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Employment Status and Job-Studies Relevance of Social Science Graduates: The Experience from a Greek Public University

Aglaia G. Kalamatianou¹, Foteini Kougioumoutzaki²

Abstract

Research on social science graduates' employment prospects reaches contradictor conclusions intensifying the scepticism on the value of these disciplines in the labour market. The paper examines two important labour market outcomes of these graduates, employment status and job-studies relevance taking into account gender and time of graduation. This is put into the Greek context, then examined further in a case study on graduates of a public University that exclusively serves social sciences. Results indicate deterioration of the graduates' employment opportunities, lower employment status of female graduates, and persistence of a high degree of 'job-studies no relevance' over time.

Keywords: social sciences graduates, employment, job-studies relevance, Greece

JEL classification: I23, J20

1. Introduction

The large expansion in the supply of graduates, mainly observed in developed countries over the last 50 years, has led to concerns about graduates' employment prospects that now appear less certain than in the past. In this context the field of studies became one of the key determinants of graduates' performance in the labour market (e.g. Ballarino and Bratti, 2009; Núñez and Livanos, 2009; Reimer et al., 2008). Research reveals significant variations in employment outcomes; in the main, it shows that graduates from more applied or technical fields do better in the labour market as opposed to those of more general academic fields, like social sciences. The underlying assumption is that social science studies are less vocational oriented and develop less occupation-specific skills; this creates a continued and widespread scepticism on their value in the labour market, which in turn gives rise to perceptions that question the value of social sciences *per se* (Drewes, 2002; Walters, 2004). What is of interest in this paper is the performance of social science

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graduates in the Greek labour market with respect to *employment status* and *job-studies relevance*, an aspect of the incident of job mismatches.

A noticeable feature in the case of Greece is that there exists a higher demand for higher level studies compared to the other European Union countries. This is portrayed at the proportion of tertiary level students over the total population enrolled in the Greek education system, which is the highest in Europe (Eurostat, 2009). However, the gap between this strong supply of highly qualified persons and the limited demand of the domestic economy for such labour (Liagouras et al., 2003) along with the bad economic state of the country, results in high unemployment rates, especially for young and female graduates (Eurostat, 2009). Moreover, the changing conditions of the job market as far as skills and professions are concerned, creates problems to graduates as to holding a job related to their studies (Kalamatianou and McClean, 2003). It would be interesting thus, to examine how social science graduates –whose skills and competencies (e.g. communicative, critical skills) are considered of special importance in the new emerged ‘knowledge society’– perform in the labour market under the above socio-economic conditions. Research so far indicates difficulties for these graduates. Explanations suggested here, include issues concerning supply-side factors, the recruitment policies of the public sector –main employer of social science graduates– and the evolution of social sciences and research in Greece.

The purpose of this paper is twofold. First, we review and discuss about the employment situation of graduates and of social science graduates, in Greece and elsewhere, arguing for the need of a more systematic examination of social science graduates prospects in the Greek labour market. Secondly, using data from the Panteion University of Social and Political Sciences, we analyse graduates’ employment prospects. In particular, we focus on two important labour market outcomes: a) *employment status*, a quantitative indicator of labour market performance, and b) *job-studies relevance* (that is, whether the job of an employed graduate is related to his/her field of study –job mismatch), a measure of the quality of the job performed. Focusing on two different measures of job success we get a more comprehensive picture of graduates’ labor market situation. The paper will moreover analyze the possible changes in the above two outcomes, taking into account gender, and time of graduation. Using a large number of data that cover a period of more than a decade (1988-2000) it is revealed how different generations of graduates (earlier and recent ones) experience labour market returns to their studies. To the best of our knowledge, this is a first attempt for a systematic comparison on social science graduates’ employment prospects in Greece. Most of the research so far examines the employment outcomes by field of study but not focusing on social sciences. Our empirical analysis concentrates specifically on social science graduates, enabling estimations of the employment returns to this field of study and of changes over time. In this respect the paper makes a contribution to the relevant literature.

