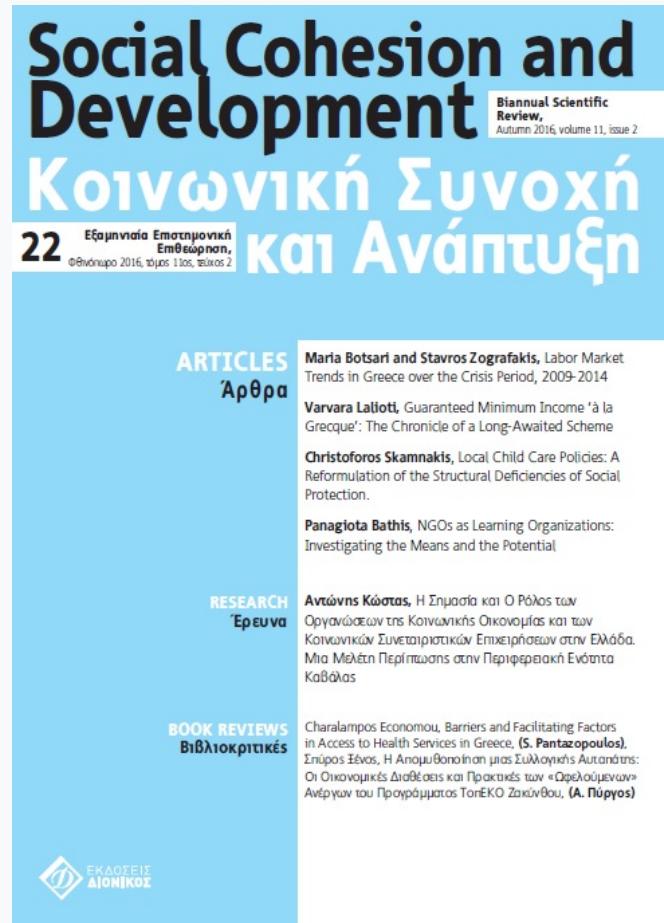


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# Labor Market Trends in Greece over the Crisis Period, 2009-2014

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## Τάσεις στην Ελληνική Αγορά Εργασίας κατά την Περίοδο της Κρίσης, 2009-2014

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### ABSTRACT

In this paper we present key statistics on the labor market of Greece and the Eurozone over the crisis period 2009-2014, with particular emphasis given to youth and long-term unemployment and its consequences. Statistics on the previous occupations of the unemployed, methods used for seeking work and type of employment sought are also presented. Used data reveal that the change of the working-age population in Greece during the crisis follows a U-shape over age with a greater decline occurring in the 25 to 29 years age group as a result of high emigration of the young age group attributable to the decline in economic activity. Greece suffers from unprecedented and socially unacceptable rates of unemployment with the youth and long-term unemployment rates being even more alarming and worrying as they may have such devastating and long-term debilitating effects on young people that have been called 'scarring effects'. Those scarring effects on young people are interpreted in the literature' in terms of two factors, the first factor relating to the depreciation of their human capital and readiness to work and the second relating to the so-called 'unemployment stigma'.

**KEY WORDS:** Trends, population, employment, unemployment, effects, Greece, Eurozone.

### ΠΕΡΙΛΗΨΗ

Στην εργασία αυτή παρουσιάζουμε βασικούς δείκτες της αγοράς εργασίας στην Ελλάδα και την Ευρωζώνη κατά την περίοδο της κρίσης 2009-2014, με ιδιαίτερη έμφαση στη νεανική και τη μακροχρόνια ανεργία και τις επιπτώσεις τους. Παρουσιάζουμε, επίσης, στατιστικούς δείκτες σχετικούς με το πρότερο επάγγελμα των ανέργων, τις χρονιμοποιούμενες μεθόδους αναζήτησης εργασίας και το είδος της αναζητούμενης απασχόλησης. Τα δεδομένα αποκαλύπτουν ότι η μείωση του πληθυσμού εργάσιμης ηλικίας στην Ελλάδα κατά την περίοδο της κρίσης, από το 2009 μέχρι το 2014, ακολουθεί με την πάροδο της ηλικίας μια καμπύλη μορφής U, με τη μεγαλύτερη μείωση να καταγράφεται στην ηλικιακή ομάδα 25 – 29 ετών, ως αποτέλεσμα της μετανάστευσης των νέων εξαιτίας της συρρίκνωσης της οικονομικής δραστηριότητας. Η Ελλάδα μαστίζεται από πρωτοφανή και κοινωνικά απαράδεκτα επίπεδα ανεργίας, με τα ποσοστά νεανικής και μακροχρόνιας ανεργίας να είναι ακόμα πιο ανησυχητικά, καθώς μπορεί να έχουν τόσο ολέθριες και τραγικές μακροχρόνιες επιπτώσεις στους νέους, ώστε να αποκαλούνται 'ουλές ανεργίας'. Αυτές οι ουλές ερμηνεύονται στη βιβλιογραφία στη βάση δύο παραγόντων. Ο πρώτος παραγόντας σχετίζεται με την υποτίμηση του ανθρώπινου κεφαλαίου των νέων και της ετοιμότητάς τους για εργασία. Ο δεύτερος παραγόντας σχετίζεται με το αποκαλούμενο 'στίγμα της ανεργίας'.

**ΛΕΞΕΙΣ-ΚΛΕΙΔΙΑ:** Τάσεις, πληθυσμός, απασχόληση, ανεργία, επιπτώσεις, Ελλάδα, Ευρωζώνη.

## 1. Introduction

**K**ey statistics on the labor market of Greece have significantly worsened since the onset of the financial and fiscal crisis in 2009. As the recession was deepening, the number of the working age population was falling with the decline being most noticeable among those aged 25 to 29 years, while the outflows of Greek nationals in search of work towards other OECD countries was substantially increased. Over the period 2009 – 2014, hundreds of thousands jobs were lost mainly because of the downturn in the sectors of construction, manufacturing and wholesale and retail trade. In contrast to the part-time employment which recorded an increase, full-time employment has plunged and, while the proportion of employees, employers and unpaid family workers has fallen during the recessionary period, the share of own account workers in the continuously shrinking employed labor force rose. Moreover, between 2009 and 2014, unemployment has hit an *unacceptable* high with the key statistics on youth and long-term unemployment being even more alarming.

This paper presents the labor market trends, specifically the population, employment and unemployment trends by sex, age group, educational attainment, economic activity, occupation and professional status, with particular emphasis given to youth and long-term unemployment. Statistics on the previous occupations of the unemployed, methods used for seeking work and type of employment sought *are also* included in the paper.

## 2. Population Trends: The New Wave of Emigration

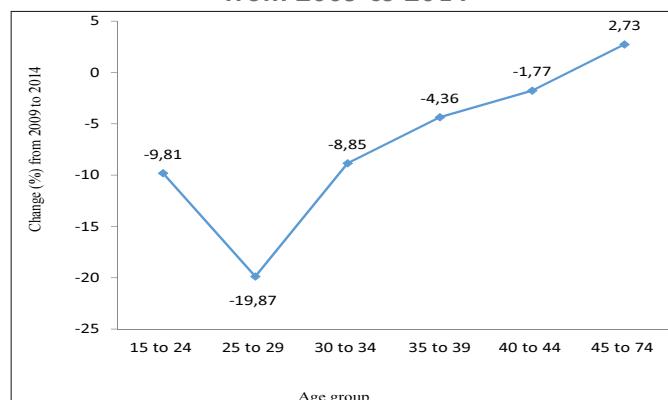
**T**able 1 presents the population trend in Greece from 2009 to 2014. A survey of the data in Table 1 reveals that Greece witnessed, over this period, a continuous decline of the working-age population (those aged 15–74). As is evident in Figure 1, the percent change of the working-age population from 2009 to 2014 follows a U-shape over age with a greater decline, equal to –19.87, occurring in the 25 to 29 years age group. We argue that the shrinking of the Greek population, especially the shrinking of the young age group, since the financial meltdown is the result of high emigration attributable to the decline in economic activity.

