



HELLENIC REPUBLIC
MINISTRY OF LABOUR, SOCIAL SECURITY
AND WELFARE



UNDER THE SUPERVISION OF THE MINISTRY OF LABOUR,
SOCIAL SECURITY
AND WELFARE

DEPUTY MINISTER'S OFFICE

LABOUR MARKET DIAGNOSIS

EXECUTIVE SUMMARY OF THE DIAGNOSIS MECHANISM RESULTS

Accompanying texts:

1. OCCUPATIONAL TRENDS
2. SECTORAL TRENDS AND PRODUCTIVITY
3. OCCUPATIONAL TRENDS BY ECONOMIC SECTOR
4. OCCUPATIONAL TRENDS BY EDUCATIONAL LEVEL
5. EMPLOYMENT TRENDS: FLOWS OF PRIVATE LAW SALARIED EMPLOYMENT OF THE 'ERGANI' SYSTEM
6. EMPLOYMENT TRENDS AT REGIONAL LEVEL
7. ENTREPRENEURSHIP AND EMPLOYMENT: PILOT APPLICATION IN THE REGION OF THESSALY
8. PROFILE OF THE REGISTERED UNEMPLOYED AND JOB VACANCIES IN THE PUBLIC EMPLOYMENT SERVICE
9. 2015-2016 NILHR ANNUAL REPORT: WORK AND EMPLOYMENT IN HELLAS

DECEMBER 2016



European Union
European Social Fund

Business Program
Development of Human Resources,
Education and Lifelong Learning

Co-financed by Hellas and the European Union



AUTHORS OF EXECUTIVE SUMMARY AND ACCOMPANYING TEXTS

Kaminioti Olympia

Gavroglou Stavros

Baskozou Konstantina

Kotsios Vaios

Mavroulakis Andreas

Translation from Greek

Chaikalis-Petritsis Evangelos

CONTENTS

1. INTRODUCTION	2
2. METHODOLOGICAL APPROACH	3
3. THE LABOUR MARKET IN HELLAS: MAIN FEATURES AND DEVELOPMENTS.....	6
4. OCCUPATIONAL TRENDS	10
5. SECTORAL TRENDS.....	11
6. OCCUPATIONAL TRENDS BY ECONOMIC SECTOR	12
7. QUALIFICATION AND OCCUPATIONAL TRENDS BY EDUCATIONAL LEVEL.....	12
8. SALARIED EMPLOYMENT FLOWS	14
9. ENTREPRENEURSHIP.....	14
10. REGISTERED UNEMPLOYMENT	16
11. REGIONAL TRENDS	18
12. COMPARISON OF THE DIAGNOSIS MECHANISM RESULTS: JULY 2016 - DECEMBER 2016 18	
13. CONCLUSIONS	23
REFERENCES	24

1. INTRODUCTION

The present report summarizes the results of the Labour Market Diagnosis Mechanism for the second semester of 2016. The Diagnosis Mechanism has been established by the Ministry of Labour, Social Security and Welfare, follows a specific Action Plan (Ministry of Labour-NILHR, 2016¹), approved by the European Commission, and involves an extensive and continuously expanding network of bodies that not only provide the Mechanism with inflows but also harness its outflows.

The National Institute of Labour and Human Resources (NILHR) conducts the scientific work of the Diagnosis Mechanism. It cooperates with the Ministry of Labour, the Ministry of Education, the Regions, the social partners, the Public Employment Service (PES), the Hellenic Statistical Authority (HSA), the Ergani System and other bodies under the Diagnosis Mechanism for collecting and analysing the necessary data, as well as for putting forth policy proposals that aim at boosting employment, combatting unemployment and developing entrepreneurship and human resources. The main objective of the Diagnosis Mechanism is to provide reliable and systematic information about labour market statistics. This information is addressed to both the citizen and the state and may help in designing effective policies. The present executive summary and the accompanying texts of the Diagnosis Mechanism are issued for the fourth time since the establishment and operation of the Mechanism, as part of the Mechanism's biannual report.

The continuous development of the Diagnosis Mechanism has led to an expansion of the deliverables produced and to a deepening of specific issues. The expansion involves more detailed codifications and specialized analyses, as well as use of diverse data sources, such that there is a growing body of analyses that cannot be fully integrated into one single report. The present report summarizes the analyses carried out in the second semester of 2016 and the interested reader is referred for more detailed information to the documents that accompany each deliverable (accompanying texts).

The creation and development of the Diagnosis Mechanism is the result of collective effort and, given the belief that this collective spirit is the only guarantee to ensure the Mechanism's sustainability and further development, we would like to thank all those who are part of this collective effort. Initially, we address special thanks to the Ministry of Labour for the multifaceted support and supervision of the project, and to the NILHR management and staff for their effective support and contribution in various areas of the project. We would also like to note the contribution of the European Commission in designing and financing the project. We extend further thanks to Cedefop, the cooperation with which aims at making the most of the know-how that this European body has to offer in terms of investigating the shortage of skills and occupations and, more generally, in terms of vocational education and training.

¹ The Action Plan was approved in May 2015 and revised in January 2016.

We would also like to thank the Scientific Committee set up by the Ministry of Labour and composed of scientists specialized in the work of the Diagnosis Mechanism for comments and observations on previous deliverables. The participation of other bodies with which we have developed a constructive cooperation should also be highlighted. Included in these bodies are the Ministry of Education and its supervised branches, the Ministry of Finance, the PES, the social partners and the Regions. The collaboration with these bodies is continuous and covers not only governance issues but also methodological issues and specialized analyses.

Particular reference should be made to the three bodies that provide the Diagnosis Mechanism with data input, namely the HSA, the Ergani System and the PES. These bodies provide systematic data that are utilized by the Diagnosis Mechanism and without them the Mechanism's operation would have been impossible. Finally, we would like to thank the people and organizations that regularly interact with us: in doing so, they ask for information about the Mechanism and look for potential connections with other projects or activities while stressing the need for making the most of the resulting analyses. These interactions have contributed to the Mechanism's continuous improvement and specialization.

2. METHODOLOGICAL APPROACH²

The main objective of the Diagnosis Mechanism is, on the one hand, to produce reliable and useable results at regular intervals regarding the trends of economic sectors, occupations and qualifications. On the other hand, it aims at identifying any mismatches in these parameters at national and regional level. A complementary objective of the Mechanism is to identify development prospects and to pinpoint the necessary conditions for those prospects to be harnessed for the benefit of entrepreneurship and employment. This way, unemployment may be curbed, especially among those groups of people that are most seriously affected by it.

The creation of a mechanism that serves these objectives is not an easy task for many reasons. Some of these reasons we explain below on the basis of difficulties we have encountered while designing the methodology and performing the analyses. For one thing, the wider socioeconomic environment is currently characterized by a great amount of ambiguity at both national and supranational level. This ambiguity makes it hard to perform even general predictions regarding, for example, the overall economic growth rate, not to mention that even international organizations have had to frequently adjust their own predictions about the economy.

One way of addressing this problem is to adopt scenarios that specify the range of socioeconomic variations based on predefined criteria. For instance, examining these variations by only focusing on the recent past can be a way to

² More detailed information on the Diagnosis Mechanism methodological approach can be found in NILHR (2015c).

‘safely estimate’ short- term developments, provided that the economy and the labour market are not affected by some unforeseeable factor. Further issues that arise in this approach include the timeframe one uses to identify variations in the past so as to make predictions for the upcoming developments. Generally speaking, the use of larger timeframes is preferable. However, due to the wide restructuring that has occurred due to the crisis, we feel it is safer to make short-term predictions on the basis of variations that have taken place in the most recent past.

Furthermore, determining the trends of occupations, economic sectors and qualifications is a difficult task even in periods with a lesser degree of restructuring, the reason being that employment rates are not determined by one sole factor. On the contrary, the employment and unemployment rates are the result of the interaction of various parameters that affect these rates in both quantitative and qualitative terms. Consequently, the precise measurement of the trends mentioned in the beginning of the paragraph requires consideration of as many parameters as possible.

In the early stages of the development of the Diagnosis Mechanism we adopted the simplest approach to this issue, namely the measurement of the trends of occupations and sectors on the basis of changes in employment figures. This approach was based on changes in the number of employees, calculated using the HSA Labour Force Survey (LFS) data, as well as the inflows of the Ministry of Labour’s Ergani System regarding salaried employment. In the current stage of development of the Diagnosis Mechanism we have adopted a broader definition of the occupational trends that takes into account several labour market statistics, such as employment and unemployment rates, wages, educational level and age structure of occupations, as well as qualitative characteristics of employment. The approach adopted at present informs the analysis at national level and it will be adopted for regional analyses in the future.