Information concerning labour market outcomes may be of particular interest to students, social sciences university departments, and educational policy makers. First, it could be useful for the students to know the employment potentials after graduation from a specific field and whether there are any particular positive or negative employment returns

to studying social sciences. The corresponding departments could also be interested in developing or altering the curriculum to enhance e.g. graduates' employability. Finally, educational policy makers may take initiatives to facilitate the transition from university to work, such as financing social research within universities as it can play a key role for the development of the country.

Our inquiry is organized as follows: In Section 2 we describe the issues of unemployment and job mismatch of the Greek graduates in relation to higher education expansion and the local socio-economic conditions, making comparisons with other countries. The information provided serves to contextualize the analysis of these two issues for the specific case of social science graduates where we focus in Section 3. More specifically, Section 3 discusses the scepticism as to the labour market value of social sciences compared to other disciplines, and presents research findings on employment outcomes of the corresponding graduates in Greece and elsewhere. Section 4 is devoted to the empirical analysis; in particular, it describes the research questions, the data, the variables, the statistical procedures, and presents the results of the analysis of the issues under study along with an extended discussion on them. The final Section 5 concludes.

2. Unemployment and Job Mismatch of Graduates, in Greece and elsewhere

From the 1960s onwards there has been a growing social demand for higher education which resulted in the expansion of this level of education in most developed countries. In Greece this demand has appeared somewhat later, in the mid 1970s, when the end of the authoritarian regime opened the way for the final re-introduction of a modern democratic system. In the following years the expansion of this educational level has been remarkable as to the number of the departments established and students enrolled. Of special importance is the 1997 reform that aimed at the widening of participation promising equality of opportunities (Sianou, 2008). It is worth noting that over the period 1998 to 2006 Greece has been among the European countries recording a very significant rise (at least 50%) in the number of their tertiary students (the European average is 25%). Furthermore, tertiary level students constitute more than a quarter of the total population enrolled in the Greek education system; the corresponding proportion comes up to 29.9% –the highest in Europe (EU-27) where the respective average proportion is 17.4% (Eurostat, 2009).

The above figures indicate the strength of tertiary education in the national education system, making Greece a distinctive case in this respect. Indeed, the value Greeks place on higher education has been traditionally very high and goes back to the period of the establishment of the nation in the early 19th century (Tsoukalas, 1977). Even the *numerous clausus* policy adapted by the Ministry of Education does not prevent Greeks from pursuing higher level studies; the most typical aspect is that Greece has one of the largest university student populations abroad (Kalamatianou, 1990). Women's participation is also outstanding as they constitute 62% of the university students and 51.1% of all tertiary level students (Greek National Statistical Service (GNSS), 2005). This is a remarkable evolution considering that, for almost a century since the establishment of the Greek nation, women

had no access to higher education (Belogiannis et al., 2007). Yet, this high demand for university degrees, which increases the supply of graduates, many times happens to any family expense and against the demands of the labour market in specialities and numbers (Kalamatianou, 1992). Given this, a natural question is how well this large number of highly educated people performs in the job market. In the following, the focus is on two labour market performance indicators, unemployment and job mismatch.

2.1 Unemployment

The unemployment rate is an important indicator of graduates' labour market performance, that in many developed countries and despite the variations is rising fast affecting particularly young (recent) and female graduates who are among the most vulnerable groups to unemployment (Eurostat, 2009). Theories developed in economic literature explaining the difficulties young graduates encounter are based on labour market function (e.g. human capital theory, segmented labour market theory), whereas those developed in sociology emphasize the effect of social origins to educational choices and attainments (Karamesini et al., 2008). As regards gender, Lyon (1996) argues that even if women gained equal access to higher education, there are still significant imbalances depending on the field of study as well as inequalities in the labour market outcomes. The main argument is that women have been socialized so as '*...to prepare themselves for careers within spheres of work traditionally seen as «female» and follow career paths premised on assumptions about women's domestic roles*' (Lyon, 1996, p.320).

