.6	98.3	99.8	101.2	107.5	107.2	112.9	129.7	148.3	170.6
Development (%)	3.4	4.5	4.2	3.4	5.9	4.4	2.3	5.5	3.5	−0.2	−3.1	−4.9	−7.1
Deficit (% GDP)	3.1	3.7	4.5	4.8	5.7	7.6	5.5	5.7	6.5	9.8	15.6	10.7	9.4

Source: el.wikipedia.org/wiki/Ελληνική_κρίση_χρέους_2010-σήμερα, (on 30 March 2015).

TABLE (1.22): MAXIMUM LIMITS OF EXPENDITURES PER INSTITUTION OF THE STATE BUDGET 2012-2014, WITH PROPOSED INTERVENTIONS

(In million Euros)

	Institutions	*Assessment 2012*	*Provision 2013*	*Provision 2014*
1.	*Presidency of the Republic*	*4*	*4*	*4*
	Regular Budget (RB)	4	4	4
	Public Investment Budget (PIB)			
2.	*Greek Parliament*	*164*	*151*	*144*
	RB	162	149	142
	PIB	2	2	2
3.	*Ministry of Administrative Reform and E-Governance*	*111*	*142*	*106*
	RB	71	76	50
	PIB	40	66	56
4.	*Ministry Of Interior*	*3,879*	*3,624*	*3,602*
	RB	3,354	3,477	3,406
	PIB	525	147	142
5.	*Ministry Of Foreign Affairs*	*312*	*305*	*301*
	RB	304	295	293
	PIB	8	10	8
6.	*Defense Ministry*	*3,793*	*3,412*	*2,968*
	RB	3,087	2,646	2,373
	Armament programmes (sectoral basis)	700	750	583
	PIB	6	16	12
7.	*Ministry Of Health*	*5,302*	*4,845*	*4,513*
	RB/1	5,263	4,800	4,468
	PIB	39	45	45
8.	*Ministry of Justice, Transparency and Human Rights*	*562*	*489*	*470*
	RB	553	483	464

	PIB	9	6	6
9.	*Ministry of Education, Culture and Sport*	*6,433*	*5,820*	*5,460*
	RB	5,809	5,226	4,895
	PIB	624	594	565
10.	*Finance (excluding general government spending)*	*808*	*693*	*655*
	RB	802	680	646
	PIB	6	13	9
11.	*General Government Expenditures*	*22,634*	*19,347*	*20,249*
	RB	9,465	9,345	9,627
	Interest	11,735	8,900	9,800
	Costs of loan disbursement in EFSF	565	75	60
	Forfeiture of guarantees	869	1,027	762
	PIB			
12.	*Ministry of Macedonia and Thrace*	*9*	*8*	*8*
	RB	7	6	6
	PIB	2	2	2
13.	*Ministry of Rural Development and Food*	*1,303*	*1,161*	*933*
	RB	905	721	509
	PIB	398	440	424
14.	*Ministry of Environment, Energy and Climate Change*	*339*	*443*	*430*
	RB	99	73	70
	PIB	240	370	360
15.	*Ministry of Labour, Social Security and Welfare*	*15,117*	*14,551*	*12,515*
	RB	14,654	13,971	11,975
	PIB	463	580	540

16.	*Ministry of Development, Competitiveness, Infrastructure, Transport and Networks*	*4,139*	*4,074*	*4,005*
	RB	917	792	712
	PIB	3,222	3,282	3,293
17.	*Ministry of Shipping and Aegean*	*408*	*334*	*319*
	RB	373	298	285
	PIB	35	36	34
18.	*Ministry of Public Order and Citizen Protection*	*2,003*	*1,839*	*1,755*
	RB	1,942	1,778	1,695
	PIB	61	61	60
19.	*Ministry Of Tourism*	*57*	*49*	*49*
	RB	37	29	27
	PIB	20	20	22
20.	*Decentralized Administrations*	*1,328*	*1,320*	*1,274*
	RB	178	160	154
	PIB	1,150	1,160	1,120
	TOTAL	*68,705*	*62,652*	*59,760*
	Primary Expenditures of RB	49,575	45,058	41,813
	Interest	11,735	8,900	9,800
	Costs of loan disbursement in EFSF	365	75	68
	Armament programmes (cash basis)	708	250	385
	Forfeiture of guarantees	869	2.829	763
	PIB	6,850	6,850	6,704
/1: Including and subsidy expenditures of hospitals for the repayment part of their old debts.				

Source: N.4093/2012 (GG 222 A), page 5636.

TABLE (1.23): MAXIMUM LIMITS OF EXPENDITURES PER INSTITUTION OF THE STATE BUDGET 2013-2016, WITH PROPOSED INTERVENTIONS. UPDATED MFFS

(In million Euros)

	Institutions	*Provision 2013*	*Provision 2014*	*Provision 2015**	*Provision 2016**
1.	*Presidency of the Republic*	*4*	*4*	*4*	*4*
	RB	4	4	4	4
	PIB				
2.	*Greek Parliament*	*151*	*144*	*144*	*145*
	RB	149	142	142	143
	PIB	2	2	2	2
3.	*Ministry of Administrative Reform and E-Governance*	*142*	*106*	*96*	*95*
	RB	76	50	45	44
	PIB	66	56	51	51
4.	*Ministry Of Interior*	*3,624*	*3,592*	*3,616*	*3,774*
	RB	3,477	3,450	3,474	3,632
	PIB	147	142	142	142
5.	*Ministry Of Foreign Affairs*	*305*	*301*	*298*	*283*
	RB	295	293	290	274
	PIB	10	8	8	9
6.	*Defense Ministry*	*3,412*	*2,968*	*3,020*	*2,877*
	RB	2,646	2,373	2,258	2,218
	Armament programmes (cash basis)	750	583	750	647
	PIB	16	12	12	12
7.	*Ministry Of Health*	*5,145*	*4,483*	*4,371*	*4,353*
	RB/1	5,100	4,438	4,316	4,303
	PIB	45	45	55	50
8.	*Ministry of Justice,*	*580*	*563*	*448*	*441*

	Transparency and Human Rights				
	RB	574	557	442	435
	PIB	6	6	6	6
9.	*Ministry of Education, Culture and Sport*	*5,820*	*5,450*	*5,250*	*5,039*
	RB	5,226	4,885	4,684	4,485
	PIB	594	565	566	554
10.	*Finance (except General Government Expenditures)*	*702*	*665*	*629*	*610*
	RB	689	656	620	601
	PIB	13	9	9	9
11.	*General Government Expenditures*	*16,942*	*17,322*	*17,803*	*18,091*
	RB	9,385	9,550	9,901	10,143
	Interest	6,400	6,900	7,200	7,300
	Costs of loan disbursement in EFSF	130	110	80	50
	Forfeiture of guarantees	1,027	762	622	598
	PIB				
12.	*Ministry of Macedonia and Thrace*	*8*	*8*	*7*	*7*
	RB	6	6	5	5
	PIB	2	2	2	2
13.	*Ministry of Rural Development and Food*	*1,161*	*933*	*1,115*	*1,131*
	RB	721	509	707	708
	PIB	440	424	408	423
14.	*Ministry of Environment, Energy and Climate Change*	*443*	*430*	*403*	*393*
	RB	73	70	53	53