In the June³ and December⁴ 2015 deliverables, the occupational trends were determined on the basis of an index that takes into account the absolute and relative change in employment by occupation (Eurostat-OECD index)⁵. In the June 2016 deliverable we created a more complex index of occupational trends which, on top of the Eurostat-OECD index, included figures of change in unemployment rates, educational level, age structure and wages by occupation. The present deliverable makes use of a more evolved composite index that calculates the occupational trends by also taking into account qualitative aspects of employment (part-time employment, precarious employment, shift work, salaried employment and unpaid overtime work).

Moreover, changes in employment are calculated in terms of full-time employment while the composite index of occupational trends is formed once

³ NILHR (2015a) and NILHR (2015b).

⁴ NILHR (2015d).

⁵ This index has been jointly developed by Eurostat and OECD. For more information go to “Eurostat-OECD Manual on Business Demography Statistics”, (2008), European Communities/OECD, p. 61.

the separate indicators have been weighted. More detailed information on this subject can be found in the relevant deliverable (NILHR, 2016a). In creating this composite index we aim at a more accurate estimation of the occupational trends. A further advantage of this particular index lies in the ability to incorporate various parameters while allowing for calculating figures and classifying occupations based on various criteria, depending on the requirements of specific users. For this reason this composite index is provided in the form of an interactive database, which the interested user can adapt to their own specific requirements.

Regardless of the specifics, there are three basic principles that inform the methodological choices of the Diagnosis Mechanism: the holistic approach, the gradual development and adaptation of the Diagnosis Mechanism to the needs of the Hellenic economy and, finally, the promotion of collaboration with various institutions. When it comes to the holistic approach, this requires the use of diverse data sources and different methods of analysis. So far, the Diagnosis Mechanism uses data from the HSA, the Ergani System and the PES while it also collects qualitative and quantitative data through primary field research conducted by the social partners, the regions and the NILHR. Additionally, the Diagnosis Mechanism uses on trial basis information provided by the Chambers of Commerce with regard to entrepreneurship. The HSA Labour Force Survey data is currently our main source of information for various reasons that have to do with reliability and comparability among other things. Other complementary data sources are utilized to achieve specific objectives.

Furthermore, we hope that the gradual development of the Diagnosis Mechanism lays the foundation for creating a system that is a far more accurate reflection of the needs and particularities not only of the Hellenic labour market but also of the Hellenic State. We could have adopted, of course, a method of analysis that has already been applied in other countries. Nevertheless, even the most mature and effective labour market diagnosis mechanisms are not easy to reproduce in different environments, the reason being that different environments not only have varying input and output requirements but also comprise several varying parameters that affect the operation of the whole system. It goes without saying that the Diagnosis Mechanism utilizes existing expertise developed in other countries but it does so in a way that takes into account the framework within which the Mechanism operates. Finally, we consider the third principle regarding the collaboration with various institutions, such as social partners, regions and other stakeholders, to be essential for the Mechanism's effective operation and development.

3. THE LABOUR MARKET IN HELLAS: MAIN FEATURES AND DEVELOPMENTS

In this section we present an overview of the socio-economic context against which the specific analyses of the Diagnosis Mechanism should be considered in the rest of the report. The following six graphs depict some important aspects of the labour market in the EU-28 and in Hellas. More detailed analyses on these issues are presented in the NILHR annual reports regarding 'Work and Employment in Hellas'⁶. In summary we note the following:

Graph 1: Annual Change in GDP. Until 2007 Hellas is characterized by GDP growth that is higher than the European average. 2009 is the only year that GDP declines in both Hellas and the EU-28. In the following years, GDP in Hellas drops significantly with a noticeable de-escalation of the economic crisis in the last couple of years.

Graph 2: PPS per capita. Up until the crisis, per capita income in Hellas used to follow a parallel course to that of the European average, albeit at a lower rate. From 2009 onwards, however, there is a vast purchasing power gap between the Hellenic and the European population that is constantly expanding.

Graph 3: Total unemployment rate. Up to 2009 the total unemployment rates in Hellas and the EU-28 were similar. Since then, the Hellenic rate has soared and is thus much higher than the European average.

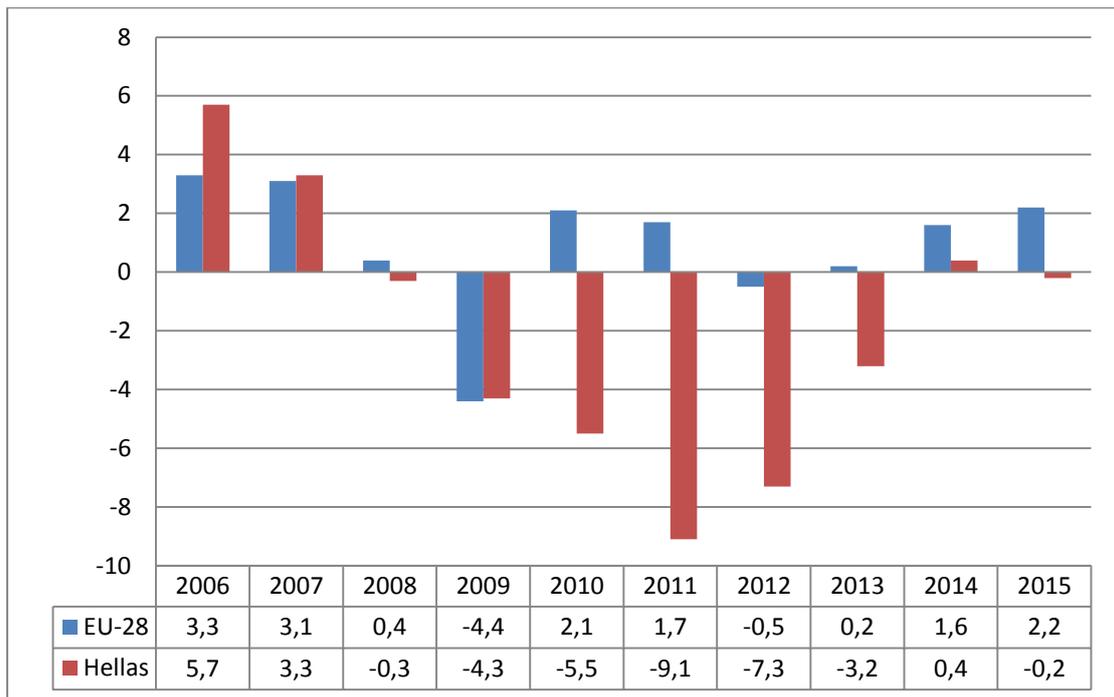
Graph 4: Percentage of population at risk of poverty or social exclusion. The pre-existing gap between the Hellenic and the European average has widened dramatically during the economic crisis.

Graph 5: NEETs aged 15-34. Up until 2009 the rates in Hellas and the EU-28 were similar and moved together. Since then, the Hellenic rate has risen significantly, thus creating a large deviation from the European average. This deviation has decreased in the last couple of years.

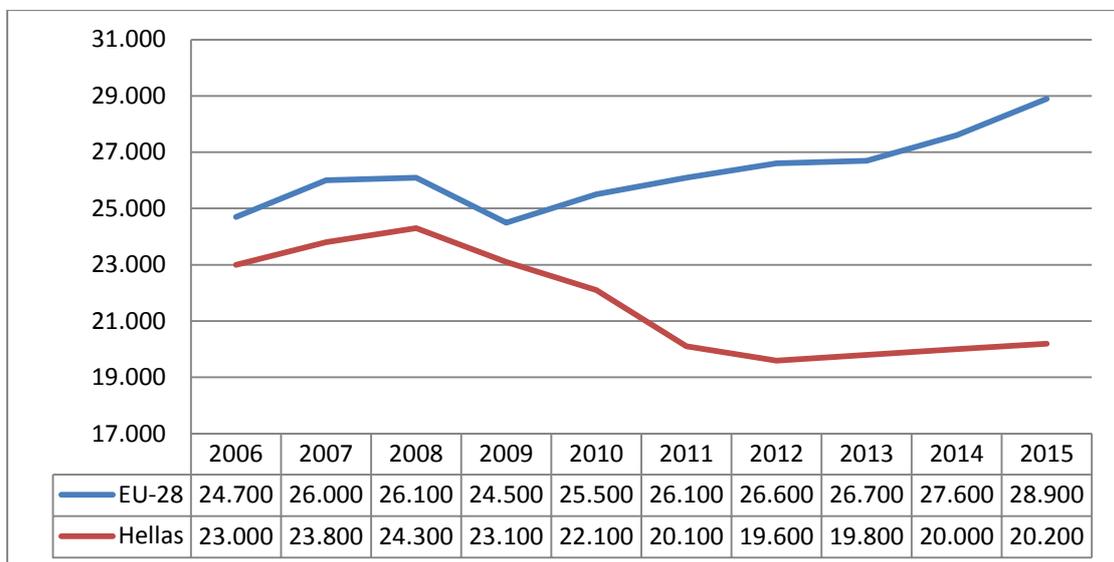
Graph 6: Participation in education or training. Although the index shown assesses participation in education or training only quantitatively and not qualitatively, the large gap between Hellas and the EU-28 is evident. Therefore, the systematically lower participation of the Hellenic population in education or training is maintained.