In Greece, the university graduates (25-64 years old) face comparatively bigger employment difficulties as the unemployment rate (4.9%) is higher than the European average (EU19: 3.2%) while the unemployment rate for the total of tertiary education graduates is 5.7% (EU19: 3.2%) (OECD, 2010). Female and young graduates also, face significant employment difficulties. More specifically, the unemployment rate of Greek female graduates is more than twice (6.2%) that of male's (3.7%) –the corresponding European (EU19) average rates are 3.6% and 2.9% (OECD, 2010). Furthermore, the unemployment rate of Greek graduates aged 25-34 is roughly four times higher than that of graduates aged 35-44; in Europe (EU25) the respective rate is on average around two times higher (Eurostat, 2005). The above figures indicate that (young and female) graduate unemployment remains a serious problem of the Greek society compared to other European societies.

The high rates of graduate unemployment in Greece are mainly attributed to the weak link between higher education and labour market: On the one hand it is argued that higher education is not providing the skills and competencies needed by the economy and is not taking into account the needs of the labour market (Livanos, 2009) –rather it is oriented towards the needs of the public sector. On the other hand, high unemployment has been attributed to the limited demand of the domestic economy for high skilled workers, which is the result of the weaknesses of the business sector and the poor economic performance of the country in the last decades (Liagouras et al., 2003). The broader public sector that expanded greatly especially during 1980s, became graduates' main employer, who prefer it

mainly because of the advantages it offers (e.g. job security, parenthood benefits especially favourable to women). However, as a result of the economic squeeze and the recent tremendous economic recession of the Greek economy the employment chances in this sector have been and will be further significantly lessened, causing additional problems to new generations of graduates.

2.2 Job Mismatch

Graduates, finding themselves in an overcrowded labour market, are driven to accept jobs that do not match their level of education, their skills and knowledge. This incident of job mismatch (either at the education level and/or field of studies) is another significant indicator of graduates' performance in the labour market. We note that most of the relevant research focuses on the level of education mismatches, referred as overeducation (the acquired educational level of a worker exceeds the level of education required to perform a job) (Wolbers, 2003). Special attention has also been paid to the measurement of this incident (see, for example, Barone and Ortiz, 2010; Dolton and Vignoles, 1997), as different methodologies (e.g. subjective and objective measurements) lead to different estimates, and it is not clear what the 'correct' method should be. In particular, according to Dolton and Vignoles (1997) most research has relied on subjective measurements, that is on self-assessment techniques, whereby graduates are asked directly about the educational requirements of their work; alternatively, objective methods are sometimes applied which generally use employment analysis data such as dictionaries of job titles. All these methods have limitations which should be taken under consideration at the interpretation of the findings.

Many empirical analyses have been conducted to measure educational mismatch among graduates. Reviewing the relevant research during 1980s and 1990s in Europe, Dolton and Vignoles (1997) conclude that this incidence varies considerably among countries, and, determining the average European graduate overeducation is impossible from the available data; however, the work that has been done indicates that about 20-30% of European graduates feel overeducated or underutilized. Teichler (2002) reports the results of a survey that compares the situation of graduates of 12 European countries (Greece excluded) four years after graduation, where one sixth of the graduates do not see a reasonable link between their field of study and the work tasks, and 12% believe that a lower level of higher or other tertiary education had sufficed; asked to consider all dimensions in their judgement, one seventh of the graduates believe that their level of employment and work is hardly or not at all appropriate to their level of educational attainment. Findings from the *EU LFS 2000 ad hoc module* (Eurostat, 2003) focusing on persons attained a vocational program, reveal that 30% of tertiary education graduates has a job-field of education mismatch; the respective rate in Greece (35%) is among the highest ones. Furthermore, it was found that in most of the selected European countries and in Greece as well, women are more likely to be employed in a non-matching job than men; however, the gender differences are quite modest. A Greek survey on recent graduates

(1998-2000) (Karamesini et al., 2008) reports that the average rate of those holding jobs with little or no relevance to their field of study is 27.9%, and that more women (28.8%) than men (25.4%) hold such jobs. Similar results come out from another survey on Greek graduates (Basiakos, 2010) where 29.5% of the respondents reported being on jobs not relevant to their studies while also, more women (32%) than men (26%) are in such jobs. As indicated elsewhere (Kikilias, 2008) the percentage of overeducated employed graduates in Greece rose to 21% in 2007, up from 16% in 1993.