	PIB	370	360	350	340
15.	*Ministry of Labour, Social Security and Welfare*	*14,251*	*12,515*	*12,027*	*11,777*
	RB	13,671	11,975	11,501	11,277
	PIB	580	540	526	500
16.	*Ministry of Development, Competitiveness, Infrastructure, Transport and Networks*	*4,074*	*3,995*	*3,992*	*4,019*
	RB	792	702	662	651
	PIB	3,282	3,293	3,330	3,368
17.	*Ministry of Shipping and Aegean*	*334*	*319*	*317*	*318*
	RB	298	285	283	284
	PIB	36	34	34	34
18.	*Ministry of Public Order and Citizen Protection*	*1,839*	*1,755*	*1,729*	*1,719*
	RB	1,778	1,695	1,674	1,661
	PIB	61	60	55	58
19.	*Ministry Of Tourism*	*49*	*49*	*45*	*45*
	RB	29	27	25	25
	PIB	20	22	20	20
20.	*Decentralized Administrations*	*1,320*	*1,274*	*1,271*	*1,262*
	RB	160	154	147	142
	PIB	1,160	1,120	1,125	1,120
	*TOTAL ****	*60,307*	*56,876*	*56,586*	*56,384*
	Primary expenditures of RB	45,150	41,821	41,234	41,089
	Interest	6,400	6,900	7,200	7,300
	Costs of loan disbursement in EFSF	130	110	80	50

	Armament programmes (cash basis)	750	583	750	647
	Forfeiture of guarantees	1,027	762	622	598
	PIB	*6,850*	*6,700*	*6,700*	*6,700*

* The costs of granting, hospitals to repay part of old debts is included in the Regular Budget of the Ministry of Health.

** In the Regular Budget of the Ministries of Justice, Finance and General Government Expenditures for the years 2013 and 2014 exceptional costs (retrospective) 2003-2007 judicial benefits are included, which will be paid in cash instead of special bonds which were originally planned.

*** The above expenditure ceilings are binding for the years 2013 and 2014, but in the case of achieving better primary balance in relation to the goal, since it is considered to be sustainable, we will readjust accordingly, with emphasis on the strengthening of low income layers and on the support of the economic recovery of the country. In this case, we will use a percentage at least 30% better than the expected result to make our intermediate targets for our deficit more ambitious in order to achieve earlier in our medium-term budgetary objective and to accelerate the process of de-escalation of the debt.

Source: Ministry of Finance, (2013) *Draft Law "An Update of Medium-term Framework of Fiscal Strategy 2013-2016"*, Athens, p. 10.

TABLE (1.24): EXTERNAL DEBT OF GREECE

	External debt US dollars	Per Capita US dollars	% of GDP	Date
Greece	574,920,000,000	47,636	174	31 March 2014

Source: http://en.wikipedia.org/wiki/List_of_countries_by_external_debt, (on 30 March 2015).

TABLE (2.1): COMPOSITION OF THE COMMITTEE OF THE REGIONS

List	*Members*	*List*	*Members*	*List*	*Members*
Germany	24	Belgium	12	Ireland	9
Britain	24	Hungary	12	Croatian	9
France	24	Portugal	12	Lithuania	9
Italy	24	Sweden	12	Latvia	7
Spain	21	Bulgaria	12	Slovenia	7

Poland	21	Austria	12	Estonia	7
Romania	15	Slovakia	9	Cyprus	6
Holland	12	Denmark	9	Luxembourg	6
Greece	12	Finland	9	Malta	5
Czech Republic	12				
Total					*353*

Source: el.wikipedia.org/wiki/Επιτροπή_των_Περιφερειών, (on 3 January 2015).

TABLE (2.2): BUDGET OF EUROPEAN SOCIAL FUND

	Minimum allocation		Actual allocation (Partnership agreement adopted)	
	% of Structural Funds	€ current prices	€ current prices	% of Structural Funds
Greece	28.1%	3,335,044,542	3,690,994,020	31.1%

Source: http://ec.europa.eu/esf/main.jsp?catId=443&langId=en, (on 4 January 2015).

TABLE (2.3): APPROVED OPERATIONAL PROGRAMMES (on 18 December 2014)

	Operational Programme	Total of Community Contribution	Assessment of Public Expenditure
1	Competitiveness, Entrepreneurship & Innovation	3,646,378,272.00	4,557,972,840.00
2	Transport Infrastructures, Environment & Sustainable Development	4,333,917,411.00	5,183,665,966.18
3	Human Resources Development, Education and Lifelong Learning	2,104,926,538.00	2,631,158,172.50
4	Public Sector Reform	377,228,416.00	471,535,520.00
5	Eastern Macedonia and Thrace	406,191,468.00	507,739,335.00
6	Central Macedonia	771,891,345.00	964,864,181.25
7	Thessaly	320,904,539.00	401,130,673.75
8	Epirus	260,677,513.00	325,846,891.25
9	Western Greece	392,788,583.00	490,985,728.75
10	Western Macedonia	264,590,187.00	330,737,733.75
11	Mainland Greece	95,026,211.00	190,052,422.00

12	Peloponnese	216,273,871.00	270,342,338.75
13	Ionian Islands	181,539,758.00	226,924,697.50
14	North Aegean	241,335,599.00	301,669,498.75
15	Crete	347,906,498.00	434,883,122.50
16	Attica	911,973,576.00	1,139,966,970.00
17	South Aegean	84,085,281.00	168,170,562.00
18	Technical assistance	317,612,097.00	391,994,484.93
	Total	15,275,247,163.00	18,989,641,138.86

Source: http://www.antagonistikotita.gr/greek/news.asp?id=755, (on 8 January 2015).

TABLE (2.4): ALLOCATION OF THE STRUCTURAL FUNDS AND INVESTMENT FUNDS FOR GREECE

(billion euro)

	NSRF 2007-2013	NSRF 2014-2020
European Regional Development Fund	12,2	8,3
European Social Fund	4,3	3,8
Cohesion Fund	3,7	3,3
European Agricultural Fund for Rural Development	3,7	4,2
European Maritime and Fisheries Fund	0,3	0,3
Infrastructure Fund		0,6
Territorial Cooperation	0,2	0,2
Youth Employment		0,2
Total Funds	24,3	20,8
Assessment of Public Expenditure*		23,1

* It also includes the national contribution of the State.
Source: http://www.bankofgreece.gr/BogEkdoseis/ekthdkth2013.pdf, (on 8 January 2015).

TABLE (4.1): INNOVATIVE BUSINESSES BY TYPE OF INNOVATION (2010-2012)

Innovative businesses	*52.31%*
Product innovation	19.51%
Process innovation	25.58%
Organizational innovation	30.24%
Marketing innovation	36.79%

Source: NDC & ELSTAT, (2015).

TABLE (4.2): INNOVATIVE ACTIVITIES FOR PRODUCT / PROCESS INNOVATIONS (2010-2012)

Acquisition of machinery, equipment, software & buildings	73.55%
Intra-business R&D	34.08%
Acquisition of external knowledge from other enterprises or organizations	33.75%
Outside-business R&D	16.24%
Other innovative activities	70.52%

Source: NDC & ELSTAT, (2015).