Data published by the OECD (2013a) show that, as a result of the deteriorating labor market situation, Greece – and countries of southern Europe – witnessed a dramatic increase in the outflows of their nationals in search of work towards other OECD countries, which have been less affected, if at all, by the economic downturn and debt crisis. Figure 2 illustrates the outflows of nationals (indexed 100 in 2007) from six OECD countries, most affected by the economic crisis, to main European and other OECD destination countries, over the period 2007 – 2011. There can be seen that migration outflows rose sharply in the hard-hit countries of Europe, with Greece experiencing the largest relative increase in outflow of nationals to other OECD countries. OECD (2014a) notes that where young and skilled population groups leave in large numbers, countries face significant additional challenges and the prospect of a worsening demographic outlook and less favorable economic development.

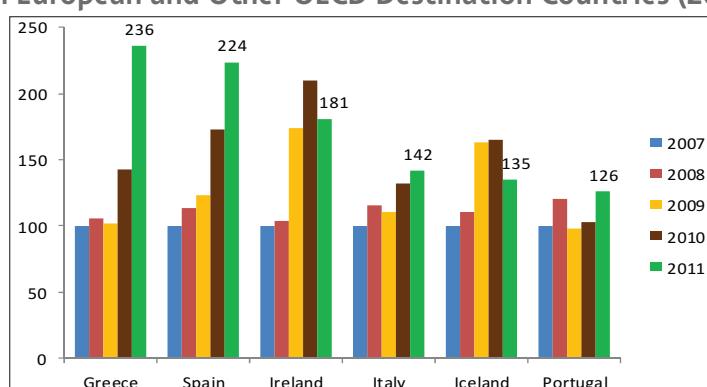
**Table 1: Population Trend in Greece by Age Group (persons in thousands)**

Age group	2009	2010	2011	2012	2013	2014
15 to 24 years	1210.5	1180.0	1151.1	1129.8	1110.0	1091.7
25 to 29 years	796.7	764.3	735.4	698.4	661.1	638.4
30 to 34 years	854.1	846.7	827.6	812.1	799.5	778.5
35 to 39 years	811.6	809.4	829.7	815.9	798.4	776.2
40 to 44 years	881.0	883.8	858.1	858.0	856.6	865.4
45 to 74 years	3878.6	3883.1	3904.5	3932.4	3958.0	3984.5
<b>Total</b>	<b>8432.5</b>	<b>8367.2</b>	<b>8306.4</b>	<b>8246.5</b>	<b>8183.7</b>	<b>8134.8</b>

Source: Eurostat, LFS 2014

**Figure 1: Percent Change of the Working-Age Population by Age Group from 2009 to 2014**

Source: Eurostat, LFS 2014

**Figure 2: Outflows of Nationals from Selected OECD Countries to Main European and Other OECD Destination Countries (2007=100)**

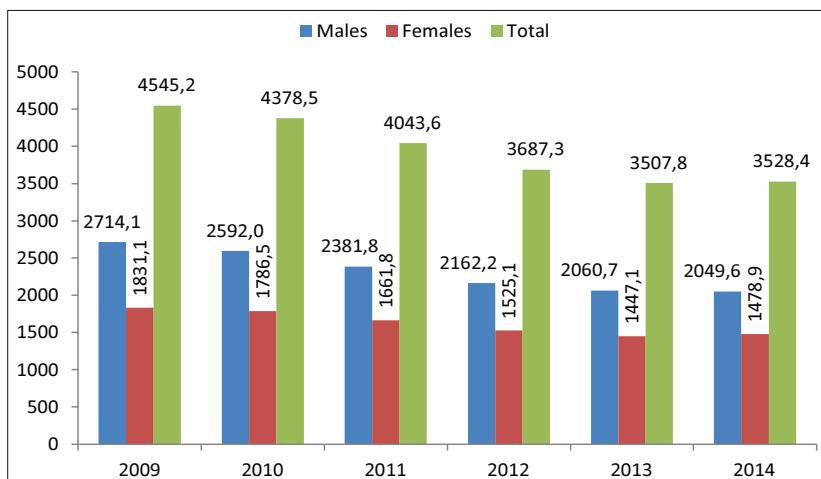
Source: OECD, 2013a.

The OECD (2013a) data show also that the main countries of destination are Germany and the United Kingdom. In particular for Germany, figures suggest that movements from Greece and Spain have reached 34000 and 28000 persons, respectively, for 2012 (year ending in September) while the increases observed relative to 2011 are 73% for Greek nationals, close to 50% for Spanish and Portuguese nationals and 35% for Italian nationals. Altogether, this represents an increase of almost 40000 additional immigrants from crisis countries to Germany in 2012 compared to 2011.

### 3. Employment Trends

As the data in Figure 3 indicate, an accelerated decline in employment is observed after the onset of the crisis, in 2009, until around 2013. Over the period 2009 – 2014, 1016800 jobs were eliminated representing 22.4% of employment in 2009. Moreover, while the fall in men's employment was by almost 50% greater than for women, females' employment rates remained constantly much smaller than that of males. Job losses picked up in 2011 and 2012, when austerity measures, labour market institutional changes, wage changes and uncertainty about Grexit were in full swing, with job losses of 334900 and 356300, respectively. In 2014, the labor market seems to be *stabilized* as *employment* grew slightly (by 0.1% for males and by 1% for females) and a small gain of 20600 jobs was observed.

**Figure 3: Employment of Persons Aged 15-74 Years  
(in thousands) in Greece by Sex**



Source: Eurostat, LFS 2014.

As shown in Table 2, the fall in employment is mainly attributed to the downturn in construction-, manufacturing- and wholesale and retail trade-related jobs. Construction was the sector which saw the deepest decline in employment of 219100 jobs, followed by manufacturing

(202000 jobs) and wholesale and retail trade (200800 jobs). With the exception of administrative and support activities, all sectors incurred also job losses. We note that, according to the European industrial activity classification (NACE Rev.2), the sector 'Administrative and Support Service Activities' includes rental and leasing activities, travel agency, tour operator and other reservation service and related activities, security and investigation activities, services to buildings and landscape activities, and office administrative, office support and other business support activities. After a loss of 13100 jobs over the period 2009 – 2013, this sector recovered and added 21700 new jobs between 2013 and 2014, thus regaining the jobs it lost and bringing total employment in the sector to 83700 in 2014, representing a 11.5% increase from employment in 2009. We argue that the increased activity in the Greek tourism industry during 2014 has spurred the growth of the administrative and support service activities sector. The data in Table 2 show further that private sector was the hardest hit by the recession. Note that the public administration, defense and compulsory social security sector employment suffered also a net loss of 66000 positions from 2009 through 2014. However, job losses in the public sector appear to have exceeded this number taking into consideration public services in sectors such as education, health, infrastructure, transport etc.

Figure 4 graphically illustrates full- and part-time employment by educational attainment. As can be seen, from 2009 to 2014, full-time employment has declined by almost 25%, while part-time employment recorded an increase of 20.6%. Out of the 1073400 full-time jobs lost, 606600 jobs were related to individuals with less than primary, primary and lower secondary education; 418400 jobs were occupied by individuals with upper secondary and post-secondary non-tertiary education as the highest educational qualification; and only 48400 jobs, i.e. only 4.5% of the full-time jobs lost, were served by individuals with tertiary education. Over the period 2009 – 2014, the number of part-time jobs added was 56600. These jobs were almost equally distributed across the two educational attainment groups with a qualification higher than lower secondary education. In contrast, part-time employment of individual with less than primary, primary and lower secondary education declined slightly by 5500 positions.