In an attempt to explain the above described situation in Greece it has been argued that the private sector was not dynamic enough to provide the types of jobs that would satisfy the growing number of high skilled workers (Patrinos, 1997). Moreover, that the jobs requiring higher educational qualifications were increasing in a slower pace compared to the population holding such qualifications (Karamessini et al., 2008). In addition, according to Glytsos (1990), public sector –that expanded mainly as a response to the pressure put by the large number of graduates– has never been very particular in the recruitment of graduates with special qualifications. As a result, many graduates are in public service jobs that do not match their studies. Under these conditions and given the high level of unemployment, Greek graduates find themselves accepting jobs not corresponding to their level and/or type of education.

Overall, in the specific Greek economic and social environment, the high demand for higher education trains an oversupply of labour of graduates who face more difficulties, compared with those of other countries, in finding a job that is also relevant to their studies. Moreover, those who confront even more difficulties are the young (recent) graduates and the female ones –a situation similar to other countries, yet, more intensive in Greece.

3. Social Science Graduates in the Labour Market, in Greece and elsewhere

In the context of higher education expansion, the issue of labor market differences across fields of study has become of central interest among scholars (e.g. Ballarino and Bratti, 2009; Drewes, 2002, Nunez and Livanos, 2009; Reimer et al., 2008). Research reveals different employment outcomes in terms of employment status, job mismatches, wages, occupational prestige etc., as well as variations among countries making it difficult to identify a simple international trend. In each case, the state of the economy, the structure of the labour market, the employment opportunities, the structure of higher education including entrance requirements, along with demographic and other factors, could determine whether graduates from specific fields face severe problems or seem to be in demand.

3.1 Social Science Graduates in the Labour Market: the International Context

It is useful to notice here that the research results concerning the employment prospects of social science graduates are not consistent. There are studies showing that these graduates (as well as graduates in other general academic programs i.e. humanities) face more difficulties in the work market than those from more applied or ‘hard’ fields,

such as engineering or computer science, while other studies reveal moderate or even good labour market outcomes. In the following, we discuss first about the studies revealing somehow low employment prospects for social science graduates and then, those showing favourable work outcomes.

Teichler (1989) reviewing studies on university graduates from various western European countries during 1980s, points to the differences among countries and summarizes as follows: graduates in most economic and engineering fields as well as those in medical and legal fields do not face serious problems; the fields whose graduates deal with major employment problems vary substantially from one country to another; in most countries, graduates in the social sciences and the humanities face greater than average employment difficulties. Ballarino and Bratti (2009) study the evolution of graduates' employability by degree subject over time in Italy, and find that the degrees ensuring the best employment outcomes are those in technical, hard sciences, and hard social sciences (economics, statistics) fields. Examining the differences in early labour market outcomes across college majors in Italy, three years after graduation, Buonammo and Pozzoli (2009) reveal that 'quantitative' fields (sciences, engineering, and economics) ease the transition into the first job, increase employment probability and early earnings, conditional on employment, whereas graduates in humanities and social sciences are the most disadvantaged in terms of early labour market outcomes. Finally, two European comparative studies (Nunez and Livanos, 2009, Reimer et al., 2008) using data from the *EU LFS*, show that the most effective disciplines on reducing the chances of unemployment are health and welfare, education as well as engineering. Arts and humanities graduates have the most serious employment problems, while the field of social sciences, business and law provides average employment prospects.

Specifically on the issue of job mismatch, Teichler (1989) reports results of two studies where for social science graduates the share of those working on suitable jobs was below the country's average (about 60% of 1984 Swedish social science graduates reported their education was (completely) suitable to their jobs as opposed to the average 70%, and 50% of 1979 German social science graduates reported they did use at work the knowledge acquired during their studies as opposed to the average 57%). Analyzing the early careers of 1980 UK graduates six years after graduation, Dolton and Vignoles (1996) find that social science (along with arts and language) graduates were more likely to be overeducated. Similar findings come out from a study (Barone and Ortiz, 2010) on overeducation in eight European countries, showing that within every country overeducation is unevenly distributed among graduates, being more widespread among those of humanistic fields (humanities, arts, and social sciences).