⁶ The NILHR annual reports are published on the NILHR website (www.eiead.gr).

Graph 1: Annual change in GDP, EU-28, Hellas, 2006-2015

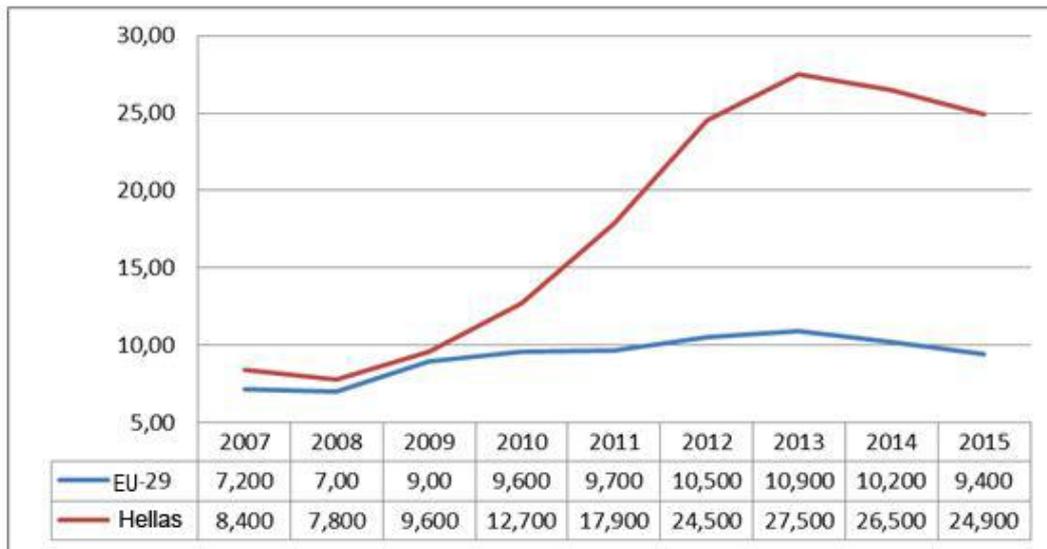


Graph 2: Per capita PPS, EU-28, Hellas, 2006-2015



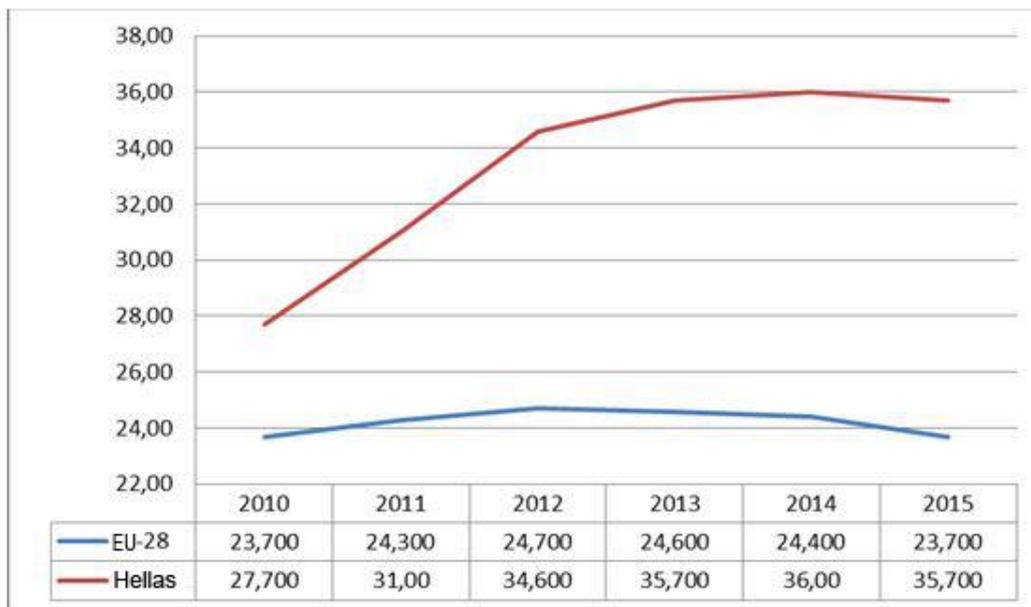
Source: Eurostat

Graph 3: Unemployment rate, EU-29, Hellas



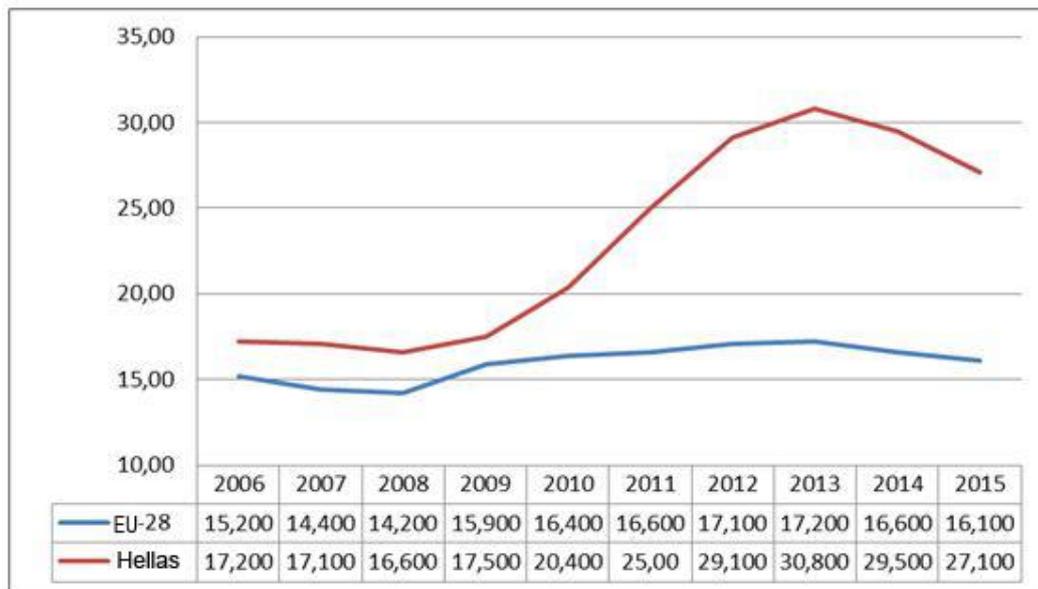
Source: Eurostat

Graph 4: Percentage of population at risk of poverty or social exclusion



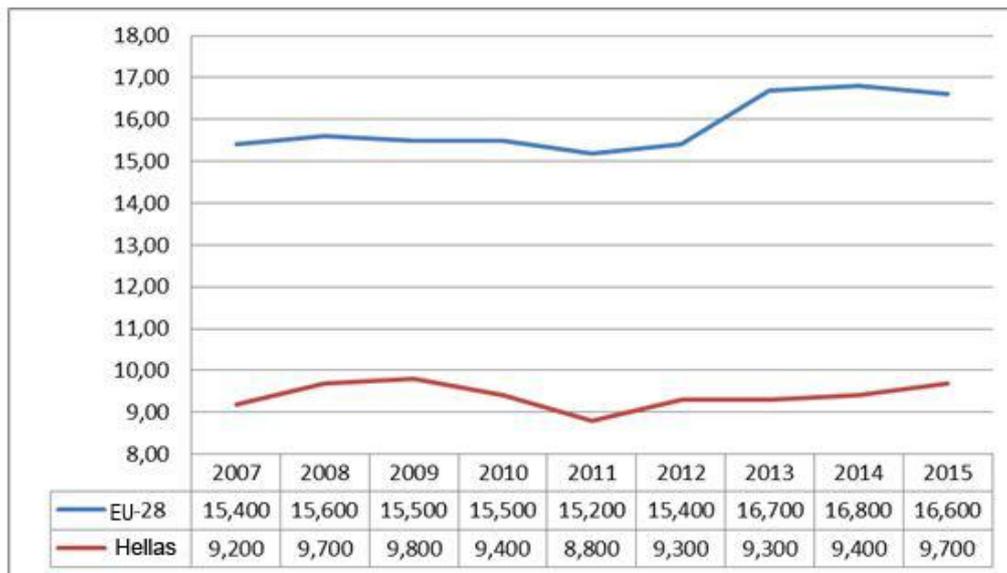
Source: Eurostat

Graph 5: NEETs aged 15-34, EE-28, Hellas, 2006-2015



Source: Eurostat

Graph 6: Participation in education or training (within the last 4 weeks), aged 18-64, EE-28, Hellas, 2007-2015