TABLE (4.3): INSTITUTIONS FOR COOPERATION FOR PRODUCT / PROCESS INNOVATIONS (2010-2012)

Cooperation with any institution	*38.19%*
Suppliers of equipment, materials, components or software	32.25%
Clients of private sector	24.60%
Consultants and private laboratories	20.86%
Universities, ATEI, or other institutions of post-secondary education	17.08%
Other companies within the group of companies	19.01%
Government, public or private research institutions	16.07%
Competitors or other enterprises in the same branch	15.33%
Customers of Public sector	10.61%

Source: NDC & ELSTAT, (2015).

TABLE (4.4): GRADE OF COVERING THE OBJECTIVES

INDICATORS	*DEGREE OF TARGET*

	ACHIEVEMENT (%)
Number of tools, methodologies, products and services developed in the project	139%
Information activities, dissemination , viewing, sensitization of public (number)	167%
Number of companies which benefited from the implementation of the program	182%
Number of research institutions which benefited from the implementation of the program	375%
Creation of new businesses (number)	120%
Percentage increase of the turnover of the particular R&T activities	100%
New full time work positions (number)	103%
Work positions created during project implementation (equivalent twelve months)	81%
New women recruits (number)	36%
Number of people trained in research management, technology, innovation and technology transfer	152%
Number of people trained on issues of priority areas of the Regional Innovation Pole	225%
Diplomas of patents	50%
SPECIFIC OBJECTIVES	
Reduce input (fertilizers, plant protection products) (A5)	111%
Reduction of environmental impacts (biodiversity increase) (A5)	300%
Reduce energy and chemical inputs	<100%
Improving food safety and beverages	150%
Use of materials (OSB, honeycomb) with less need for wood (forest destruction)	Yes
Reducing environmental impact (use of environmentally friendly materials)	100%
Preformed estimation of production (improving economy)	<100%
Reduction the use of pesticides and improvement of production (A5)	300%

Source: Petrakos, Y., (ed.) *Strategic plan for the development of innovation in Thessaly*, University editions of Thessaly, p. 564.

TABLE (4.5): REGIONAL INNOVATION POLE OF THESSALY-KEY RESULTS

1.	Creation of research infrastructure in CERETETH and University of Thessaly
2.	Specific achievements for new bio functional dietary products, safety improvement of traditional products (feta cheese, xalvas farsalon)
3.	Evaluation and selection of specific energy crops suitable for Thessaly
4.	Development and pilot application of certified procedures for growing, storing and transferring to the market vegetables and fruits in the framework of sustainable agriculture
5.	Design of an e-textile platform and an RFID design for logistics
6.	Transfer of Technology to a Cluster of companies in the area of furniture design with new materials and aimed at targeted groups with specific needs (e.g. older people)
7.	Vision reports and Strategy Research Agenda for Food, Textiles, Biofuels
8.	Dissemination of results to stakeholders with seminars in the four prefectures of Thessaly
9.	Development of a strategic plan for the future of Innovation in Thessaly

Source: IRETETH's presentation (on 18 September 2014), p. 15.

TABLE (4.6): EXPORTS, IMPORTS AND TRADE BALANCE IN THESSALY

(in euro)

Year	Imports	Exports	Trade Balance
2008	1,247,824,524	834,286,901	-413,537,623
2009	747,751,154	800,667,001	52,915,847
2010	655,739,542	917,277,730	261,538,188
2011	669,690,702	972,165,527	302,474,825
2012	580,316,817	1,087,246,559	506,929,742
2013	523,121,219	1,087,616,870	564,495,651

Source : FIT&CG, (on December 2014).

TABLE (4.7): EXPORTS, IMPORTS AND TRADE BALANCE IN MAGNESIA

(in euro)

Year	Imports	Exports	Trade Balance
2008	769,111,438	349,612,174	-419,499,264
2009	367,513,551	318,171,829	-49,341,722

2010	314,262,483	361,960,926	47,698,443
2011	312,025,698	459,031,903	147,006,205
2012	255,897,837	482,229,940	226,332,103
2013	197,410,940	473,076,990	275,666,050

Source: FIT&CG , (2015).

TABLE (4.8): TOTAL INTRAMURAL R&D EXPENDITURE BY SECTORS OF PERFORMANCE & NUTS 2 REGIONS

All sectors/Euro per inhabitant				
GEO/TIME	2003	2005	2011	2013
Greece	88,9	104,2	125,1	129
Thessalia (NUTS 2010)	35,7	39,9	56,8	:
Business enterprise sector/Euro per inhabitant				
GEO/TIME	2003	2005	2011	2013
Greece	28,5	32,3	43,7	44,9
Thessalia (NUTS 2010)	7,6	0,7	1,5	:
Government sector/Euro per inhabitant				
GEO/TIME	2003	2005	2011	2013
Greece	18	21,1	29,8	34,6
Thessalia (NUTS 2010)	2,8	3	15,6	:
Higher education sector/Euro per inhabitant				
GEO/TIME	2003	2005	2011	2013
Greece	41,5	49,5	50,3	48,3
Thessalia (NUTS 2010)	25,4	35,8	39,7	:
Private non-profit sector/Euro per inhabitant				
GEO/TIME	2003	2005	2011	2013
Greece	0,8	1,3	1,3	1,1
Thessalia (NUTS 2010)	:	:	0,1	:

Source: Eurostat, Last update 17.11.14, Extracted on 19.01.15.

TABLE (4.9): INSTITUTION FOR FUNDING OF RESEARCH PROJECTS

	2005	2010	2014
Insurance fund	4	2	:
General Secretariat of Research & Technology	17	22	43
Research Committee	66	20	19
Municipalities	4	6	4
Public bodies	4	2	2
Regions	4	:	5
Ministries	22	15	14
European Union	18	19	19
Individuals	7	3	6
Companies	28	73	76
Total	216	196	266

Source: Research Committee, University of Thessaly, (2015).

TABLE (4.10): TYPE OF RESEARCH PROGRAMME

	2005	2010	2014
Developmental	9	:	:
Educational	8	13	20
Laboratory	6	2	4
Investigative	99	105	101
Scientific research	4	10	14
Conferences-workshops	25	13	32

Source: Research Committee, University of Thessaly, (2015).

TABLE (4.11): RESEARCH PROGRAMMES- TEI OF THESSALY

	2007	2010	2014
Total	12	45	33

Source: Research Committee, TEI of Thessaly, (2015).

TABLE (4.12): BUSINESSES CATEGORY & GEOGRAPHICAL ALLOCATION

By County	
MAGNESIA-LARISA	30
KARDITSA	10
TRIKALA	12
EVIA	10
VIOTIA	19
FTHIOTIDA-FOKIDA	9
TOTAL	*90*
REGIONS	
THESSALY	52
CENTRAL	38
TOTAL	*90*
GOODS	
CAPITAL	17
INTERMEDIATE	25
CONSUMER	40
SIZE OF BUSINESSES	*EMPLOYEES*
SMALL 39	375
MEDIUM 18	572
LARGE 33	4806
TOTAL OF EMPLOYEES	*5753*

Source: FIT&CG, (2014).

TABLE (4.13): RESULTS OF A΄ SEMESTER OF 2014 COMPARED TO B΄ SEMESTER OF 2013

	CAPITAL GOODS	INTERMEDIATE GOODS	CONSUMER GOODS

More positive	39.29%	30.77%	38.89%
Similar	39.29%	26.92%	44.44%
Worse	21.43%	42.31%	16.67%

Sourse: FIT&CG, (2014).