All the above findings indicate differences in the employment returns to field of study and employment difficulties for the social science graduates. Various explanations have been proposed as to these findings (see Barone and Ortiz, 2010; Reimer et al., 2008). Human capital theory emphasises the acquired skills and competences: certain fields may develop more productive or more occupation-specific skills than others, and may be more vocational oriented; graduates from these fields are more preferred by employers as they

require less training. From the signalling perspective, education is regarded as a signal of individual traits (e.g. ability and motivations): certain fields carry a higher signal value in the labour market as they are presumed to be chosen by students with higher abilities. In both theories the fields considered in a more favourable position are the 'hard' ones (scientific and technical disciplines) where men are over-represented despite a slight but continuous increase of women's proportion. On the contrary graduates from 'soft fields' like social sciences and humanities, which are female dominated, are expected to face problems as a consequence of the more general training they receive and the perception they are less able students relative to their counterparts from the 'hard fields. Sociological approaches pay more attention to the degree of stratification and selectivity of educational institutions as well as to the structure of the labor market and other demand-side factors (social closure perspective): highly stratified systems of education and a high selectivity at entry into higher education may keep the number of tertiary degrees low, thereby enhancing their economic value. A somehow similar to the above line of explanation is followed by Ballarino and Bratti (2009) who argue that the occupational returns to fields of study are mainly affected by the interplay between the demand and supply of graduates in different fields in the labour market. They suggest that the improvement in the relative performance of 'quantitative' degrees over time in Italy is explained mainly by the reduction of students and graduates and less by the technological progress that raises the employment opportunities of high qualified workers. For the upward trend in the relative performance of 'soft' disciplines the authors put forward labour market's flexibility that enhances graduates' employability, and also, graduates' lower expectations about job outcomes –the communicative and relational skills, considered as important to the emerging 'knowledge society', are less influential.

As mentioned earlier in this subsection, contrary to the above mentioned findings there are also studies revealing favourable employment outcomes for social science graduates. Allen (1998) using Census data from Canada on unemployment, occupation, and income shows that university graduates in education, the humanities, and the social sciences are highly employable, find good jobs, and earn high incomes. As he points out: "... *the view that most graduates in these areas have trouble finding work or are waiting on tables or driving taxis is contradicted by Census data*" (p.30). Ama (2008) also finds that a great majority (72.5%) of social sciences graduates (from the University of Botswana) hold jobs matching their level and field of education. Purcell and Elias (2006) find that the social science PhDs in UK, are satisfied with the type of job they are doing and the job's relevance to their training. Drewes (2002) compares the labour market experiences between humanities and social science graduates and those who graduated from more applied programs in Canada. He finds that the former may initially be disadvantaged by the lack of vocational content in their studies (resulting in longer job search period or more labour market experimentation), but once established in the market, they do as well as graduates from applied fields of study. Drewes argues that transition difficulties and scepticism about the value of these sciences (despite the statistical evidence that their graduates face comfortable futures in the labour market), are due to the inability to draw a one-to-one correspondence between these programs of study and identifiable occupations.

The underlying perception of the above studies is that the evolving economy requires various types of highly educated workers, whose skills are less specific and more transferable, who can think critically and are capable of understanding, transmitting and communicating knowledge. People with these types of skills are more likely to be found in fields of studies more academically oriented, like social sciences and humanities, rather than in technically oriented fields (Drewes, 2002; Walters, 2004).

From what has been stated so far, it is clear that there are cross-national differences affecting social science graduates' employment outcomes; therefore, it is not wise to make any generalizations on their employment prospects. It is important to note, nevertheless, that there seems to be scepticism on the value of these disciplines in the labour market deriving mainly from the disconnection between curriculum content and identifiable occupations.