Source: Eurostat

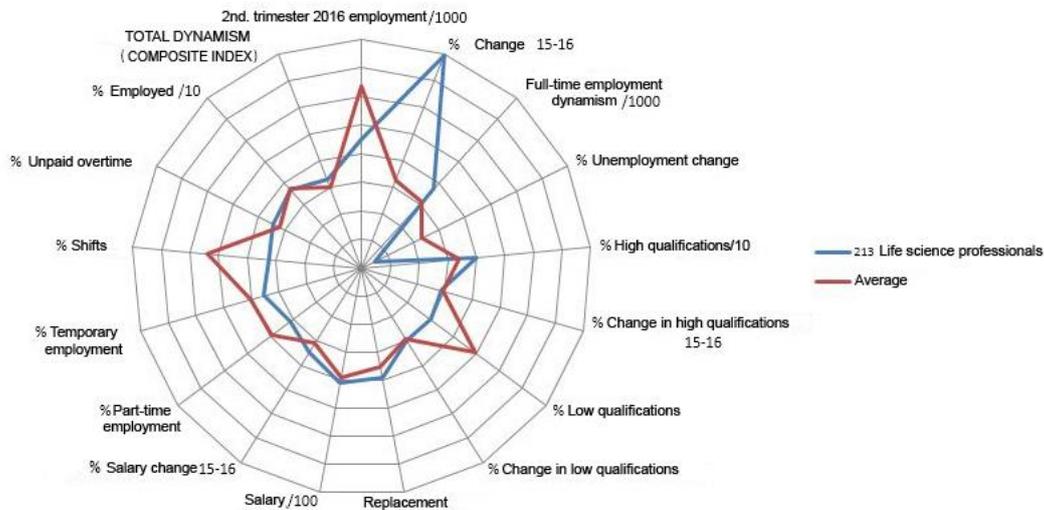
4. OCCUPATIONAL TRENDS

The occupational trends are presented in detail in the Deliverable: “Occupational trends: Diagnosis Mechanism results, December 2016” (NILHR, 2016a). The said deliverable focuses on the occupational trends as they emerge from the HSA Labour Force Survey and makes use of separate indicators as well as of a composite index of occupational trends. The results are presented in an interactive database on the NILHR website so as to enable the interested user to adapt the information to their own specific requirements. The methodology behind calculating the separate indicators and the composite index is detailed in the deliverable just mentioned. For each of the 108 occupational groups (three-digit ISCO-08 classification level) the interested user may obtain information on the composite index and the separate indicators that focus on a single parameter. The information for each occupation is graphically reported and compared with the average for all occupations.

The dynamic occupations include vendors, IT operations technicians, waiters, crop and animal producers and life science professionals. The declining occupations include street vendors, software developers and analysts, artists, hairdressers and nursing associate professionals.

Indicatively, a graphic representation for life science professionals is shown below. In line with the interactive database, life science professionals, which is a three-digit occupational group (213) composed of biologists, botanists, zoologists, environment professionals and agricultural, forestry and fishery consultants, have a good (relative to the average) performance in terms of employment change, working conditions, required qualifications, expected job vacancies due to pensioners replacement, and unemployment rates, but fare relatively poorly in terms of wages.

Graph 7: Trends in the occupation of: 'Life science professionals' (ISCO 213)



5. SECTORAL TRENDS

Determining the sectoral trends is one of the central questions of the Diagnosis Mechanism. This is discussed in detail in a special deliverable: “Sectoral trends: Diagnosis Mechanism results, December 2016” (NILHR, 2016b). The sectoral trends are calculated on the basis of the Eurostat-OECD indicator and the Labour Force Survey data at two-digit and three-digit classification levels. Supplementary information is provided regarding the productivity of each sector.

At a two-digit level of analysis, the dynamic economic sectors include hotels, water transport, public administration, production of basic pharmaceutical products and power supply, whereas the declining sectors include forestry, telecommunications, scientific research and development, architectural activities and legal activities.

At a three-digit level of analysis, the dynamic sectors include perennial crops, administration of the State and the economic and social policy of the community, sea and coastal passenger water transport, provision of services to the community as a whole and road construction, whereas the declining sectors include furniture manufacturing, advertising, legal activities, retail sale in flea markets and retail sale of automotive fuel.

Finally, high productivity characterizes a number of sectors such as real estate, production of coke and refined petroleum products, water transport, telecommunications and computer manufacturing. On the contrary, low productivity characterizes sectors such as timber industry, forestry, furniture manufacturing, textile production and sports activities.

6. OCCUPATIONAL TRENDS BY ECONOMIC SECTOR

Occupational and sectoral trends are considered in separate deliverables. Occupational trends by economic sector are also considered. The results of this last analysis are included in the deliverable: “Occupational trends by economic sector: Diagnosis Mechanism results” (NILHR, 2016c). This analysis classifies occupations in dynamic, stable and declining ones by economic sector. More specifically, it highlights for each of the sectors which occupations are among the most dynamic in the economy, which are stable and which are declining. The analyses are based on data from the HSA Labour Force Survey at three-digit occupation classification level (ISCO-08) and at single-digit sector classification level (NACE, rev.2). Occupational trends are measured on the basis of the Eurostat-OECD index.

Considering the occupational trends by sector helps us to identify within each sector those occupations that appear to be dynamic, stable or declining in the economy as a whole. For example, if one considers the sector of agriculture, forestry and fisheries, they will find that mixed crop and animal producers, fishermen and foresters are, respectively, among the most dynamic, stable or declining in the economy as a whole. This analysis also allows us to identify cases where an occupation is dynamic or declining, depending on the sector where it is practiced. For example, the occupation of electrical equipment installers and repairers is dynamic in the public administration industry but declining in the retail and wholesale trade industry.

7. QUALIFICATION AND OCCUPATIONAL TRENDS BY EDUCATIONAL LEVEL

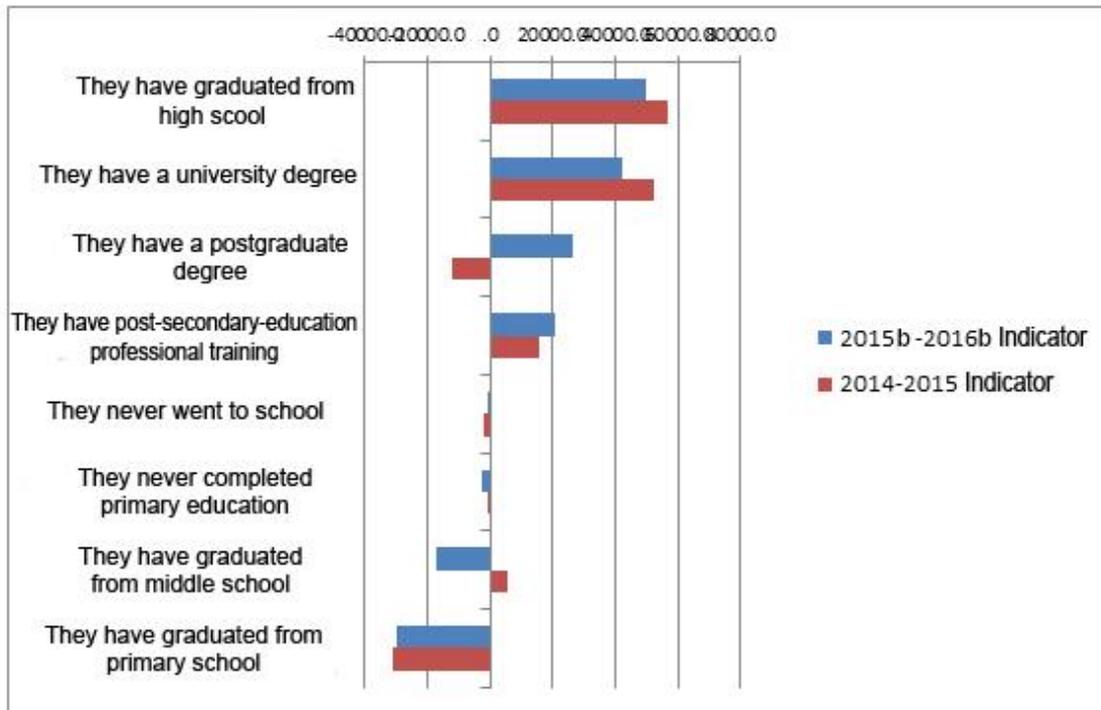
Determining the qualification trends is one of the goals of the investigation of the Diagnosis Mechanism. In Table 1 and in Figure 8 are presented the latest results on this topic. Based on the employment data, those educational levels presenting the highest dynamism are secondary, tertiary and postgraduate education. On the contrary, the lowest educational levels are characterized by declining employment. The investigation of the qualification trends has been also carried out by occupation using the dynamic employment index (Eurostat-OECD indicator) at a three-digit level of analysis. This analysis allows us to determine the dynamism of each occupation by level of educational qualifications that go with it, and highlights the contribution of different qualification levels to the employment rate of a specific occupation. For example, lawyers of postgraduate education are among the dynamic occupations, whereas lawyers of tertiary education are among the declining ones. The total results of the analysis regarding qualification trends are included in the deliverable: “Qualification and occupational trends by educational level: Diagnosis Mechanism results” (NILHR, 2016d).