TABLE (4.14): RESULTS OF BUSINESSES IN DIFFERENT SEMESTERS

	A' Semester 2011	B΄ Semester 2011	A΄ Semester 2012	B' Semester 2012	A' Semester 2013	B΄ Semester 2013	A' Semester 2014
More positive	19.09%	13.64%	9.90%	28.00%	31.71%	41.76%	36.67%
Similar	26.36%	32.73%	34.65%	34.00%	28.05%	36.26%	37.78%
Worse	54.55%	53.64%	55.45%	38.00%	40.24%	21.98%	25.56%

Source: FIT&CG, (2014).

TABLE (4.15): REDUCTION OF ORDERS & PRODUCTION

	A΄ Semester 2011	B΄ Semester 2011	A΄ Semester 2012	B' Semester 2012	A' Semester 2013	B΄ Semester 2013	A' Semester 2014
10% - 30%	45.45%	34.55%	42.57%	41.00%	28.05%	19.78%	32.22%
30% - 40%	9.09%	10.00%	3.96%	14.00%	10.98%	8.79%	8.89%
40% - 50%	10.00%	11.82%	5.94%	8.00%	7.32%	8.79%	3.33%
50% - 60%	2.73%	9.09%	3.96%	0.00%	2.44%	4.40%	2.22%
60% - +	0.91%	4.55%	3.96%	3.00%	6.10%	5.49%	1.11%
NO	31.82%	30.00%	38.61%	34.00%	45.12%	52.75%	52.22%

Source: FIT&CG , (2014).

TABLE (4.16): CHANGES IN LABOUR RELATIONSHIPS

	A' Semester 2011	B΄ Semester 2011	A΄ Semester 2012	B' Semester 2012	A' Semester 2013	B΄ Semester 2013	A' Semester 2014
Abolition of	6.36%	11.82%	9.90%	9.00%	4.88%	8.79%	3.33%

shift							
Abolition of overtimes	18.18%	25.45%	33.66%	22.00%	14.63%	15.38%	13.33%
Reduction of days & hours / wages	23.64%	29.09%	35.64%	34.00%	28.05%	20.88%	10.00%
Application of Availability	5.45%	4.55%	6.93%	5.00%	7.32%	1.10%	4.44%
Forced Licenses	10.00%	14.55%	9.90%	9.00%	9.76%	14.29%	7.78%
Individual contracts	:	:	:	:	19.51%	9.89%	8.89%
Redundancies	11.82%	23.64%	14.85%	14.00%	7.32%	14.29%	7.78%
NO	55.45%	45.45%	41.58%	49.00%	53.66%	60.44%	73.33%

Source: FIT&CG , (2014).

TABLE (4.17): ACTUALIZATION OF INVESTMENTS

	A΄ Semester 2011	A΄ Semester 2012	A' Semester 2013	A' Semester 2014
YES	38.00%	22.77%	47.56%	48.89%
NO	62.00%	77.23%	52.44%	51.11%

Source: FIT&CG, (2014).

TABLE (4.18): ACTUALIZATION OF EXPORTS IN THE PERIOD 2010-2014

YES	NO
70.00%	30.00%

Source: FIT&CG , (2014).

TABLE (4.19): PROPOSALS THAT ENHANCE BUSINESSES

1.	Rapid activation of interventions in order to strengthen liquidity in businesses and markets	77.78%
2.	Immediate implementation of NSRF programs	63.33%
3.	Release of redundancies	12.22%
4.	Implementing of policies in order to boost exports	56.67%

5.	Decrease in tax rates	93.33%
6.	Reduction in social security contributions	91.11%
7.	Reduction in energy cost	80.00%
8.	Rapid implementation of the privatization programme	23.33%
9.	Quick recapitalize of banks	32.22%
10.	Strong reduction of bureaucracy	73.33%
11.	Repayment of debts of the state to enterprises (VAT, subsidies, government procurement)	64.44%

Source: FIT&CG , (2014).

TABLE (4.20): PROCEDURE WITH WHICH THE COUNTRY WILL RETURN TO SPEEDS DEVELOPMENT

1.	Full implementation of the Memorandum	7.78%
2.	Powerful front-loaded development program	73.33%
3.	Introduction of cuts and reforms in the economy and in the state	81.11%
4.	Implementation with fiscal also powerful development policies.	64.44%
5.	Direct return to national currency	1.11%

Source: FIT&CG , (2014).

TABLE (4.21): GEOGRAPHICEL ALLOCATION OF ENTERPRISES

KARDITSA	22
LARISA	45
MAGNESIA	48
TRIKALA	24
THESSALY	*139*
VIOTIA	70
EVIA	21
FTHIOTIDA	36

CENTRAL GREECE	*127*
FINAL TOTAL	*266*

Source: Elaboration of Balances 2013, FIT&CG.

TABLE (4.22): PROFITABLE ENTERPRISES FROM THE TOTAL OF ENTERPRISES

	PROFITABLE ENTERPRISES IN TWO YEAR PERIOD	TOTAL OF ENTERPRISES
2008-2009	184	298
2009-2010	166	299
2010-2011	139	303
2011-2012	126	236
2012-2013	145	266

Source: Elaboration of Balances 2013, FIT&CG.

TABLE (4.23): TOTAL OBLIGATIONS OF ENTERPRISES

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Total of counties	17.39%	6.14%	-13.77%	7.71%	-0.27%	-8.81%	-4.65%

Source: Elaboration of Balances 2013, FIT&CG.

TABLE (4.24): TURNOVER / SALES OF ENTERPRISES

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Total of counties	14.76%	13.30%	-11.95%	4.69%	-99.94%	-11.62%	-2.28%

Source: Elaboration of Balances 2013, FIT&CG.

TABLE (4.25): OWN CAPITALS OF ENTERPRISES

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Total of counties	118.20%	0.60%	1.94%	-18.69%	-0.57%	-8.57%	-6.24%

Source: Elaboration of Balances 2013, FIT&CG.

TABLE (4.26): COMMERCIAL DEPARTMENT

	Records	Deletions	Total	Active
From 1/1/2005 to 31/12/2005	405	247	158	
31/12/2005				6,273
From 1/1/2010 to 31/12/2010	303	453	-150	
31/12/2010				5,761
From 1/1/2014 to 31/12/2014	226	403	-177	
31/12/2014				5,157

Source: Commercial Chamber of Magnesia, (2015).

TABLE (4.27): MANUFACTURING DEPARTMENT

	Records	Deletions	Total	Active
From 1/1/2005 to 31/12/2005	91	137	-46	
31/12/2005				2,611
From 1/1/2010 to 31/12/2010	98	129	-31	
31/12/2010				2,000
From 1/1/2014 to 31/12/2014	44	125	-81	
31/12/2014				1,748

Source: Commercial Chamber of Magnesia, (2015).

TABLE (4.28): TOURIST DEPARTMENT

	Records	Deletions	Total	Active
From 1/1/2005 to 31/12/2005	66	30	36	
31/12/2005				1,327
From 1/1/2010 to 31/12/2010	256	83	173	
31/12/2010				1,372
From 1/1/2014 to 31/12/2014	65	78	-13	
31/12/2014				1,368

Source: Commercial Chamber of Magnesia, (2015).