**Table 2: Employment of Persons Aged 15-74 Years (in thousands) in Greece by Economic Activity (NACE, Rev. 2)**

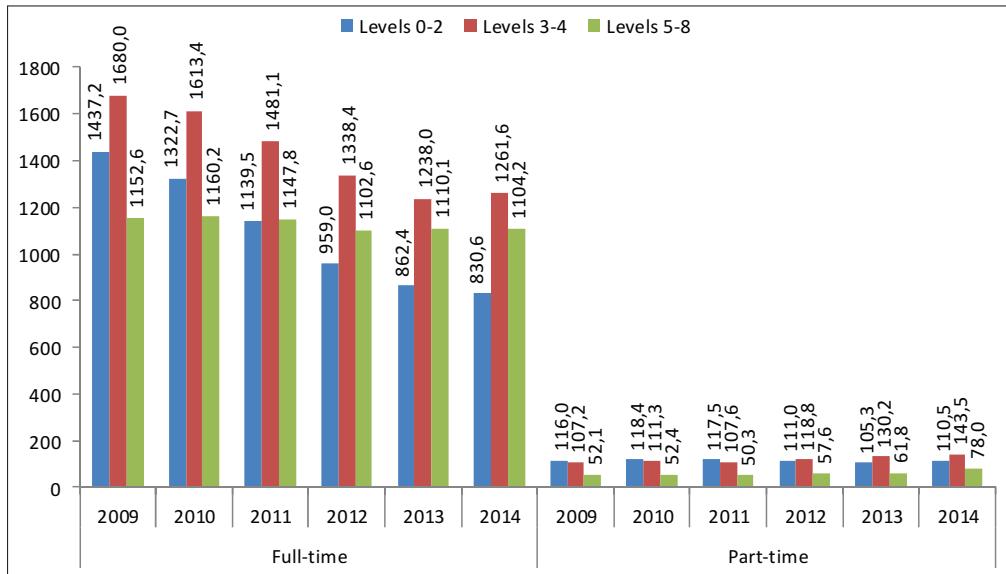
Economic activity	Year						Jobs lost from 2009 to 2014
	2009	2010	2011	2012	2013	2014	
Agriculture, forestry and fishing	526,2	537,4	494,5	476,2	478,2	475,7	50,5
Mining and quarrying	14,2	13,2	11,1	11,1	9,6	11,3	2,9
Manufacturing	518,3	467,9	409,1	350,9	324,5	316,3	202,0
Electricity, gas, steam and air conditioning supply	28,5	25,9	24,2	26,0	27,7	27,5	1,0
Water supply; sewerage, waste management	30,5	32,7	26,3	21,8	22,3	22,8	7,7

Economic activity	Year						Jobs lost from 2009 to 2014
	2009	2010	2011	2012	2013	2014	
Construction	370,5	319,5	245,4	200,7	162,3	151,4	219,1
Wholesale and retail trade; repairs	825,8	797,2	751,0	662,5	630,1	625,0	200,8
Transportation and storage	217,0	208,2	196,3	178,2	173,0	171,5	45,5
Accommodation and food service activities	320,4	307,7	294,7	271,8	258,6	296,4	24,0
Information and communication	87,6	87,1	75,5	71,8	76,2	75,5	12,1
Financial and insurance activities	114,6	115,7	113,5	110,9	107,1	93,0	21,6
Real estate activities	8,5	6,2	5,6	5,8	2,9	3,9	4,6
Professional, scientific and technical activities	234,2	217,1	213,8	217,7	196,8	195,5	38,7
Administrative and support service activities	75,1	75,4	77,3	67,5	62,0	83,7	-8,6
Public administration and defense; compulsory social security	377,1	369,9	354,9	326,6	325,0	311,1	66,0
Education	328,7	321,7	304,4	290,2	274,8	290,2	38,5
Human health and social work activities	234,4	245,8	237,8	223,2	212,5	208,8	25,6
Arts, entertainment and recreation	53,9	48,8	47,4	40,3	42,9	47,0	6,9
Other service activities	88,3	88,4	85,1	76,3	69,6	72,0	16,3
Activities of households as employers	89,8	90,8	73,6	55,9	50,4	48,5	41,3
Activities of extraterritorial organizations and bodies	1,6	1,6	2,2	1,8	1,3	1,4	0,2
<b>Total</b>	<b>4.545,2</b>	<b>4.378,5</b>	<b>4.043,6</b>	<b>3.687,3</b>	<b>3.507,8</b>	<b>3.528,4</b>	<b>1.016,7</b>

Source: Eurostat, LFS 2014.

Note: In the last column, a negative number indicates an increase in employment.

**Figure 4: Full- and Part-Time Employment of Persons Aged 15-74 Years (in thousands) in Greece by Educational Attainment**



Source: Eurostat, LFS 2014.

Note: Levels 0-2 – less than primary, primary and lower secondary education; Levels 3-4 –upper secondary and post-secondary non-tertiary education; Levels 5-8 – tertiary education.

Table 3 summarizes the composition of employment across the International Classification of Status in Employment (ICSE). The data show that, while the proportion of employees, employers and unpaid family workers had gone down from 2009 to 2014, the share of own account workers in the continuously shrinking employed labor force rose from 21.1% in 2009 to 24.9% in 2014. The figures in Table 3 show further that, between 2009 and 2014, employers' proportion of total employment has fallen by almost two percentage points and that 151900 businesses have closed, while many others are struggling to survive the financial crisis. The vast majority of these businesses are small, family-run affairs. This is a very worrying trend in the labor market as family businesses are the backbone of the Greek economy and make a major contribution to economic activity and employment (Agapitou and Theofanides, 2008).

**Table 3: Employment of Persons Aged 15-74 Years (in thousands and as percentage of total employment) in Greece by Professional Status**

Employment status	Year					
	2009	2010	2011	2012	2013	2014
Employees	2948,6 (64,9)	2826,4 (64,6)	2586,1 (64,0)	2340,3 (63,5)	2213,3 (63,1)	2263,1 (64,1)
Self-employed persons with employees (employers)	374,8 (8,2)	342,8 (7,8)	308,8 (7,6)	259,4 (7,0)	233,1 (6,6)	222,9 (6,3)
Self-employed persons without employees (own-account workers)	958,1 (21,1)	962,8 (22,0)	929,7 (23,0)	904,0 (24,5)	891,3 (25,4)	878,7 (24,9)
Family contributing workers	263,7 (5,8)	246,5 (5,6)	219,1 (5,4)	183,6 (5,0)	170,2 (4,9)	163,7 (4,6)
<b>Total</b>	<b>4.545,2</b>	<b>4.378,5</b>	<b>4.043,7</b>	<b>3.687,3</b>	<b>3.507,9</b>	<b>3.528,4</b>

Source: Eurostat, LFS 2014.

Note: Numbers within parentheses are percentages of total employment in the corresponding year.