Table 1: Qualification trends (in terms of educational level)

	Number of employed in 2016b	2015b-2016b % Change	2015b-2016b Indicator
They have graduated from high school	1.276.971	3,9	49.596,30
They have a university degree	1.125.912	3,7	42.185,50
They have a postgraduate degree	160.095	16,3	26.173,90
They have post-secondary-education professional training	354.015	5,8	20.577,40
They never went to school	8.386	-0,3	-23,9
They never completed primary education	6.950	-34	-2.361,60
They have graduated from middle school	344.671	-5	-17.065,10
They have graduated from primary school	425.614	-6,9	-29.521,70

Source: Labour Force Survey, HSA

Graph 8: Qualification trends (in terms of educational level)



8. SALARIED EMPLOYMENT FLOWS

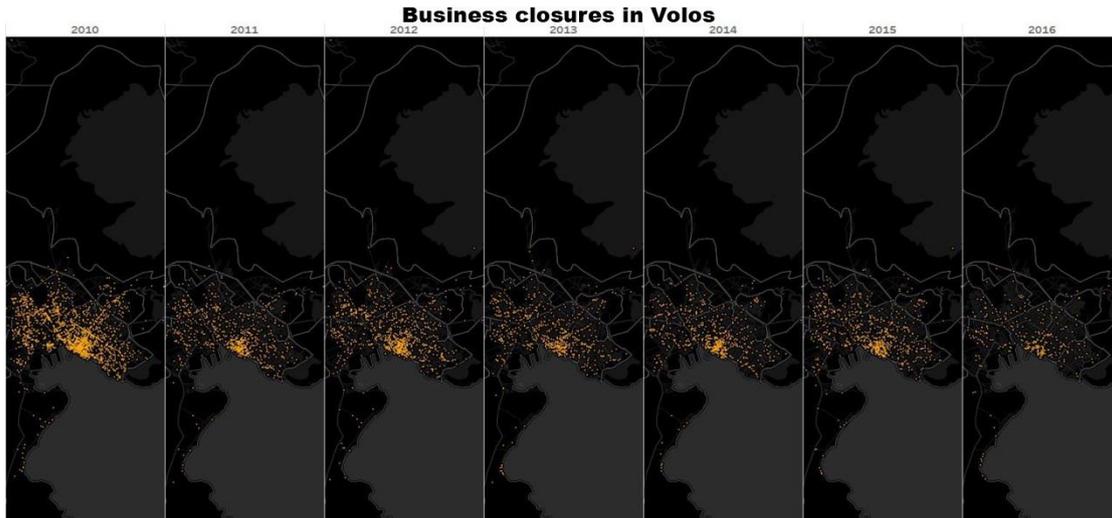
In addition to the HSA Labour Force Survey data we analyzed the salaried employment flow data from the Ergani System in order to further investigate the occupational and sectoral trends. The Ergani System is practically an inventory of administrative data that records all recruitments, dismissals, maturity contracts and voluntary departures within the salaried employment spectrum. The analysis of the Ergani System data is presented in a special deliverable: “Salaried employment occupational trends according to the Ergani System data” (NILHR, 2016e). It should be noted that the analyses based on the Ergani System data only cover a proportion of the total employment. Moreover, data collection under the Ergani System follows a different methodology from the one used in the Labour Force Survey data. Therefore, it is particularly difficult to perform comparisons between the two data sources (Ergani and HSA).

Despite the lack of comparability, it is worth mentioning the occupational trends as they emerge from the Ergani System. Results are based on a comparison of the rate of change of salaried employment flows between the second quarter of 2015 and the second quarter of 2016. According to this analysis, sectors presenting the highest dynamism include film production, museum and library activities, power supply, household activities as employers of domestic personnel, and financial services. On the contrary, sectors presenting the lowest dynamism include coal and lignite extraction, civil engineering, vehicle construction, basic metal production and publishing activities. Furthermore, occupations presenting the highest dynamism include accountants, biologists and physicians, mining and mineral products machine operators, building frame workers and skilled animal producers. Occupations with the lowest dynamism include lawyers, fitters, physicists and mathematicians, mixed crop farmers and miners. It should be noted, however, that the results of the analyses that are based on the Ergani System data are presented with some caution as they have not yet been fully integrated in the Diagnosis Mechanism Information System. More information on the analyses based on the Ergani System data can be found in the relevant deliverable.

9. ENTREPRENEURSHIP

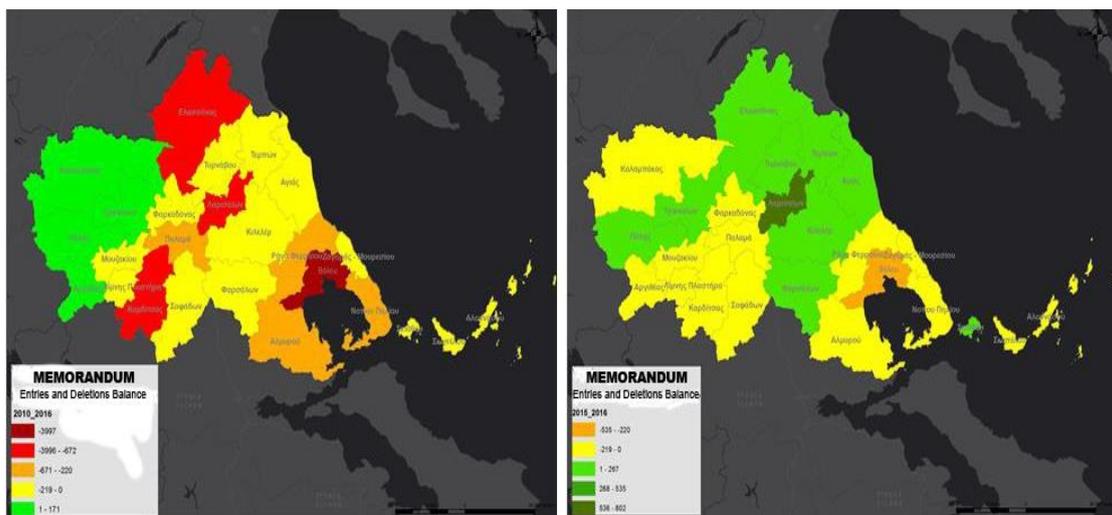
Analysis of the form and trends of entrepreneurship can be carried out using the data of the Chambers of Commerce, which are expected to enter the Diagnosis Mechanism Information System in the immediate future. At this stage, where integration of these data in the Information System has not yet been completed, we limited ourselves to conducting a pilot analysis of the data that stem from the region of Thessaly. The results are presented in a separate deliverable: “Trends according to data from the Chambers of Commerce of the region of Thessaly, December 2016” (NILHR, 2016g).

Based on the data we attempted a spatiotemporal representation of the change of key dimensions of entrepreneurship at local level. Indicatively, the following figure depicts the spatiotemporal change of business closures in Volos from 2010 to 2016.



Analysis of these data produces some interesting conclusions. Entrepreneurship in the region of Thessaly seems to be recovering from a long recession, mainly in the Regional Unit of Larissa. More specifically, the recovery mostly concerns the sectors of retail trade and food industry in the Municipality of Larissa and marks a corresponding increase in the salaried employment balance in those sectors. The sector of electricity, gas, steam and air conditioning supply, the leading branch of which is that of electricity power generation, transmission and distribution, is by far the most dynamic sector in the 2010-2016 period and the fourth most dynamic in the 2015-2016 period. This has come as a result of the general development of subsidy policies for energy production, albeit with a negative effect in the salaried employment balance for at least the second quarter of 2015 and 2016.

In the following images we present by municipality in the region of Thessaly the balance of entries and deletions in the business register of the Chambers of Commerce of Thessaly in the periods 2010-2016 and 2015-2016. More detailed information can be found in the relevant deliverable.