3.2 Social Science Graduates in the Labour Market: the Greek Context

In Greece, there exist a rather limited number of studies examining graduates' labour market outcomes across the various fields of study, where it is found that social science graduates are among those encountering employment difficulties. Kikilias (2008) indicates that unemployment rates of social/economic science graduates (who were 15-64 years old in 2007) are higher compared to those of graduates of most of the other disciplines and of the total of university graduates; moreover, that female unemployment rate is higher than the corresponding of males' and that these graduates have high chances to be overeducated. The last finding is similar to that of Patrinos (1997) who finds, using a different methodology, that the incident of overeducation is particularly high for graduates in social sciences. Results from a survey on recent graduates (1998-2000) (Karamesini et al., 2008), reveal that more than half of the total of the unemployed graduates come from the fields of Social sciences, business, and law, and of Humanities and arts. Also, that a large part of graduates from almost all social science disciplines, hold jobs that have no or little relevance to their studies. Livanos (2009), using data from the LFS of the years 2000-2004 to explore the labour market of young graduates (15-35 years old), shows that graduates of disciplines traditionally related to the needs of the public sector such as sociology and humanities, have high chances of unemployment and longer period in unemployment, whereas graduates of disciplines with high levels of private sector employment (e.g. computer science) are in general better off in the Greek labour market. Basiakos (2010) finds that the group of social science graduates is the second (33.2%) most vulnerable group in holding jobs not relevant to their studies compared to graduates from other fields. Based on a small group of 1991-1995 sociology graduates from the University of Crete, Samatas (2010) finds that 13% are unemployed and 54% of the employed graduates are in jobs not relevant to their studies.

In an attempt to explain the employment difficulties social science graduates encounter in Greece, one could first argue that these graduates are more sensitive to the structural and economic weaknesses of the labour market as they comprise (along with graduates of business and law) the majority of graduates (33.5%) and are mostly women (63%) (OECD, 2010). Hadjiyanni and Kallas (2006) argue that the easy access to these

studies (as they require less qualifications compared to other studies and especially to those related to ‘hard’ sciences, which in turns diminishes their value in the labour market) and the fact they lead to public sector jobs are the main reasons for this large number of people studying social sciences. However, the supply factor can only be part of this explanation as these graduates comprise the majority in many countries as well (OECD, 2010). Thus, further factors need to be considered. Of particular importance is the way public sector recruits its personnel. Although it has never been very specific in the recruitment of graduates with special qualifications, it had some preference for those with general academic knowledge like social science graduates (Glytsos, 1990); consequently, a large number of them ended up in public service jobs that did not match their studies. Another aspect is related to the evolution of social sciences and research in Greece, which has been delayed compared with other western European countries. More specifically (National Centre for Social Research, 2005), the institutionalization of these disciplines begun in 1959 with the establishment of the first research institution exclusively dedicated to social sciences, the *National Centre for Social Research*, whereas it took more than two decades for the establishment of university departments. Nevertheless, the priority that initially seemed to be given in social research did not last. As a result, the *reproduction* of knowledge –through the expansion of educational institutions– has been favored over its *production*. This inconsistency limits, from another perspective, the chances for this large number of social science graduates to find jobs appropriate to their studies. Additionally, according to Petmezidou (1998), pressures for systematic applied social research as well as a market for social science experts have been limited in Greek society due to the low degree of development of a welfare state.

In summary, results indicate low employment prospects for the social science graduates compared to other graduates in Greece. These results although useful, do not specifically focus on this particular group and are not completely comparable due to differences in the field classifications used and in the populations and time periods examined. The following analysis is a first step towards a systematic examination of social science graduates’ prospects in the Greek labour market, which spans a sufficiently long period of time and allows investigating changes over time.