Table 4 presents own-account workers, employers and employees as percentage of the total number of employed persons, aged 15-74 years, in the Eurozone member-states in 2009 and in 2014. There can be seen that, in 12 out of the 19 Eurozone countries, the own-account workers' share of total employment has increased between 2009 and 2014; in two countries (Germany and Portugal) decreased; and in five countries (Austria, Malta, Cyprus, Slovakia and Italy) remained almost stable. Among the Eurozone countries, where the own-account workers' share of total employment has increased, Greece, with an increase of 18%, occupies the fourth highest position after Netherlands (30.4%), Estonia (27.9%), Slovenia (25%) and France (19%). Moreover, in Greece, the own-account workers' proportion of total employment is the highest among the Eurozone countries, higher by almost 50% from the corresponding proportion in Italy and at least double from the percentage of own-account workers in all the other Eurozone countries. As can be further seen from Table 4, across the Eurozone, among the self-employed, own account workers outnumber employers and this is consistent with a worldwide finding (Chen and Doane, 2008).

A k-means cluster analysis was conducted to identify different groups of countries within the Eurozone according to their own-account workers' and employers' share of total employment in 2014. The number of clusters to detect was specified by the rule of thumb  $k \approx \sqrt{19/2} \approx 3$ . Table 5 shows the three clusters that were identified along with the means of the above variables for each group. On the basis of the aforementioned means, these clusters can be characterized as high, medium, and low in terms of the own-account workers' and employers' share of total employment. The low cluster included 11 countries, while the medium cluster consisted of 7 countries, 4 of which were countries of Southern Europe (Italy, Spain, Portugal and Cyprus). The high cluster comprised solely of Greece.

**Table 4: Own-Account Workers', Employers' and Employees Proportions of Total Employment (ages 15 through to 74) in the Eurozone in 2009 and 2014**

Country	Own-account workers		Employers		Employees	
	2009	2014	2009	2014	2009	2014
Estonia	4,3	5,5	3,9	3,4	91,7	90,9
Luxembourg	5,2	5,8	2,8	2,4	91,4	91,2
France	5,8	6,9	4,5	4,2	89,1	88,5
Germany	6,1	5,8	4,8	4,6	88,5	89,2
Latvia	6,2	6,8	3,8	4,0	88,5	88,4
Austria	6,7	6,5	4,7	4,7	86,6	87,0
Slovenia	7,2	9,0	3,4	3,5	84,4	82,0
Lithuania	7,9	8,5	2,4	2,3	88,0	88,0
Belgium	9,0	9,5	4,5	4,1	85,3	85,5
Finland	9,0	9,3	4,1	4,2	86,4	86,0
Netherlands	9,2	12,0	3,8	4,0	86,6	83,5
Malta	9,4	9,3	4,3	4,4	86,2	86,2
Spain	10,3	11,9	5,6	5,0	83,2	82,4
Ireland	11,1	11,7	5,5	4,6	82,7	83,0
Cyprus	12,1	12,3	5,1	3,7	80,6	82,3
Slovakia	12,1	12,1	3,4	3,2	84,3	84,6
Portugal	16,3	12,8	5,4	5,2	77,4	81,5
Italy	16,6	16,6	6,7	6,5	75,2	75,5
<b>Greece</b>	<b>21,1</b>	<b>24,9</b>	<b>8,2</b>	<b>6,3</b>	<b>64,9</b>	<b>64,1</b>

Source: Eurostat, LFS 2014.

As is also evident in Table 4, the share of the wage and salaried employees in Greece is the lowest in the Eurozone. In contrast, Greece is ranked top (with Italy only slightly ahead in 2014) among the Eurozone countries as far as employers' proportion of total employment is concerned. In fact, the employers' slice of the employment pie is bigger than its global maximum of 5% (Hunter, 2013) and almost double than the corresponding EU-28 average of 4.2%. The data in Table 4 reveal further that Greece witnessed the second highest percent decrease in the employers' share of total employment (23.2%), with Cyprus leading the list with a decrease of 27.5%.

**Table 5: Classification of the Eurozone Countries According to Their Own-Account Workers' and Employers' Share of Total Employment, 2014**

Cluster		Own-account workers' share of total employment	Employers' share of total employment
Low			
	Estonia, Latvia, Lithuania, Belgium, Germany, France, Luxembourg, Malta, Austria, Slovenia, Finland	7,5	3,8
Medium			
	Italy, Spain, Portugal, Cyprus, Ireland, Netherlands, Slovakia	12,8	4,6
High			
	Greece	24,9	6,3

This is particularly worrisome as Greece has one of the largest numbers of SMEs businesses within the EU, most of which are family businesses that, by common belief and reality, are considered to be the backbone of the Greek economy. Available data show that 80% of business owners in Greece consider their business as "family business", while on a European level, 70%-80% of enterprises are family businesses accounting for 40%-50% of employment and for about 40% of private sector turnover whereas their share in GDP ranges from 20% to 70% (Szabó, 2013; Vassiliadis and Vassiliadis, 2014). Family firms are important, not only because they make an essential contribution to the economy, but also because of the long-term stability they bring, the responsibility they feel and the values they stand for (Vassiliadis and Vassiliadis, 2014). Agapitou (2013) notes that Greek SMEs contribute to total employment more than 80-85% and to gross value added (at factor costs) at a share exceeding 70% for the 2005 – 2012 period, averaging more than EUR 53 billion, while almost half of SMEs' gross value added involves firms employing fewer than 10 employees. In addition, within the SME sector, microenterprises correspond to 96.6% of businesses, 56.6% of employment and 33.9% of value added in contrast to the EU averages of 92.2%, 29.7% and 21.2% respectively.

## 4. Unemployment Trends

Table 6 presents the unemployment rates by sex and age group in the Eurozone in 2014. With 26.5 %, Greece was the country with the highest overall unemployment rate in 2014. From 2009 to 2014 total unemployment has risen by almost 17 percentage points. Concerning the unemployment gender gap, defined as the difference between female and male unemployment rates (Albanesi and Şahin, 2013), female unemployment in 2014 was 30.2% that is 6.5 percentage points higher than male unemployment, both being the highest among the Eurozone countries. Moreover, in 2014 Greece recorded the largest unemployment gender gap across the Eurozone, with the second larger – notably in favor of females – being that of Ireland (equal to 3.5 percentage points).

Table 6: Unemployment Rates by Sex and Age Group in the Eurozone, 2014

Country	15 to 24 years			25 to 39 years			40 to 64 years			15 to 74 years		
	M	F	T	M	F	T	M	F	T	M	F	T
Belgium	24,0	22,3	23,2	10,0	8,6	9,3	6,3	5,3	5,9	9,0	7,9	8,5
Germany	8,3	7,1	7,7	5,9	4,9	5,4	4,6	4,2	4,4	5,3	4,6	5,0
Austria	10,6	9,9	10,3	6,2	6,3	6,3	4,6	3,7	4,2	5,9	5,4	5,6
Luxembourg	26,1	18,1	22,6	4,9	5,6	5,2	4,5	4,5	4,5	5,9	5,8	5,9
Malta	13,8	9,7	11,8	5,2	4,1	4,7	5,2	4,9	5,1	6,1	5,4	5,9
Estonia	19,3	10,0	15,0	7,0	9,3	8,0	6,8	5,2	6,0	7,9	6,8	7,4
Netherlands	12,4	13,1	12,7	6,0	6,6	6,3	6,4	6,8	6,6	7,2	7,8	7,4
Finland	22,8	18,4	20,5	7,9	7,5	7,7	7,7	6,0	6,8	9,3	8,0	8,7
Slovenia	19,4	21,3	20,2	10,0	13,6	11,7	7,0	7,3	7,1	9,0	10,6	9,7
France	25,1	23,1	24,2	11,2	11,2	11,2	7,5	7,3	7,4	10,5	10,0	10,3
Lithuania	19,6	18,7	19,3	10,6	9,0	9,8	12,2	8,4	10,2	12,2	9,2	10,7
Latvia	19,4	20,0	19,6	11,2	11,0	11,1	11,3	8,3	9,7	11,8	9,8	10,8
Ireland	26,6	20,9	23,9	13,2	8,9	11,2	10,9	7,6	9,5	12,9	9,4	11,3
Italy	41,3	44,7	42,7	14,2	17,3	15,5	7,8	8,7	8,1	11,9	13,8	12,7
Slovakia	29,5	30,1	29,7	13,0	14,2	13,5	9,6	11,4	10,5	12,8	13,6	13,2
Portugal	34,2	35,4	34,8	12,7	15,0	13,9	12,5	11,8	12,1	13,7	14,5	14,1
Cyprus	37,4	34,6	36,0	16,4	13,6	14,9	14,6	12,2	13,5	17,1	15,1	16,1
Spain	53,4	52,9	53,2	23,7	25,4	24,5	20,0	22,0	20,9	23,6	25,4	24,5
Greece	47,4	58,1	52,4	28,7	34,3	31,2	17,6	23,5	20,1	23,7	30,2	26,5

Source: Eurostat, LFS 2014.