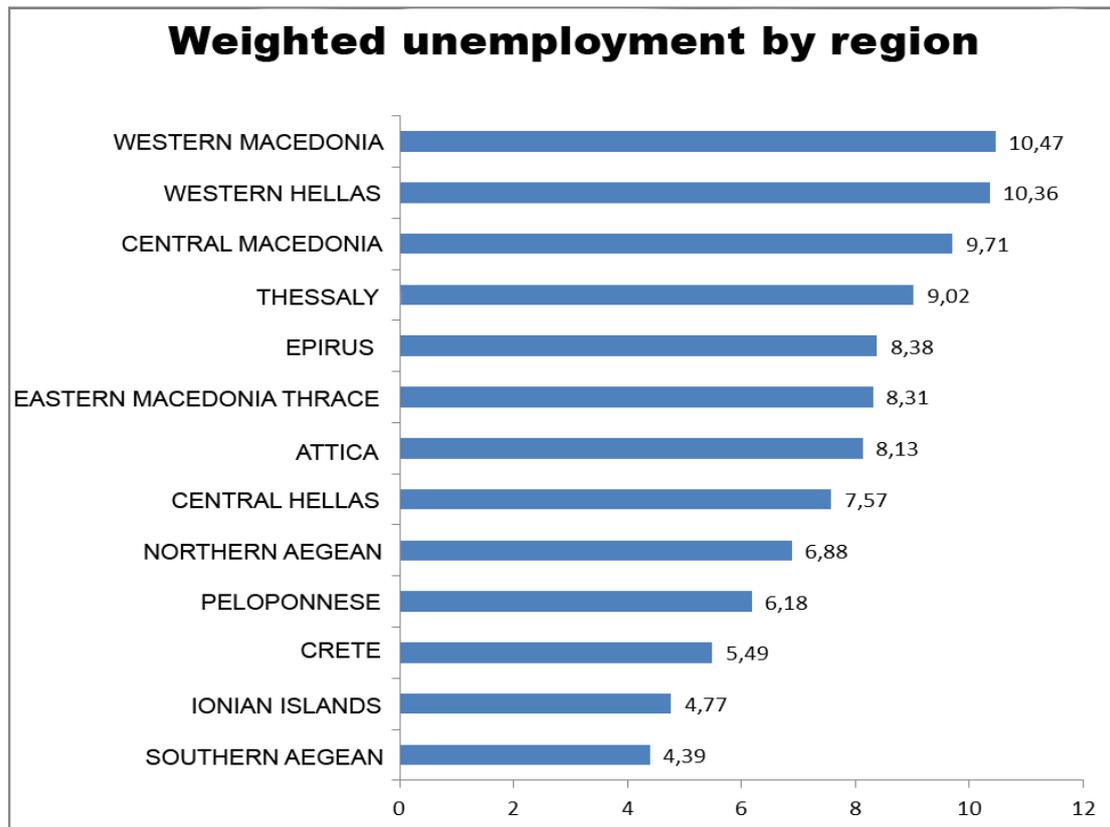
10. REGISTERED UNEMPLOYMENT

The data analysis of registered unemployment is conducted by the Public Employment Service (PES) and is presented in a separate Diagnosis Mechanism deliverable. The latest analyses are included in the following deliverable: “Labour market diagnosis mechanism. Characteristics of the unemployed according to PES registered unemployment data” (PES, 2016)⁷.

The said deliverable includes detailed information on the job vacancies and the profile of the registered unemployed as reported in the PES records. This information is particularly useful for active-policy makers. According to the results of the said deliverable, by October 31st 2016 the registered unemployed jobseekers totaled 887,748 people. It is worth mentioning that 15% of those are aged 55-64, 53% are long-term unemployed and 47% have secondary education.

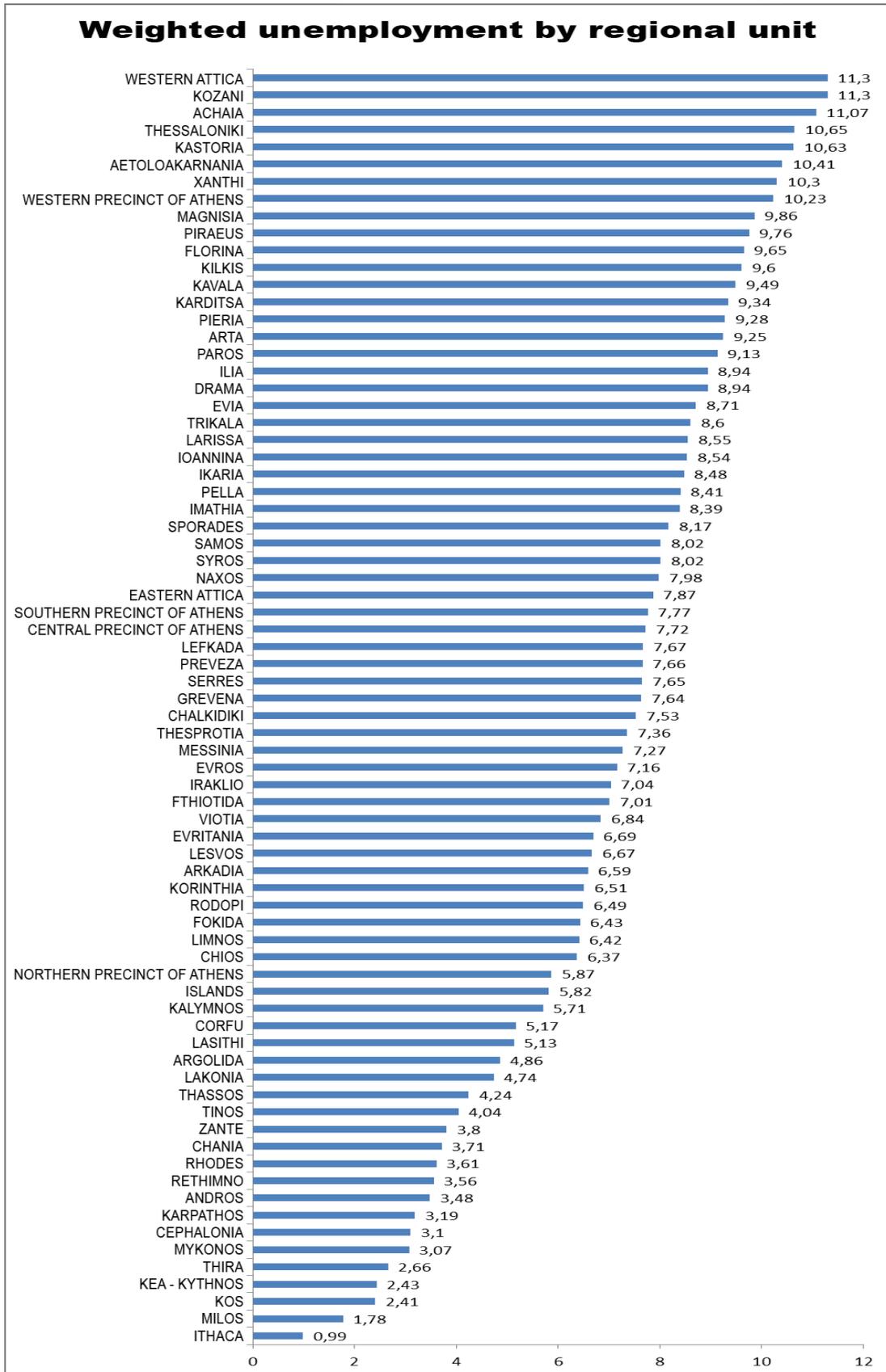
It is also worth mentioning the indicator of weighted unemployment. This is calculated by considering the data of the registered unemployed as a function of the resident population of each region or regional unity. The results are presented in the graphs below.

Graph 9: Weighted unemployment by region (Registered unemployed as a function of the resident population)



⁷ This deliverable was produced by a PES working group composed of the following: Skopelitou Theodoti, Stamelos Stylianos, Anitsi Alike and Margaritis Stamatis.

Graph 10: Weighted unemployment by regional unit (Registered unemployed as a function of the resident population)



The analysis shows that, given their population, the regions that are disproportionately affected by unemployment are those of Western Macedonia, Western Hellas and Central Macedonia, whereas the regions that are least affected are those of the Southern Aegean, the Ionian Islands and Crete.

At regional unit level, those hit the hardest are Western Attica, Kozani, Achaia and Thessaloniki, while a fairly favourable picture emerges in Ithaca, Milos, Kos and Kythnos.

Finally, regarding vacancies, by October 31st 2016 the PES had 13,031 registered vacancies, the overwhelming majority of which was subsidized. Only 1,005 vacancies were not linked to any form of subsidy. For these positions the average time to fill amounted to 29 days.

11. REGIONAL TRENDS

Determining the occupational and sectoral trends at regional level is one of the objectives of the Diagnosis Mechanism. The regional level analyses are produced as a result of two processes: firstly, we analyze the HSA Labour Force Survey (LFS) data at regional level and, secondly, we collect information from the regions so as to tap the validity and expertise of the Mechanism results and to also receive complementary information that may not be reflected in the said results. The Mechanism results at regional level are reported in a special deliverable: “Regional trends, December 2016” (NILHR, 2016f).

The LFS data analysis allows us to identify those sectors or occupations that are dynamic, stable or declining, depending on the region. For example, the food industry sector is one of the most dynamic in the region of Thessaly but one of the least dynamic in the region of Central Hellas. Moreover, personal service workers are among the most dynamic occupations in Central Macedonia but among the least dynamic ones in the region of Epirus.