TABLE (4.29): SERVICES DEPARTMENT

	Records	Deletions	Total	Active
From 1/1/2005 to 31/12/2005	651	511	140	
31/12/2005				9,506
From 1/1/2010 to 31/12/2010	630	659	-29	
31/12/2010				8,812
From 1/1/2014 to 31/12/2014	458	637	-179	
31/12/2014				7,916

Source: Commercial Chamber of Magnesia, (2015).

TABLE (4.30): IRETETH/CERETETH PERSONNEL

	2007	2008	2009	2010	2011	2012	2013	2014
Personnel	69	89	190	176	154	140	174	187

Source: IRETETH's presentation, (on 18 September 2014), p. 29.

TABLE (4.31): ANNUAL BUDGET OF IRETETH/CERETETH

YEAR	2007	2010	2013
INCOME			
Regular Public Budget Funding	1,140,000.00	844,998.00	844,998.00
Public investment funds-national projects & studies	427,745.00	793,562.00	1,000,020.59
Public investment funds-structural funds	0,00	0,00	0,00
Public investment funds-other funding/ Matching Funds	0,00	339,357.17	451,684.39
Income from the EU Framework Programs	0,00	1,728,695.97	2,300,894.34
Income from R&D contracted by firms and other private legal entities	6,510.00	0,00	0,00
Income from sales of products and services, studies, test, etc to third parties	118,804.00	577,896.51	769,180.25
Income from education and training services etc	6,134.75	74,632.96	99,336.46

Income from real estate exploitation	0,00	0,00	0,00
Income from capital investments	33,689.30	39,019.63	51,935.13
Income from intellectual property exploitation	0,00	0,00	0,00
Donations	280,162.50	229,049.70	304,865.15
Other income	70,854.99	196,680.09	261,781.20
TOTAL INCOME	2,083,900.54	4,823,892.02	6,084,695.51

Source: Aravas, N. & Kittas, C. & Koutentakis, I. & Malizos, C. & Houstis, E. (2011) 'Business Plan', IRETETH/ CERETETH, p. 15.

TABLE (5.1): DISTINCTIONS OF CORALLIA

2014	(a) Acknowledgment among the most innovative initiatives in Greece in EC Press Release [Corallia: "making innovation possible in your town" | egg: "bringing the start-up mindset to Greece"]. (b) Mentioned as one of the most successful achievements of the EU Cohesion Policy in a report of the European Commission.
2013	Partnered the second generation of the European Cluster Observatory.
2012	Leads the South-East European Network of Excellence for Cluster Organisations.
2010	Best practice for the innovation cluster development in Greece by OECD.
2009	Short-listed at RegioStars 2009 Awards.
2008	(a) National best practice within the framework of the OP Competitiveness. (b) Hailed among 40 European best practices by DG Enterprise & Industry.
2007	Inauguration of the first Monothematic Innovation Center in Greece (α1-innohub) at Maroussi suburb.
2006	Initiation of the first Business Innovation Cluster in Greece (mi-Cluster).

Source: http://www.corallia.org/en/about-corallia/history.html, (on 3 June 2015).

TABLE (5.2): STAR CLUSTERS IN THESSALY

Industry	Stars	Employees
Farming and animal husbandry	★★★	19,566
Agricultural products	★★	9,497
Tobacco	★★	3,017
Construction	★	16,515

Processed food	★	9,051

Source:http://www.clusterobservatory.eu/common/galleries/downloads/Star_clusters_Greece.pdf, (on 19 May 2015).

TABLE (5.3): ECONOMIC SECTORS OF THESSALY

Crop and animal production	1,78
Oil and gas extraction	0,00
Food industry	1,11
Textile industry Leather clothing	0,76
Wood	1,04
Paper and paper products	0,92
Printing and reproduction	0,36
Petroleum refining	0,00
Chemicals	0,69
Pharmaceuticals	0,84
Rubber and plastic	0,62
Non-metallic minerals	1,80
Production of basic metals	1,71
Fabricated metal products	1,32
Manufacture of Computer, electronics and opticals	0,64
Manufacture of electrical equipment	0,53
Manufacture of machinery and equipment	0,90
Manufacture of motor-trailers	3,85
Manufacture of other transport equipment	0,39
Manufacture of furniture, Other manufacturing	1,19
Repair and installation of machinery and equipment	0,13
Supply of electricity, gas, steam	0,60
Water, sewage, waste, materials recovery	0,82
Building construction, civil engineering	1,00
Wholesale-retail trade and repair of motor	0,67

vehicles motorcycles	
Wholesale trade	0,71
Retail trade	0,96
Accommodation, food service activities	0,97
Financial Services, social Security funds	0,55
Real estate management	1,08
Lawyers, accountants, engineers, advertising, research	0,65
Rent, travel agencies	0,51
Public administration and defense, compulsory social security	1,06
Education	1,26
Medical-dental, help residents at home	0,94
Arts, entertainment, museums, culture, gambling	0,89
Relative specificity	6
High specificity	3
Very high specificity	1
TOTAL	10

Source: Petrakos, G. (21/04/2015) 'Greek economy from crisis to development', University of Thessaly, p.22.

TABLE (5.4): SALES VALUE OF METAL SECTOR, IN THE REGION OF THESSALY AND PARTICIPATION IN THE SALES VALUE OF THE SECTOR AT NATIONAL LEVEL

YEAR	REGION OF THESSALY	% ANNUAL CHANGE	GREECE	% ANNUAL CHANGE	% PARTICIPATION OF THESSALY
2008	1,397,867,761		4,815,998,144		29.03%
2009	891,481,656	-36.23%	3,168,289,863	-34.21%	28.14%
2010	689,434,203	-22.66%	2,396,635,584	-24.36%	28.77%
2011	806,694,567	17.01%	3,572,638,335	49.07%	22.58%

Source: Fragou, Y. (22/5/2015) 'The cluster of metal', Volos, p.7.

ANNEX 2

(1) Interview with A. Papadouli (on 15 January 2015):

1) Ποιο είναι το ποσοστό της μείωσης της παραγωγής για τα έτη 2005, 2010, 2014;

Η μεγαλύτερη μείωση έγινε στα κεφαλαιουχικά αγαθά και οι εξαγωγές τους είναι προβληματικές.

2) Που αντιμετωπίζονται τα μεγαλύτερα προβλήματα (μείωση τραπεζικής χρηματοδότησης, ζήτησης, φορολογικοί συντελεστές, γραφειοκρατία);

Στη ρευστότητα και καθυστερεί η επιστροφή του ΦΠΑ σε όσες επιχειρήσεις κάνουν εξαγωγές. Όσες εντάσσονται σε αναπτυξιακούς νόμους καθυστερούν να λάβουν την χρηματοδότηση του κράτους. Το κράτος χρωστάει στις επιχειρήσεις 4 δις..

3) Σε τι ποσοστό επηρεάζεται μία επιχείρηση από το ενεργειακό και το εργασιακό κόστος; Έχει επέλθει κάποια αλλαγή στις εργασιακές σχέσεις (απολύσεις, μερική απασχόληση);

Είναι ακριβό το κόστος ενέργειας (καύσιμα) διότι είναι υψηλοί οι ειδικοί φόροι κατανάλωσης. Αυτό επηρεάζει κυρίως τις ενεργοβόρες επιχειρήσεις. Θα μπορούσαν να γίνουν εξαιρέσεις στις εξαγωγικές επιχειρήσεις. Στις μεγάλες επιχειρήσεις από συλλογικές σε ατομικές συμβάσεις εργασίας.