Note: M = Males, F = Females, T = Total.

The *most worrying data*, however, in Table 6 is youth unemployment which is generally much higher, even double or more than double, than unemployment for all ages. In Greece, the unemployment rate for the age group 15 to 24 years climbed in 2014 to 47.4% for males and to 58.1% for females. This historically high level of youth unemployment presents Greece with a huge social and economic challenge (Bell and Blanchflower, 2015). Undoubtedly, high unemployment rates are by themselves worrisome. However, even more alarming is the persistence of unemployment, the length of time individuals, especially young workers are unemployed, often while seeking their first job.

Table 7 shows the unemployment rates by educational attainment in the Eurozone in 2009 and in 2014. The data in Table 7 suggest that, between 2009 and 2014, unemployment rates in Greece had almost tripled across all educational levels. Notably, these rates had also almost tripled from 2008 to 2012 (OECD, 2014b). However, tertiary-education graduates' unemployment rate in 2014 was almost 10 percentage points lower than the unemployment rate of those with lower educational attainment. This is consistent with the study of Bell and Blanchflower (2015), who found that, in Greece, the most educated have the lowest probability of being unemployed or long-term unemployed. Yet, tertiary-education graduates' unemployment rate was 5.2 percentage points higher than the next highest tertiary-education graduates' unemployment rate in the Eurozone, reported in Spain (14.8%). Similar trends are observed among unemployed with upper secondary and post-secondary non-tertiary education. Only for those with less than primary, primary and lower secondary education the unemployment rate in 2014 was lower in Greece (28.2%) than in Spain (33.8%).

**Table 7: Unemployment Rates by Educational Attainment in the Eurozone (2009 and 2014)**

Country	Educational attainment					
	Less than primary, primary and lower secondary education (levels 0-2)		Upper secondary and post-secondary non-tertiary education (levels 3-4)		Tertiary education (levels 5-8)	
	2009	2014	2009	2014	2009	2014
Germany	15,7	11,8	7,6	4,6	3,4	2,5
Austria	10,7	11,4	4,6	5,0	2,6	4,0
Luxembourg	8,1	10,2	4,3	6,3	4,2	3,9
Malta	9,0	9,1	5,6	3,7	2,5	2,6
Estonia	28,1	13,6	15,7	8,2	6,2	4,8
Netherlands	5,5	12,1	3,1	7,5	2,2	4,1
Belgium	13,6	16,2	8,1	8,8	4,5	4,7
Finland	14,8	17,2	9,1	9,4	4,0	5,1
Slovenia	8,8	15,4	6,3	10,4	3,2	6,3
EU-28	14,4	18,5	8,3	9,4	4,9	6,1
France	13,6	17,1	8,4	10,6	5,3	6,3

Country	Educational attainment					
	Less than primary, primary and lower secondary education (levels 0-2)		Upper secondary and post-secondary non-tertiary education (levels 3-4)		Tertiary education (levels 5-8)	
	2009	2014	2009	2014	2009	2014
Lithuania	29,7	29,8	16,4	13,5	6,0	4,2
Latvia	31,1	24,0	18,9	11,7	7,9	5,6
Ireland	17,3	19,0	13,6	13,6	7,2	6,5
Euro area	14,9	20,2	8,6	10,1	5,4	7,2
Italy	9,5	16,6	7,3	11,9	5,4	7,9
Slovakia	41,5	41,1	11,5	12,6	4,2	6,4
Portugal	10,3	15,3	9,6	15,3	6,5	10,0
Cyprus	6,1	19,4	5,7	18,2	4,6	12,9
Spain	24,5	33,8	16,8	24,2	9,7	14,8
Greece	9,5	28,2	11,1	30,2	7,5	20,0

Source: Eurostat, LFS 2014

As can be also seen in Table 7, in 2014, the unemployment rates in Greece for individuals with upper secondary or post-secondary non-tertiary education and tertiary education were almost triple than the corresponding mean EU-28 rates, while the unemployment rate for individuals with below secondary education was only by 50% higher than the corresponding EU-28 average. Using educational attainment as a proxy for skill level, Monastiriotis and Marteli (2013) argue that large parts of Greece are characterized by an over-supply of skills and that the crisis is unlikely to have raised in any significant degree the skill-content of new jobs, but it has rather created conditions of job-competition and bumping down, leading to lower unemployment risks associated with education in large parts of the country. They also note that still, a number of regions, some of which are at least partly exposed to international demand (e.g., Attica and the touristic region of South Aegean), exhibit even today a curious absence of penalties for lower education. The researchers concluded that these results indicate an overall deficiency in the creation of skilled jobs in the country and possibly also a qualitative mismatch between skills supplied and demanded.

Tables 8 and 9, and Figures 5 and 6 present key statistics on long-term unemployment in Greece and the Eurozone over the period 2009 – 2014. As can be seen in Table 8, the highest incidence of long-term unemployment in the Eurozone in 2014, both as % of active population and as % of total unemployment, was in Greece, equal to 19.5% and 73.5%, respectively. These data reveal that 7 of every 10 unemployed persons were unemployed and have been seeking a job for a year or more. As is also evident in Figure 5, long-term unemployment in Greece, as percentage of total unemployment, has increased from 40.4% in 2009 to 73.5% in 2014. The data in Table 9 indicate further that the number of long-term unemployed has increased from 2009 to 2014 by 741200 and reached the historically elevated and unacceptable level of 936900, the worst legacy of the economic crisis. Moreover, these data show that the percentage of the

long-term unemployed who were jobless for 2 years or longer was 66.4% while the proportion of the long-term unemployed who were jobless for 4 years or over was 32.4%. In addition, from the data in Figure 6 it follows that the vast majority (81.7%) of the long-term unemployed are younger than 50 years, while the percentage of the long-term unemployed was about the same across the two sexes. Such high long-term unemployment rates, especially among young persons, have severe negative implications and are a likely factor of social and political tensions. Studies have shown that long spells of unemployment create permanent scars rather than temporary blemishes and that persons unemployed for an extended period lose their skills and their ties to the workplace, while growing frustration over unemployment may also lead a large number of discouraged youths to give up looking for a job (Bell and Blanchflower, 2015; Morsy, 2012).