We can further draw some interesting conclusions on the basis of the information provided by the regions themselves. For instance, the sectors of food industry, beverage industry, social policy and construction are reported as dynamic in the North Aegean region, whereas the primary sector and the sectors of food industry, construction, waste management, transport and trade are reported as dynamic in the region of Thessaly. Detailed results are included in the relevant deliverable.

12. COMPARISON OF THE DIAGNOSIS MECHANISM RESULTS: JULY 2016 - DECEMBER 2016

One of the key questions that the Diagnosis Mechanism aims to address is the identification of occupational and sectoral trends. Of particular interest is also the differentiation of these trends over time. Apart from the conclusions that are summarized in the relevant subsections of the present report and elaborated in the relevant deliverables, we would now like to present a comparison of the latest results for occupational and sectoral trends with those reported in the previous Diagnosis Mechanism deliverable. This comparison has generated important conclusions about the degree of stability of the occupational and sectoral trends. These conclusions are summarized in the tables below.

Table 2: Comparison of occupational trends according to the Diagnosis Mechanism Reports of July 2016 (with data covering 2014-2015) and December 2016 (with data covering the second trimesters of 2015-2016): "Newly dynamic" "Previously dynamic" "Still dynamic"

DECEMBER	JULY
213 Life science professionals	
216 Architects, planners, surveyors and designers	
226 Other health professionals	226 Other health professionals
	233 Secondary education teachers
	234 Primary school and early childhood teachers
	263 Social and religious professionals
264 Authors, journalists and linguists	264 Authors, journalists and linguists
	311 Physical and engineering science technicians
315 Ship and aircraft controllers and technicians	
	322 Nursing and midwifery associate professionals
331 Financial and mathematical associate professionals	331 Financial and mathematical associate professionals
333 Business service agents	
343 Artistic, cultural and culinary associate professionals	
351 Information and communications technology operations and user support technicians	
411 General office clerks	411 General office clerks
	412 Secretaries (general)
422 Client information workers	422 Client information workers
	432 Material-recording and transport clerks
512 Cooks	512 Cooks
513 Waiters and bartenders	513 Waiters and bartenders
522 Shop salespersons	522 Shop salespersons
	524 Other sales workers
	541 Protective services workers
612 Animal producers	
613 Mixed crop and animal producers	
741 Electrical equipment installers and repairers	
751 Food processing and related trades workers	751 Food processing and related trades workers
811 Mining and mineral processing plant operators	
834 Mobile plant operators	
	912 Vehicle, window, laundry and other hand cleaning workers
921 Agricultural, forestry and fishery labourers	
932 Manufacturing labourers	932 Manufacturing labourers
	941 Food preparation assistants

As shown in Table 2, the occupations that appear as dynamic in the second quarter of 2016 (compared with the second quarter of 2015) but did not appear to be so in 2015 (compared with 2014) are as follows (Table 3):

Table 3: Increasing, unchanged and decreasing dynamism of occupations

Increasing dynamism	Unchanged dynamism	Decreasing dynamism
213 Life science professionals	226 Other health professionals	233 Secondary education teachers
216 Architects, planners, surveyors and designers	264 Authors, journalists and linguists	234 Primary school and early childhood teachers
226 Other health professionals	315 Ship and aircraft controllers and technicians	263 Social and religious professionals
264 Authors, journalists and linguists	331 Financial and mathematical associate professionals	264 Authors, journalists and linguists
315 Ship and aircraft controllers and technicians	333 Business service agents	311 Physical and engineering science technicians
331 Financial and mathematical associate professionals	343 Artistic, cultural and culinary associate professionals	322 Nursing and midwifery associate professionals
333 Business service agents	351 Information and communications technology operations and user support technicians	331 Financial and mathematical associate professionals
343 Artistic, cultural and culinary associate professionals	411 General office clerks	411 General office clerks
351 Information and communications technology operations and user support technicians	422 Client information workers	412 Secretaries (general)
411 General office clerks	512 Cooks	422 Client information workers
422 Client information workers	513 Waiters and bartenders	432 Material-recording and transport clerks
512 Cooks	522 Shop salespersons	512 Cooks
513 Waiters and bartenders	612 Animal producers	513 Waiters and bartenders
522 Shop salespersons	613 Mixed crop and animal producers	522 Shop salespersons
612 Animal producers	741 Electrical equipment installers and repairers	524 Other sales workers
613 Mixed crop and animal producers	751 Food processing and related trade workers	541 Protective services workers
741 Electrical equipment installers and repairers	811 Mining and mineral processing plant operators	751 Food processing and related trade workers
751 Food processing and related trade workers	834 Mobile plant operators	912 Vehicle, window, laundry and other hand cleaning workers
811 Mining and mineral processing plant operators	921 Agricultural, forestry and fishery labourers	932 Manufacturing labourers
834 Mobile plant operators	932 Manufacturing labourers	941 Food preparation assistants
921 Agricultural, forestry and fishery labourers		

Table 4: Comparison of sectoral trends according to the Diagnosis Mechanism Reports of July 2016 (with data covering 2014-2015) and December 2016 (with data covering the second trimesters 2015-2016): "Newly dynamic" "Previously" "Still dynamic"

DECEMBER	JULY
012 Growing of perennial crops	012 Growing of perennial crops
014 Animal production	
015 Mixed farming	015 Mixed farming
103 Processing and preserving of fruit and vegetables	
	107 Manufacture of bakery and farinaceous products
141 Manufacture of wearing apparel, except fur apparel	141 Manufacture of wearing apparel, except fur apparel
181 Printing and service activities related to printing	
211 Manufacture of basic pharmaceutical products	
	222 Manufacture of plastics products
351 Electric power generation, transmission and distribution	
412 Construction of residential and non-residential buildings	
421 Construction of roads and railways	
	431 Demolition and site preparation
	451 Sale of motor vehicles
471 Retail sale in non-specialised stores	
	472 Retail sale of food, beverages and tobacco in specialised stores
	473 Retail sale of automotive fuel in specialised stores
	476 Retail sale of cultural and recreation goods in specialised stores
477 Retail sale of other goods in specialised stores	477 Retail sale of other goods in specialised stores
493 Other passenger land transport	
501 Sea and coastal passenger water transport	501 Sea and coastal passenger water transport
522 Warehousing and support activities for transportation	
551 Hotels and similar accommodation	
561 Restaurants and mobile food service activities	561 Restaurants and mobile food service activities
562 Event catering and other food service activities	562 Event catering and other food service activities
581 Publishing of books, periodicals and other publishing activities	581 Publishing of books, periodicals and other publishing activities
	612 Wireless telecommunications activities
620 Computer programming, consultancy and related activities	
641 Monetary intermediation	
651 Insurance	651 Insurance
	692 Accounting, bookkeeping and auditing activities; tax consultancy
702 Management consultancy activities	702 Management consultancy activities
	731 Advertising
771 Renting and leasing of motor vehicles	771 Renting and leasing of motor vehicles
841 Administration of the State and the economic and social policy of the community	
842 Provision of services to the community as a whole	
843 Compulsory social security activities	
	851 Pre-primary education
852 Primary education	
	853 Secondary education

861 Hospital activities	861 Hospital activities
900 Creative arts and entertainment activities	
	960 Other personal service activities

As shown in Table 4, the sectors that appear as dynamic in the second quarter of 2016 (compared with the second quarter of 2015) but did not appear to be so in 2015 (compared with 2014) are as follows (Table 5):