4) Έχει δοθεί έμφαση στην παραγωγή καινοτομικών προϊόντων;

Χρειάζεται να είναι μεγάλο το μέγεθος των επιχειρήσεων ώστε να διαθέσουν το 5% του τζίρου για καινοτομία και να είναι ικανοποιητικό. Δεν υπάρχει συνεργασία μεταξύ ιδρυμάτων και επιχειρήσεων παρόλο που υπάρχουν υποδομές (εργαστήρια) στα πανεπιστήμια, διότι δεν θέλουν ιδεολογικά και οι επιχειρήσεις είναι μικρές. Οι περιπτώσεις είναι ελάχιστες.

5) Έχει υπάρξει ενδιαφέρον για συνεργασία μεταξύ επιχειρήσεων ώστε να παράγουν καινοτομικά προϊόντα;

Οι επιχειρηματικές δραστηριότητες είναι 900.000. Συγκεκριμένα στην βιομηχανία, οι περιπτώσεις που απασχολούν πάνω από 100 άτομα αντιστοιχούν στο 0,07%. Clusters δεν υπήρξαν, μόνο συνεταιρισμοί.

6) Που δίνετε περισσότερο έμφαση στην εισαγωγή μεταρρυθμίσεων στην οικονομία και το κράτος ή στην εφαρμογή αναπτυξιακών πολιτικών;

Υπάρχει ανάγκη από αύξηση των επενδύσεων. Χρειάζονται πρώτα μεταρρυθμίσεις (πχ γραφειοκρατία, πολλές αλλαγές στο φορολογικό σύστημα, μη έγκαιρη

δικαιοσύνη, πρόβλημα στις αδειοδοτήσεις λόγω έλλειψης κτηματολογίου, περιουσιολογίου). Αναπτυξιακή πολιτική σημαίνει πρώτα μεταρρυθμίσεις.

Το λιμάνι του Βόλου έχει ακριβό κόστος γιατί δεν έχει εκσυγχρονιστεί. Πρέπει να γίνει ιδιωτικοποίηση δραστηριοτήτων σε ιδιώτες (λιμάνι, αεροδρόμιο Αγχιάλου) ώστε να δοθούν κίνητρα και το κράτος θα φορολογεί τα κέρδη. Χρειάζονται αποκρατικοποιήσεις.

Ο δήμος Βόλου διαθέτει 1250 ακίνητα. Πρέπει να καλέσει επενδυτές, όχι να πουλήσει (πχ οικόπεδο-επένδυση). Έχει ταμειακό πρόβλημα, όχι οικονομικό γιατί δεν αξιοποιεί τις δυνατότητές του.

7) Θα δοθεί έμφαση στην παραγωγή καινοτομικών προϊόντων ως «μάθημα» από την κρίση ή στόχος είναι η επαναφορά στα προηγούμενα επίπεδα παραγωγής με την ίδια μορφή προϊόντων;

Οι επιχειρηματίες παραγωγής το κατάλαβαν, κυρίως όσοι βγαίνουν στο εξωτερικό (έχουν υψηλά κόστη μεταφοράς, πώλησης). Δεν αλλάζουν το μέγεθός τους αλλά συμμετέχουν σε πολυεθνικούς ομίλους όπως η ΜΕΤΚΑ στον Μυτιληναίο.

Τα προϊόντα που εξάγονται είναι είτε καινοτομικά είτε πρώτες ύλες με χαμηλή προστιθέμενη αξία. Η Μαγνησία βρίσκεται σε καλύτερο επίπεδο από τις άλλες περιοχές. Η ΜΕΤΚΑ για παράδειγμα παράγει μεγάλους ενεργειακούς σταθμούς, κελύφους υποβρυχίων. Έχει μεταπηδήσει σε άλλους τομείς, δεν έχει αλλάξει τα προϊόντα της.

8) Ποια πιστεύετε ότι θα είναι η πορεία της οικονομίας;

Είναι δύσκολη διότι οι επιχειρήσεις αξιολογούνται σύμφωνα με την οικονομία του κράτους πχ οι επιχειρήσεις που συνεργάζονται από το εξωτερικό δεν δίνουν πιστώσεις, αλλά παίρνουν προκαταβολή και με την παραγγελία ζητούν όλα τα χρήματα διότι θεωρούν τις επιχειρήσεις αναξιόπιστες.

(2) Interview with D. Mesalouri (on 20 January 2015):

1) Ο αριθμός των ερευνητικών προγραμμάτων έχει μειωθεί το 2010 και το 2014 σε σχέση με το 2005 και σε ποιο ποσοστό;

Έχουν στραφεί σε ευρωπαϊκά ανταγωνιστικά προγράμματα και όχι σε εθνικά, οπότε αυξάνεται ο τζίρος μέσα στην κρίση. Οι εθνικοί πόροι έχουν μειωθεί αλλά έχει αυξηθεί και η γραφειοκρατία που αφορά τους τελευταίους.

2) Η χρηματοδότηση των ερευνητικών προγραμμάτων προέρχεται από το Υπουργείο Παιδείας, από κονδύλια της Ευρωπαϊκής Ένωσης ή από ιδιώτες; Και σε ποιο ποσοστό τα έτη 2005, 2010, 2014;

Από εθνικούς πόρους προέρχεται άνω του 50%, τα υπόλοιπα από την Ευρωπαϊκή Ένωση και από ιδιώτες.

3) Προωθείται η συνεργασία με άλλα Πανεπιστήμια;

Συνεργάζεται και με εθνικά και ξένα ως partner και ως coordinator.

4) Πως αντιμετωπίζετε το ενδεχόμενο συνεργασίας της Επιτροπής με παραγωγικές δραστηριότητες του ιδιωτικού τομέα ώστε να παραχθούν καινοτομικά προϊόντα και κατ΄ αυτόν τον τρόπο να δοθεί μία διέξοδος στην οικονομική κρίση που βιώνει η περιοχή;

Το πρόβλημα είναι η έλλειψη εξωστρέφειας και δημοσιότητας. Οι ιδιώτες δεν γνωρίζουν τις δυνατότητες του Πανεπιστημίου (πχ εργαστήρια). Δεν έχει γίνει καταγραφή των πατεντών από μέλη ΔΕΠ.

Αν συνεργαστεί με ιδιώτες, δεν χρηματοδοτεί αλλά παρέχει τις υποδομές που έχει (εργαστήρια κλπ) και δικαιούται το 40% της εμπορικής αξιοποίησης.

Σήμερα υπάρχουν τρεις spin off εταιρείες, η μία δραστηριοποιείται με βιοκαύσιμα, η άλλη με βιολογικό τυρόγαλο και η τελευταία δραστηριοποιείται στον φαρμακευτικό τομέα.

Παλαιότερα υπήρχε χρηματοδότηση από την γενική γραμματεία έρευνας και τεχνολογίας η οποία σταμάτησε αλλά θα ξεκινήσει πάλι. Επίσης, λόγω της οικονομικής κρίσης οι επιχειρηματίες φοβούνται να ρισκάρουν.