**Table 8: Long-Term Unemployment in the Eurozone in 2014**

Country	as% of active population	as% of unemployment
Austria	1,5	27,2
Luxembourg	1,6	27,4
Finland	1,9	22,4
Germany	2,2	44,3
Malta	2,7	46,8
Netherlands	3,0	40,0
Estonia	3,3	45,3
Belgium	4,3	49,9
France	4,4	42,8
Latvia	4,7	43,0
Lithuania	4,8	44,7
Slovenia	5,3	54,5
Ireland	6,7	59,2
Cyprus	7,7	47,7
Italy	7,8	61,4
Portugal	8,4	59,6
Slovakia	9,3	70,2
Spain	12,9	52,8
Greece	19,5	73,5

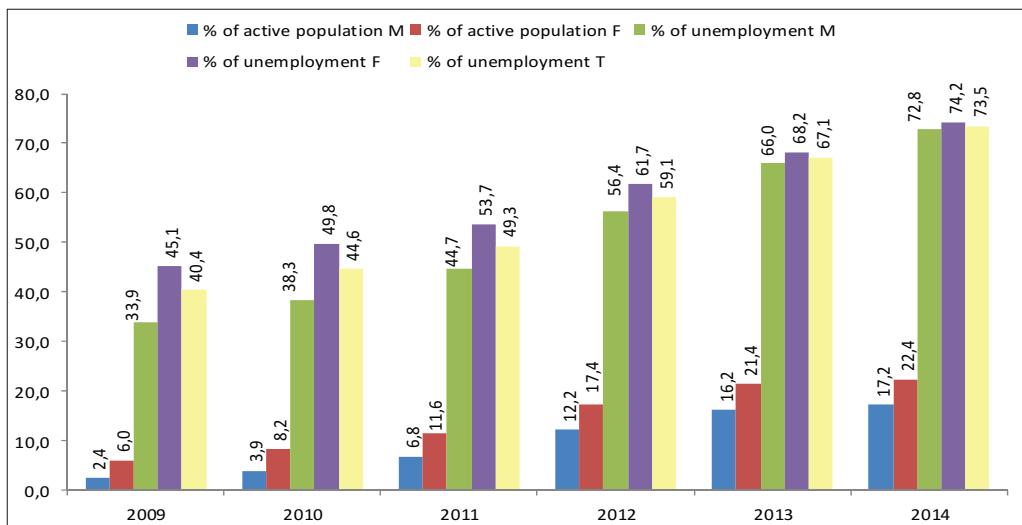
Source: Eurostat, LFS 2014

**Table 9: Long-Term Unemployment in Greece by Duration of Unemployment from 2009 to 2014 (persons, in thousands)**

Duration	Year					
	2009	2010	2011	2012	2013	2014
12 to 17 months	55,6	90,2	143,9	201,3	198,0	171,2
18 to 23 months	34,3	54,3	80,0	137,3	146,0	143,5
24 to 47 months	46,4	70,1	113,5	211,9	319,2	319,1
48 months or over	59,4	70,7	97,6	155,6	229,5	303,1
<b>Total</b>	<b>195,7</b>	<b>285,3</b>	<b>435,0</b>	<b>706,1</b>	<b>892,7</b>	<b>936,9</b>

Source: Eurostat, LFS 2014

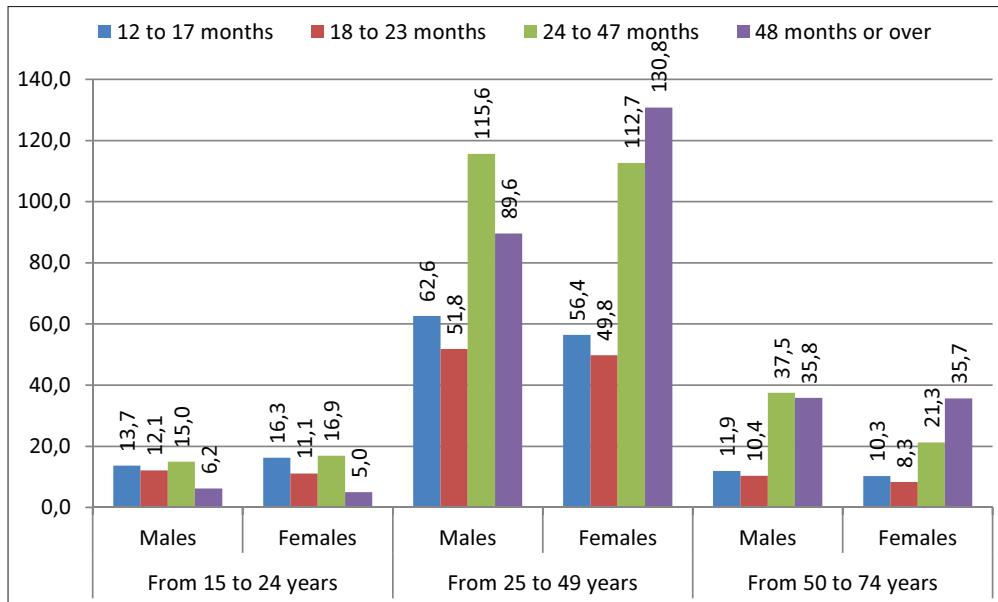
**Figure 5: Long-Term Unemployment by Sex in Greece from 2009 to 2014**



Source: Eurostat, LFS 2014.

Note: M = Males, F = Females, T= Total.

**Figure 6: Long-Term Unemployment by Duration of Unemployment, Sex and Age Group in 2014 (persons, in thousands)**



Source: Eurostat, LFS 2014

Unemployment has such devastating and long-term debilitating effects on young people that have been called 'scarring effects' (Arulampalam, 2001; Arulampalam, Booth and Taylor, 2000; Gregg, 2001; Gregg and Tominay, 2004; Gregory and Jukes, 2001; Heckman and Borjas; 1980; Kahn, 2010). Those scarring effects on young people have been interpreted in terms of two factors. The first factor relates to the depreciation of their human capital and readiness to work. Deterioration of skills and forgone work experience decrease the chances of future employment of those who experience unemployment early in their life, thus pushing them to accept more vulnerable, less paid and of poorer quality jobs. Studies have shown that, even once reemployed, displaced young workers, especially those who experience unemployment at the time of college graduation, face significant earnings losses up to 20 years after being laid-off, with wages about 15% lower for laid-off workers after being reemployed compared with their peers who find employment early and were employed continuously (Barnette and Michaud, 2012; Morsy, 2012). This effect is often referred to in the literature as 'unemployment state dependence'. The second factor of unemployment scarring relates to the so-called 'unemployment stigma', that is to the employers' belief that unemployed youth will not be productive. This is because very often employers judge workers' productivity and performance by their employment history. In addition to the negative effects on future earnings and employability, studies have provided evidence that unemployment has wide psychological implications as it has been linked with a number of psychological disorders, antisocial behavior and lower levels of physical well-being, happiness and job satisfaction.

## 5. Job losses and Unemployed's Profile

### 5.1 Previous Economic Activity and Occupation

Tables 10a & b present the job losses in Greece over the period 2009-2014 by economic activity and occupation, according to the European industrial activity classification (NACE Rev. 2) and to the 2008 International Standard Classification of Occupations (ISCO-08).

There can be seen that managers and craft and related trades workers were the occupations with the greatest job losses, equal to 331000 and 269700 eliminated positions, respectively, followed by clerical support workers (152700 positions lost), technicians and associate professionals (115500 positions lost) and plant and machine operators and assemblers (108200 positions lost). The vast majority of employment losses in the managerial category were in the wholesale, retail trade and repairs sector with 195300 eliminated positions. Employment losses in the craft and related trades workers occupation group were also unevenly distributed across sectors. Out of the 269700 eliminated positions in this occupation group, 160000 have come from the construction sector and 78800 from the manufacturing sector. These figures reveal that job losses during the recession occurred not only in the low-income occupations but they spread in both the high- and the mid-income occupations such as managers, craft and related trades workers, and technicians and associate professionals.