Table 5: Increasing, unchanged and decreasing dynamism of sectors

Increasing dynamism	Unchanged dynamism	Decreasing dynamism
014 Animal production	012 Growing of perennial crops	107 Manufacture of bakery and farinaceous products
015 Mixed farming	014 Animal production	141 Manufacture of wearing apparel, except fur apparel
103 Processing and preserving of fruit and vegetables	015 Mixed farming	222 Manufacture of plastics products
141 Manufacture of wearing apparel, except fur apparel	103 Processing and preserving of fruit and vegetables	431 Demolition and site preparation
181 Printing and service activities related to printing	141 Manufacture of wearing apparel, except fur apparel	451 Sale of motor vehicles
211 Manufacture of basic pharmaceutical products	181 Printing and service activities related to printing	472 Retail sale of food, beverages and tobacco in specialised stores
351 Electric power generation, transmission and distribution	211 Manufacture of basic pharmaceutical products	473 Retail sale of automotive fuel in specialised stores
412 Construction of residential and non-residential buildings	351 Electric power generation, transmission and distribution	476 Retail sale of cultural and recreation goods in specialised stores
421 Construction of roads and railways	412 Construction of residential and non-residential buildings	477 Retail sale of other goods in specialised stores
471 Retail sale in non-specialised stores	421 Construction of roads and railways	501 Sea and coastal passenger water transport
477 Retail sale of other goods in specialised stores	471 Retail sale in non-specialised stores	561 Restaurants and mobile food service activities
493 Other passenger land transport	477 Retail sale of other goods in specialised stores	562 Event catering and other food service activities
501 Sea and coastal passenger water transport	493 Other passenger land transport	581 Publishing of books, periodicals and other publishing activities
522 Support activities for transportation	501 Sea and coastal passenger water transport	612 Wireless telecommunications activities
551 Hotels and similar accommodation	522 Support activities for transportation	651 Insurance
561 Restaurants and mobile food service activities	551 Hotels and similar accommodation	692 Accounting, bookkeeping and auditing activities; tax consultancy
562 Event catering and other food service activities	561 Restaurants and mobile food service activities	702 Management consultancy activities
581 Publishing of books, periodicals and other publishing activities	562 Event catering and other food service activities	731 Advertising
620 Computer programming, consultancy and related activities	581 Publishing of books, periodicals and other publishing activities	771 Renting and leasing of motor vehicles
641 Monetary intermediation	620 Computer programming, consultancy and related activities	851 Pre-primary education
651 Insurance	641 Monetary intermediation	853 Secondary education
702 Management consultancy activities	651 Insurance	861 Hospital activities
771 Renting and leasing of motor vehicles	702 Management consultancy activities	960 Other personal service activities
841 Administration of the State and the economic and social policy of the community	771 Renting and leasing of motor vehicles	
842 Provision of services to the community as a whole	841 Administration of the State and the economic and social policy of the community	
843 Compulsory social security activities	842 Provision of services to the community as a whole	
852 Primary education	843 Compulsory social security activities	
861 Hospital activities	852 Primary education	
900 Creative, arts and entertainment activities	861 Hospital activities	

13. CONCLUSIONS

Following the Diagnosis Mechanism development planning, the present report summarizes the most recent results of the Mechanism. The previous deliverables were submitted in June 2015, December 2015 and July 2016. Having completed a year and a half of operation, the Diagnosis Mechanism has managed to maintain a steady flow of deliverables while developing the methods and procedures that are necessary for the provision of systematic and reliable information regarding the labour market. At the same time, and thanks to the development of the Diagnosis Mechanism Information System, the Mechanism has achieved a higher degree of systemization and expansion in its analyses.

In the current stage of development of the Diagnosis Mechanism, separate specialized deliverables are higher in number than those produced in the past. The present report briefly summarizes the most recent Mechanism results as well as the separate deliverables. Those interested in using the Diagnosis Mechanism analyses are referred to the relevant deliverables. Similarly to the July 2016 report, the present one adopted the multivariate calculation of occupational trends including qualitative aspects of employment and consideration of employment in full-time terms. The measurement of occupational trends via a composite index that takes into account a number of parameters was conducted for the whole country at a three-digit level of analysis. At the same time an interactive database available on the NILHR website was created with these parameters. This database allows the interested user to easily calculate the dynamism of each occupation according to their desired criteria. We would also like to note that the Labour Force Survey remains the main source of information for the conducted analyses. For additional analyses we made use of data coming from the Ergani System, the PES registered unemployment records, the Regions and, on a trial basis, from the Chambers of Commerce of the region of Thessaly.

Some interesting conclusions can be drawn from the Diagnosis Mechanism results regarding the occupational trends and the restructuring that has occurred within broader occupational categories. For example, IT operations technicians are among the dynamic occupations whereas software analysts are among the declining ones. Similarly, shop salespersons are characterized by dynamism whereas street vendors are on the decline. These results could be used to design active policies.

Of further interest is the dynamism of mixed farming and animal production. While the primary sector as a whole is characterized by a decline in employment, it has shown some resilience during the crisis which explains why declining sub-sectors co-exist alongside sub-sectors that now appear to be dynamic. Moreover, within the manufacturing sector there are various indicators showing that food processing is characterized by increased dynamism. This dynamism emerges from occupational and sectoral data but is also confirmed by approved investment figures in some regions. It is also interesting to note that this sector is marked by a certain degree of geographical restructuring given that it is declining in Central Hellas but growing in Thessaly and elsewhere.

Furthermore, in some cases different analyses lead to consistent results, while in other cases this is not so. For example, the dynamism of the occupation of biologists, as well as that of the power supply sector, emerges from the HSA data and is confirmed by the salaried employment flows of the Ergani System. However, in other cases there are discrepancies between these two sets of data that require extensive investigation once the Ergani System data is fully integrated in the Diagnosis Mechanism Information System.

Educational levels or levels of qualifications that appear to be the most dynamic are secondary education and tertiary and postgraduate education. This finding is not surprising given that across a wide range of occupations in the production model of the Hellenic economy a high school diploma is generally sufficient for the majority of the workforce. And having an additional qualification from the tertiary and postgraduate education confers resilience/dynamism in one's employment status.

Another important point that should be taken into account in the design of active policies concerns the major variations that occur at regional level and at the level of regional units. Data from the PES registered unemployment suggests that the various regions are not equally affected by unemployment. The regions of Western Macedonia, Western Greece and Central Macedonia are disproportionately affected when compared to the average. Nevertheless, the regional level analysis doesn't reveal the totality of cases that require special attention in the design of active policies that aim at reducing unemployment and boosting employment. For example, weighted unemployment for the region of Attica is close to the country's average. However, the regional unit of Western Attica is affected more than any other regional unit in the country. Such discrepancies suggest that horizontal policies need to be avoided in favour of policy interventions that tend to the varying needs of regions and regional units.

It should be noted that the results concerning the occupational and sectoral trends have a comparative character. This means that the dynamism and resilience of a certain occupation, sector or educational level is compared to that of other occupations, sectors and educational levels. Therefore, the fact that our data suggests that the secondary and tertiary education levels enjoy a higher degree of employment dynamism implies that they have better employment prospects than other (lower) educational levels.

It is also noteworthy that the occupational and sectoral trends as reported here illustrate the image of the production model of the country. Some elements of this model, such as the dynamism observed in some extroverted manufacturing sectors (e.g., food processing and pharmaceuticals) may be desirable in terms of designing effective economic and social policies. However, in other dynamic sectors, such as the tourism sector, structural measures may be required in order not only to ensure both maximization of the existing dynamism and minimization of negative effects (environmental or otherwise) but also to provide general guidelines that are consistent with the country's economic and social policies. Finally, in declining sectors, such as the research and development sector, the situation can be reversed with the right policies as long as there is political will. In any case, the Diagnosis Mechanism results provide detailed information on existing trends of a multidimensional labour market. Nevertheless, the development of effective policies cannot come about as a result of a linear and straightforward processing of the information provided here because information-gathering is a necessary but not sufficient condition for policy making. Policy-making must be based on reliable data but it must also take into account other parameters including the orientation of values, priorities and commitments of the democratic power in charge of policy-making.

REFERENCES

Cedefop (2015a). Skills, qualifications and jobs in the EU: The making of a perfect match? Evidence from Cedefop's European skills and jobs survey.

Cedefop (2015b). Stronger VET for better lives: Cedefop's monitoring report on vocational education and training policies 2010-14. Luxembourg: Publications Office. Cedefop reference series; No 98.

Eurostat-OECD Manual on Business Demography Statistics, (2008), European Communities/OECD.

Ministry of Labour, Social Security and Welfare – NILHR (2016). Updated Action Plan for Labour Market Diagnosis in Hellas.

NILHR (2015a). Labour market diagnosis and continuous training for the unemployed. 6/6/2015.

NILHR (2015b). The first deliverables of the Diagnosis Mechanism. June 2015.

NILHR (2015c). Labour market diagnosis mechanism. Overall methodology. December 2015.

NILHR (2015d). Labour market diagnosis system. National Mechanism Deliverable. December 2015.

NILHR (2015e). Labour market diagnosis system. Regional level diagnosis.

NILHR (2016a). Occupational trends: Diagnosis Mechanism results, December 2016.

NILHR (2016b). Sectoral trends: Diagnosis Mechanism results, December 2016.

NILHR (2016c). Occupational trends by economic sector: Diagnosis Mechanism results, December 2016.

NILHR (2016d). Qualification and occupational trends by educational level: Diagnosis Mechanism results, December 2016.

NILHR (2016e). Salaried employment occupational trends according to the Ergani System data, December 2016.

NILHR (2016f). Regional trends, December 2016.

NILHR (2016g). Trends according to data from the Chambers of Commerce of the region of Thessaly, December 2016.

NILHR (2016h). Diagnosis Mechanism Results, July 2016.

NILHR (2017, in press). 2015-2016 Annual Report: Work and Employment in Hellas.

OECD (2016). Skills matter: Further results from the survey of adult skills. Hellas-Country Note.

PES (2016). Labour market diagnosis mechanism. Characteristics of the unemployed according to PES registered unemployment data.



European Union
European Social Fund

Business Program
Development of Human Resources,
Education and Lifelong Learning
Co-financed by Hellas and the European Union