(3) Interview with E. Housti (on 10 February 2015):

1) Το ΙΕΤΕΘ σε τι ποσοστό ενίσχυσε ήδη υπάρχουσες επιχειρήσεις και σε τι ποσοστό υποστήριξη την δημιουργία καινούριων;

Ο Περιφερειακός Πόλος Καινοτομίας Θεσσαλίας στον οποίο συμμετείχε είχε στόχο την έρευνα και την επιχειρηματικότητα. Συμμετείχαν 90 επιχειρήσεις που χρηματοδότησαν το 30% και το 70% προήλθε από την Ευρωπαϊκή Ένωση.

2) Η περιφέρεια Θεσσαλίας υπήρξε αρωγός σε αυτήν την προσπάθεια μέσω της παροχής επιχειρηματικών κινήτρων;

Στον ΠΠΚΘ συμμετείχε, έκανε την πρόταση για την δημιουργία του. Υποστηρίζει προγράμματα πχ το ΤΟΨΑ στο οποίο δίνεται ένα επιχειρηματικό μοντέλο για να ακολουθηθεί, αφορά άτομα σε ευπαθείς ομάδες (όχι καινοτομία).

3) Ποιος από τους τέσσερις ερευνητικούς τομείς του ΙΕΤΕΘ ανταποκρίνεται περισσότερο στην παραγωγική δομή της Θεσσαλίας και Μαγνησίας και ποιος λειτουργεί περισσότερο συμπληρωματικά στην ερευνητική δραστηριότητα του Πανεπιστημίου Θεσσαλίας και του ΤΕΙ Θεσσαλίας;

Όλοι λειτουργούν συμπληρωματικά με το Πανεπιστήμιο Θεσσαλίας. Τα ινστιτούτα Μηχανοτρονικής και Αγροτεχνολογίας συνδέονται και με την επιχειρηματικότητα ενώ το Βιοϊατρικής έρχεται σε επαφή και με οργανισμούς που παρέχουν τέτοιες υπηρεσίες πχ νοσοκομεία.

4) Στόχος είναι περισσότερο η παραγωγή ερευνητικού έργου ή η παραγωγή καινοτομικών προϊόντων σε συνεργασία με επιχειρήσεις;

Ασχολείται με την εφαρμοσμένη έρευνα της οποίας στόχος είναι τα καινοτόμα προϊόντα. Όμως από τα προγράμματα δεν είναι αρκετή η χρηματοδότηση και οι ιδιώτες δεν επενδύουν σε καινούριες ιδέες.

5) Που εντοπίστηκε το μεγαλύτερο πρόβλημα στην διασύνδεση του παραγωγικού χώρου με τον ερευνητικό ιστό;

Δεν αλλάζουν την παραγωγική τους διαδικασία ο ΠΠΚΘ πχ συνεισέφερε κυρίως στην χρήση καινοτόμων τεχνολογιών πχ πληροφορικής και με αυτόν τον τρόπο μειώθηκε το κόστος παραγωγής όχι όμως στην παραγωγή καινοτομικών προϊόντων.

6) Θα δοθεί έμφαση από τους επιχειρηματίες στην παραγωγή καινοτομικών προϊόντων ως «μάθημα» από την κρίση ή στόχος είναι η επαναφορά στα προηγούμενα επίπεδα παραγωγής με την ίδια μορφή προϊόντων;

ΚΡΗΠΙΣ: Ευφυής Πόλος Εξειδίκευσης και Ανάπτυξης της Θεσσαλίας. Έχει στόχο την ίδρυση τριών clusters, (α) στον επιχειρηματικό χώρο του μετάλλου, (β) στον επιχειρηματικό χώρο της αγροδιατροφής, (γ) στον τομέα της υγείας και της ποιότητας ζωής. Αρχικά χρειάζεται να λάβουν υποστήριξη από το κράτος και στη συνέχεια να συμβάλλουν από κοινού για την παραγωγή καινοτόμου προϊόντος.

7) Θα μπορούσε να αποτελέσει λύση για την οικονομική κρίση που βιώνει η περιοχή η στενή συνεργασία του ερευνητικού ιστού με τον παραγωγικό χώρο ή το κόστος της έρευνας είναι ανατρεπτικό για τους επιχειρηματίες;

Ήταν στόχος και για αυτό είχαν δημιουργηθεί πέντε πόλοι καινοτομίας. Όμως δεν ευνοεί η κουλτούρα, η οικονομική ευχέρεια σε όλη την χώρα και οι επιχειρήσεις δεν κάνουν το απαραίτητο οικονομικό άνοιγμα. Επίσης οι πολιτικοί λόγοι συμβάλλουν καθώς δεν υπάρχει συνέχεια των πολιτικών. Δύο παραδείγματα έχουν πετύχει όμως σήμερα εργαλείο είναι τα clusters, τα οποία λαμβάνουν και κρατική χρηματοδότηση και έχουν πετύχει στην Ευρωπαϊκή Ένωση. Σήμερα η ΕΕ δίνει κίνητρα σε μικρομεσαίες επιχειρήσεις μέσω του Research foe SMEs.

8) Ποιες ήταν οι επιπτώσεις της οικονομικής κρίσης στο ΙΕΤΕΘ;

Επιδοτείται από το κράτος και λαμβάνει χρηματοδότηση από την δραστηριότητα των μελών του. Οι επιχορηγήσεις από το κράτος είναι αυτές που κυρίως έχουν μειωθεί.

(4) Interview with Th. Thomaidi (on 16 February 2015):

1) Το ΤΕΠΑΘΕ σε τι ποσοστό ενίσχυσε ήδη υπάρχουσες επιχειρήσεις & σε τι ποσοστό υποστήριξε την δημιουργία καινούριων;

Κατά την μεγαλύτερη πλειοψηφία οι επιχειρήσεις που φιλοξενούσε και υποστήριζε η ΤΕΠΑΘ ΑΕ ήταν νέες και για το λόγο αυτό λειτουργούσε περισσότερο ως θερμοκοιτίδα επιχειρήσεων. 3-4 μόνο ήταν προϋπάρχουσες (όχι επειδή απλώς είχαν ΑΦΜ αλλά επειδή λειτουργούσαν και πρίν την ένταξή τους στην ΤΕΠΑΘ, όπως η ΚΟΜΕΛ ΑΕ, FTS ΑΕ, ΓΙΑΝΝΙΚΟΣ ΑΕ).