The service and sales workers occupation group was the only occupational group which had a net gain of 105100 jobs over the period 2009 – 2014. Most of these jobs (80500) added in the wholesale, retail trade and repairs sector, while another 32500 jobs were created in the accommodation and food service activities sector. According to ISCO-08, in the service and sales workers group are classified occupations, such as travel attendants, conductors and guides, cooks, and waiters and bartenders, mostly related to the tourism and hospitality industries including hotels, restaurants, and travel agencies.

**Table 10a: Job Losses (in thousands) in Greece over the Period 2009-2014 by Economic Activity and Occupation**

Economic activity	Occupation				
	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers
Agriculture, forestry and fishing	1,9				1,5
Mining and quarrying				1,5	0
Manufacturing	30,7	7,0	14,1	15,5	0,1
Electricity, gas, steam and air conditioning supply		-3,1	2,0	2,4	0
Water supply; sewerage, waste management		-1,9	-1,6	-0,5	0
Construction	13,0	0,2	2,0	4	0
Wholesale and retail trade; repairs	195,3	-0,3	19,3	34,2	-80,5
Transportation and storage	5,6	-2,8	2,2	11,7	-1,3

Economic activity	Occupation				
	Managers	Professionals	Technicians and associate professionals	Clerical support workers	Service and sales workers
Accommodation and food service activities	59,9	-3,3	3,5	-2,7	-32,5
Information and communication	1,3	2,8	10,4	-0,5	-3,8
Financial and insurance activities	7,8	1,5	-2,0	14,6	0
Real estate activities	2,5		2,3		0
Professional, scientific and technical activities	3,9	-3,6	23,9	13	0
Administrative and support service activities	2,3	-0,8	1,1	0,7	-2,8
Public administration and defense; compulsory social security	3,9	3,8	11,9	36,5	0
Education	0,2	35,1	3,7	4,1	-4
Human health and social work activities	0,9	-22,9	18,0	8,8	13,2
Arts, entertainment and recreation	0,3	-3,0	0,7	8,3	-4,4
Other service activities	2,8	-1,6	2,2	0,7	7,4

**Table 10b: Job Losses (in thousands) in Greece over the Period 2009-2014 by Economic Activity and Occupation**

Economic activity	Occupation				
	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations	Armed forces occupations
Agriculture, forestry and fishing	46,0		0,4	3,1	
Mining and quarrying		1,9	0,4		
Manufacturing		78,8	51,9	4,3	
Electricity, gas, steam and air conditioning supply		1,3	0,1	-0,5	
Water supply; sewerage, waste management		3,0	1,9	5,5	
Construction		160,0	12,6	27,8	
Wholesale and retail trade; repairs		10,0	14,8	9,2	

Economic activity	Occupation				
	Skilled agricultural, forestry and fishery workers	Craft and related trades workers	Plant and machine operators and assemblers	Elementary occupations	Armed forces occupations
Transportation and storage	1,1	28,3	0,5		
Accommodation and food service activities		2,9	-5,5		
Information and communication	0,6	-1,7			
Financial and insurance activities	0		1,9		
Real estate activities					
Professional, scientific and technical activities	0,7		2,4		
Administrative and support service activities	1,7	-4,7	-6,0		
Public administration and defense; compulsory social security	2,2	6,8	1,0	1,0	-0,4
Education		-2,8	0,6		
Human health and social work activities	2,5	-0,5	5,1		
Arts, entertainment and recreation	0,2		5,2		
Other service activities	3,4	1,4	0,8		

Note: Authors' calculations based on Eurostat's LFS 2014. A negative number indicates an increase in employment.

Table 11 presents the previous occupations of the unemployed by sex for the years 2009 and 2014, while Figure 7 illustrates the number of unemployed within each occupational group in 2014 against the sum of the number of workers unemployed within the occupational group in 2009 plus the job losses in the occupational category over the period 2009 – 2014. As can be seen, especially for the managerial group of occupations, the number of unemployed in 2014 who were previously managers, technicians and associate professionals or craft and related trades workers is much lower than the sum of the number of workers unemployed within the corresponding occupational group in 2009 plus the job losses in the occupational category over the period 2009 – 2014. Note that the occupational groups of managers, professionals and technicians are sometimes classified as high-skilled – and thus as high-income – occupations, while the occupational group of craft and related trades workers as mid-skilled manual occupations (European Foundation for the Improvement of Living and Working Conditions, 2014). We argue that the much smaller number of unemployed within a high-skilled, high-

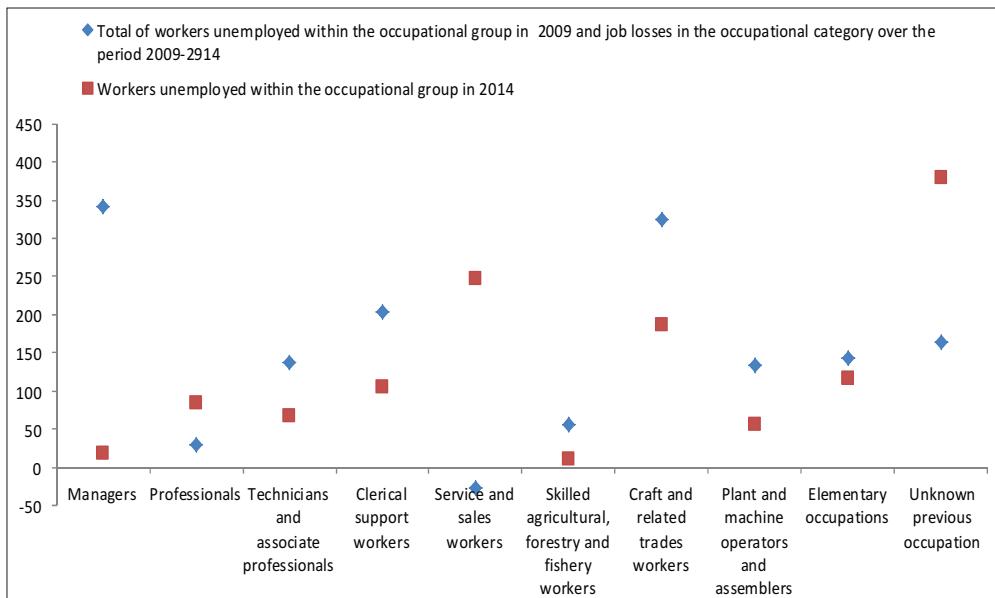
income occupational group compared to the job losses in the same occupational category *may be an indication* that high-income occupations are largely being replaced by lower-wage jobs. This is consistent with research findings showing that many of the unemployed managers and professionals are most likely to adjust their expectations moving to lower paying occupations and to contend with much less well paid and less powerful positions than they had held earlier or with an assortment of part-time, casual and voluntary work (Gabriel, Gray, and Goregaokar, 2013; Longhi and Taylor, 2013).

**Table 11: Previous Occupations of the Unemployed by Sex (persons, in thousands)**

Occupation	Total		Males		Females	
	2009	2014	2009	2014	2009	2014
Managers	10,6	18,8	4,9	11,7	5,8	7,1
Professionals	20,3	84,4	7,8	30,4	12,5	54,0
Technicians and associate professionals	21,8	67,8	7,5	31,2	14,3	36,6
Clerical support workers	50,8	106,0	13,6	34,1	37,2	72,0
Service and sales workers	77,4	247,1	28,2	102,5	49,1	144,6
Skilled agricultural, forestry and fishery workers	4,0	11,2	2,5	7,8	1,5	3,3
Craft and related trades workers	55,4	186,8	45,7	169,1	9,7	17,7
Plant and machine operators and assemblers	26,1	55,1	18,5	47,4	7,6	7,7
Elementary occupations	54,3	116,2	23,8	51,1	30,5	65,1
Unknown	163,1	379,8	50,4	148,6	112,6	231,2
<b>Total</b>	<b>484,7</b>	<b>1274,4</b>	<b>203,8</b>	<b>635,0</b>	<b>280,9</b>	<b>639,4</b>

Source: Eurostat, LFS 2014

**Figure 7: Number of Unemployed and Job Losses (in thousands) Across the Occupational Groups in 2014**



Note: Authors' calculations based on Eurostat's LFS 2014. Job losses refer to the period 2009 – 2014.

## 5.2 Methods Used for Seeking Work and Type of Employment Sought

Table 12 shows the method used and the type of employment sought by unemployed job seekers in Greece, the EU-28 and the Eurozone-19 during 2014. There can be seen that unemployed job seekers do not differ substantially across the three regions in terms of their preference over the type of employment sought. In contrast, substantial differences are observed in the methods used by the unemployed when searching for a job. The most pronounced difference occurs in the percentage of unemployed who contact a private employment office for seeking work. This percentage in Greece is as low as 3.6% whereas in the EU-28 and the Eurozone this percentage ranges over 20%. According to the European Labor Force Survey, this channel of job search was most frequently used in 2014 in Belgium, where 45% of the unemployed contacted a private employment office for job search, followed by the Netherlands and Portugal, both with a share of about 42%. At the other end of the scale, Denmark and Cyprus reported fewer than 3% of unemployed persons contacting a private employment office. The percentage of unemployed who contacted public employment offices for seeking work was much higher across the EU-28, of the order of 50%. Eichhorst (2013) argues that, given that unemployed persons typically have to register at the public employment office in order to receive unemployment benefit, this high percentage does not necessarily say anything about the importance of public employment offices as a job search channel and does not imply anything about the success of the search strategy. We also note that the importance of private employment agencies is emphasized within the scope of Lisbon strategy and their operation is within the scope of the harmonization process with the European Union. It is to be noted, however, that until recently private employment services were banned in Greece.

**Table 12: Method Used and Type of Employment Sought by Unemployed Job Seekers in 2014 (%)**

<b>Method used for seeking work</b>	<b>EU-28</b>	<b>EA-19</b>	<b>Greece</b>
Contact public employment office	49,1	46,0	65,7
Contact private employment office	23,0	24,9	3,6
Apply to employers directly	63,3	65,2	89,6
Ask friends, relatives, trade unions	72,4	74,5	94,1
Publish or answer advertisements	44,5	42,9	40,7
Study advertisements	65,6	62,7	76,9
Took test, interview, examination	15,9	17,3	16,8
Look for land, premises, equipment	1,4	1,1	1,0
Look for permits, licenses, financial resources	1,4	1,2	1,4
Other method	8,0	7,6	17,1
<b>Type of employment sought</b>			
Self-employment	2,2	2,1	2,2
Full-time employee	21,5	20,0	20,0
Part-time employee	8,3	8,2	0,8
Full-time or part-time employee	68,0	69,7	77,0

Source: Eurostat.

## 6. Conclusion

The data presented in this paper show that, as Greece has entered its sixth year of recession, the country suffers from unprecedented and socially unacceptable rates of unemployment with the youth and long-term unemployment rates being even more alarming and *worrying*. High youth unemployment rates do reflect the difficulties faced by young people in finding jobs, as young people have less work experience, less knowledge about how and where to look for work, fewer job-search contacts and many of them lack the skills employers need, often because of backward-looking education system. Some labor market practices, such as temporary employment and the tendency 'last hired – first fired' contribute also to youth unemployment (Morsy, 2012). The data of Eurostat's Labor Force Survey 2014 reveal that, in 2014, 11.8% of the temporary employees in Greece were in the age group 15-24 years, 75.4% were in the age group 25 – 49 years, 12.8% were in the age group 50 – 74 years and 66.2% were in the age group 15 – 39 years.

Our data have also revealed that, while the proportion of employees and employers declined throughout the recession, the own account workers employment category expanded remarkably. Own-account workers and contributing family workers have been identified as vulnerable, while non-vulnerable employment comprises employers and employees. Although not all own-account self-employed workers are necessarily vulnerable, they constitute an important sub-group of those

in vulnerable employment and own-account self-employment can be an indicator of precarity, particularly when coupled with low wages because it does not include the protections associated with employment (Law Commission of Ontario, 2012; Sparreboom and Staneva, 2014). Own-account workers are less likely to have formal work arrangements, and are therefore more likely to lack elements associated with decent work, such as regularity and stability in income position, adequate earnings, adequate social security and social protection, possibilities of a unified voice in labor relations (trade unions) and a chance of an improvement in the labor market situation (Elder, 2009; Sparreboom and Staneva, 2014). Studies have revealed that own account workers fare far less well than the self-employed who hire others and that informal employers have a lower risk of poverty than own account workers (Chen et al., 2005). Hessels et al. (2015) found that employers are significantly more satisfied with their work than both own-account workers and paid employees. Their results revealed also that Greek own-account workers reported the lowest overall satisfaction with work among the different labor market statuses and all European countries participated in the study.

Sparreboom and Staneva (2014) note that workers in vulnerable employment are severely disadvantaged by both higher levels of qualifications mismatch and much lower levels of educational attainment. This is consistent with the data for Greece since, out of the 878700 own-account workers in 2014, the majority (43.3%) had less than primary, primary and lower secondary education, 34.0% had upper secondary and post-secondary non-tertiary education and only 22.7% were tertiary education graduates. Sparreboom and Staneva (2014) found also that the returns to education for youth in own-account work are different from those for youth in paid employment and, in particular, the relationship to years of education is much weaker.

From the data in Table 3, it can be estimated that self-employment in Greece, as percentage of total employment, has increased from 29.3% in 2009 to 31.2% in 2014 and that this is due to the increase in the own-account workers' proportion of total employment. This finding is in agreement with findings across industrialized nations where growth in self-employment in the 1980s and 1990s was concentrated in own-account self-employment which also seems to play a significant part in recessionary growth of self-employment (Cranford et al., 2005; LaRochelle-Côté, 2010; OECD, 2000). We postulate that the wide use of subcontracting and outsourcing strategies by public and private sector employers contributed to a great extent to this increase in own-account workers. However, as the role of own-account work seems to be an option of last resort and the understanding of what it means to be self-employed is often biased towards the entrepreneurial class of employers, own-account employment more closely resembles employment than entrepreneurship and should not be interpreted as increased entrepreneurial activity (Chen and Doane, 2008; Cranford et al., 2005; Sparreboom and Staneva, 2014).

Getting people back to work, ameliorating the effects of adjustment by supporting the most vulnerable and distributing the costs of adjustment equitably must remain priorities for inclusive growth and are crucial for the success of fiscal consolidations, as fair fiscal adjustments may provide the double dividend of enhancing the probability of success of the adjustment and of promoting social cohesion (Kaplanoglou et al., 2013; Koutsogeorgopoulou et al., 2014).

## Notes

1. The ICSE, approved by the 15th International Conference of Labor Statisticians of the International Labor Organization (ILO) in 1993, provides a system for the classification of the eco-

nominally active population by their status in employment which enables international comparison. The ICSE is adopted for use in household surveys. Four basic categories are constantly present since 1938 recommendation of the Committee of Statistical Experts of the League of Nations: employees, employers, own-account workers and contributing family workers. In 1958, the UN Statistical Commission introduces: members of producers' cooperatives and persons not classifiable by status.

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