2) Στο διάστημα της λειτουργίας του έχουν παραχθεί καινοτομικά προϊόντα υψηλής τεχνολογίας; Ποια είναι αυτά & ποιες επιχειρήσεις τα παρήγαγαν σε συνεργασία με το ΤΕΠΑΘΕ;

Οι εγκατεστημένες εταιρείες παρήγαγαν μια σειρά καινοτόμων προϊόντων και παρείχαν καινοτόμες για τα δεδομένα της εποχής υπηρεσίες, όπως:

1. Η Ελληνική Υπέρυθρη Ακτινοθερμική Τεχνολογία - ΕΥΑΤ, Ανδρέας Καραγιάννης, κατασκεύασε μια σειρά φούρνων Υπέρυθρης ακτινοβολίας
2. Η FASMETRICS ΑΕ παρείχε μια σειρά καινοτόμων υπηρεσιών σε εταιρείες κινητής τηλεφωνίας και τηλεπικοινωνιών (www.fasmetrics.com)
3. Η Future Technology Systems ΑΕ παρείχε τεχνολογίες υψηλής προστηθέμενης αξίας στοπ χώρο του Βιομηχανικού Σχεδιασμού, της ταχείας πρωτοτυποποίησης και της αντίστροφης σχεδίασης (www.fts.gr)

4. Η Komel ΑΕ παρείχε συστήματα και υπηρεσίες στον χώρο των βιομηχανιθκών αυτοματισμών

5. Pixel Selective Plating εξήγαγε στην Κίνα καινοτόμα προϊόντα (ειδικά εξαρτήματα) κινητής τηλεφωνίας

6. Tectrans Hellas A.E. παρείχε προηγμένες υπηρεσίες μεταφοράς τεχνολογίας από την Γερμανία στην Ελλάδα και την Κίνα κα.

4) Που εντοπίστηκε το μεγαλύτερο πρόβλημα στην διασύνδεση του παραγωγικού χώρου με τον ερευνητικό ιστό;

Σημαντικό πρόβλημα είναι ότι τα αποτελέσματα των ερευνών καθηγητών από τα εργαστήρια του Πανεπιστημίου δημοσιοποιούνται με αποτέλεσμα να έχουν πρόσβαση σε αυτά επιχειρήσεις μεγάλου μεγέθους από το εξωτερικό και οι εγχώριες που έχουν μικρότερο μέγεθος να μην τολμούν να ρισκάρουν να επενδύσουν, διότι το ερευνητικό αποτέλεσμα μπορεί να χρησιμοποιείται ήδη από άλλες επιχειρήσεις μεγαλύτερου μεγέθους από το εξωτερικό.

5) Ποιες ήταν οι επιπτώσεις της οικονομικής κρίσης στο ΤΕΠΑΘΕ;

Η εταιρεία φιλοξενούσε νεοσύστατες επιχειρήσεις του κατασκευαστικού κυρίως χώρου, λόγο της ιδιαίτερα μεγάλης πτώσης του τζίρου όλων των κατασκευαστικών κλάδων, οι επιχειρήσεις αυτές δεν μπόρεσαν να ανταπεξέλθουν στις απότομες αυτές αλλαγές, με αποτέλεσμα να μην μπορούν να εκπληρώσουν τις υποχρεώσεις τους απέναντι στην ΤΕΠΑΘ.

6) Υπάρχει περίπτωση να επαναλειτουργήσει στο άμεσο μέλλον;

Μόνο κάτω από αυστηρό θεσμικό πλαίσιο και σε συνεργασία με μεγάλες επιχειρήσεις ανάπτυξης τεχνολογικών προϊόντων.

(5) Interview with Kolovo (on 31 March 2015):

(1) Το Κέντρο Επιχειρηματικής και Τεχνολογικής Ανάπτυξης υποστήριξε περισσότερο ήδη υπάρχουσες επιχειρήσεις ή νέες;

Οι περισσότερες ήταν νέες. Ήταν μικρές και η υποστήριξη αφορούσε την αξιοποίηση πόρων.

(2) Στο διάστημα της λειτουργίας του έχει υποστηρίξει επιχειρήσεις που παρήγαγαν καινοτομικά προϊόντα υψηλής τεχνολογίας; Ποια είναι αυτά και ποιες επιχειρήσεις τα παρήγαγαν;

Ήταν πολύ λίγες. Αφορούσαν τον χώρο των τροφίμων (υπήρξαν νεοτερίστικες ιδέες), των κατασκευών και την εξέλιξη παλιών προϊόντων.

(3) Είναι εφικτή η καθιέρωση μίας ενιαίας πολιτικής για την επιχειρηματικότητα στην Θεσσαλία;

Πρέπει να υπάρξει συμφωνία αδύναμων και δυνατών σημείων στην περιοχή (πχ αγροδιατροφή). Τα επιμελητήρια, το ΠΘ, ο ΣΒΘ&ΚΕ, η περιφέρεια, οι δήμοι δεν συζητάνε. Λείπουν πρωτοβουλίες για σχεδιασμό. Δεν υπάρχει οργάνωση, μηχανισμός.

Το ΚΕΤΑ εξυπηρετούσε ανάγκες νέων επιχειρήσεων και συνέλλεγε πρωτογενή στοιχεία από φορείς. Ήταν εργαλείο αναπτυξιακό όχι φορέας αναπτυξιακής πολιτικής.

(4) Που εντοπίστηκε το μεγαλύτερο πρόβλημα στην διασύνδεση του παραγωγικού χώρου με τον ερευνητικό ιστό;

Δεν εξυπηρετεί το ΠΘ τις τοπικές ανάγκες. Εξυπηρετεί προγράμματα μόνο πχ Περιφερειακός Πόλος Καινοτομίας. Επίσης το ΠΘ δεν έχει πρωτογενώς πληροφορίες για τις ανάγκες της περιοχής, ότι έκανε δηλαδή το ΚΕΤΑ (πχ να αξιολογεί τα οικονομικά των επιχειρήσεων (πχ δάνεια)).

(5) Θεωρείτε ότι θα δοθεί έμφαση από τους επιχειρηματίες στην παραγωγή καινοτομικών προϊόντων ως «μάθημα» από την κρίση ή στόχος είναι η επαναφορά στα προηγούμενα επίπεδα παραγωγής με την ίδια μορφή προϊόντων;

Δεν τους ευνοεί το περιβάλλον. Δεν το γνωρίζουν (πχ γραφειοκρατία, θέματα που αφορούν τις τράπεζες). Τυποποιημένη, πιστοποιημένη πληροφόρηση δεν υπάρχει. Υπάρχει πρόγραμμα κατάρτισης επιχειρησιακού σχεδιασμού, όχι όμως δομημένο επιχειρηματικό περιβάλλον. Δεν υπάρχει ένα συντονιστικό όργανο (οργανισμός με νομοθετική έγκριση) που να αναλάβει την ετήσια εργασία και έκθεση για την επιχειρηματικότητα με λεπτομερή στοιχεία. Θα μπορούσε να το αναλάβει η περιφέρεια ή το Πανεπιστήμιο.

(6) Θα μπορούσε να αποτελέσει λύση για την οικονομική κρίση που βιώνει η περιοχή η στενή συνεργασία του ερευνητικού ιστού με τον παραγωγικό χώρο ή το κόστος της έρευνας είναι ανατρεπτικό για τους επιχειρηματίες;

Δεν υπάρχει εξωστρέφεια για συνεργασία από το Πανεπιστήμιο Θεσσαλίας. Επίσης, δεν υπάρχει πρόσβαση στην χρηματοδότηση και στην πληροφόρηση λόγω κρίσης. Η έλλειψη πρωτοβουλιών από φορείς επιδεινώνει την κρίση.

(7) Ποιες ήταν οι επιπτώσεις της οικονομικής κρίσης στο ΚΕΤΑ;

Έκλεισε το 2010 διότι είχε ενταχθεί στο προηγούμενο ΕΣΠΑ. Στη συνέχεια δεν υπήρξαν πόροι και σχεδιασμός. Ήταν ατελές από την αρχή, διότι ήταν εργαλείο και όχι μηχανισμός. Δεν ήταν φορέας αναπτυξιακής πολιτικής και οι υπόλοιποι φορείς δεν ήθελαν μία δομή που να ασκεί πολιτική.

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