4. The Case Study: Employment Status and Job-studies Relevance of Graduates of Panteion University

4.1 The Research Questions, the Variables and the Data

The data employed in this study come from a survey on graduates from the Panteion University of Social and Political Sciences, Athens, and also from the corresponding official student records. Panteion School founded in 1927, courses began officially in 1930, and up to 1983 a single degree had been provided. In the same year it was divided into two departments (Political Science and International Studies, and Public Administration) and introduced the department of Sociology, whereas in 1989 it was upgraded to a University

Institution. Today, there are ten departments offering four-year bachelor degrees as well as postgraduate studies in a wide range of social science disciplines –the departments of: Public Administration, Sociology, Political Science and History, International and European Studies, Economic and Regional Development, Communication, Media and Culture, Psychology, Social Anthropology, Social Policy, and, the General Department of Law. The last one belongs to a special category as it provides teaching to other departments but it does not have a program of study leading to a single degree. These departments that came in operation gradually (either as new departments or as the result of the division of previous existed ones) are all classified (ISCED 1997) under the broad education field of *Social sciences, Business and Law* which includes four subfields: ‘Social and behavioral science’, ‘Journalism and information’, ‘Business and administration’ and ‘Law’¹.

As to the total number of students admitted, Panteion is the 9th largest university out of the twenty Greek University Institutions and the 4th largest in the capital area of Athens.

The fact that Panteion University offers degrees exclusively in social sciences along with its size makes it of special importance for the study of social science graduates’ labour market prospects. This, together with the authors’ work relations with the Institution directed the choice of the population under study.

The survey carried out during 2006-07 by telephone interviews. The questionnaire used included closed and open-ended questions concerning graduates’ employment prospects and demographic characteristics.

Based on the analysis of the previous sections, the following questions are emerged and explored here empirically:

Goal A

- A1.** What is the current *employment status* of our social science graduates?
- A2.** Is this status differentiated taking into account factors that correspond to *gender, year of graduation, and graduation class*, (earlier and recent graduates)?

Goal B

- B1.** To what extent the incident of ‘*job-studies no relevance*’ occur to our employed graduates?
- B2.** How is this incident implemented taking into account *gender, year of graduation, and graduation class*?

To address the above goals, the following information (variables) was necessary to be collected and recorded for each case (graduate):

Dependent variables:

- 1.** *Employment status*
considered as taking the three values: (a) *employed*, (b) *unemployed* and (c) *economically inactive*.

¹ In Greece the classification of the education fields (Ministry of Education, 2002) is similar to the ISCED97. In particular, the four fields corresponding to the above four subfields, are: *Social Sciences, Communication and Documentation Sciences, Economics, Business and Administration, and Law*.

2. *Job-studies relevance*

considered as taking the two values: (a) *relevance* and (b) *no relevance*.

It should be noted that graduates were asked directly to declare their *employment status* as well as their *job-studies relevance*. In the case of the latter variable, a subjective measurement has been used. As mentioned earlier (see, Section 2) the various types of measurements for the incident of job mismatch have certain limitations, however the subjective ones have been praised because they enable to capture many specific job situations that only job holders are able to report (Barone and Ortiz, 2010).

Independent variables:

1. *Graduates' gender*

2. *Year of graduation or cohort of graduates*

takes seven values corresponding to the graduation years: 1988, 1991, 1994, 1997, 1998, 1999 and 2000.

3. *Graduation class*

takes two values: (a) *earlier graduates* (of the years 1988, 1991, and 1994) and (b) *recent graduates* (of the years 1997-2000).

The variable *year of graduation* covers a period of thirteen years; year 1988 matches to the earliest cohort of graduates we could have since the introduction of Sociology and the division of Panteion into three departments, while 2000 relates to the latest cohort considering enough time the graduates start working and male graduates complete military service –a compulsory duty for Greek male population. The remaining years were selected randomly. This variable is used to estimate any changes in the respondents' employment status and job-studies relevance over time. The idea is that different cohorts of graduates enter the labour market in different time; so, considering the above two issues for different cohorts controls for changes over time. Most importantly, *years of graduation* serves to measure the variable *graduation class* which is used to estimate differences between earlier and recent graduates, a significant question of our study.

The size of the total population corresponding to the above seven years is 6040 graduates. From them, $N = 4623$ graduates, which constitute the 76.5% of the total population, were found and surveyed. This means that our data set is sufficiently large for estimations.

4.2 Statistical Procedures

To investigate the above mentioned *Goals*, the data was analysed in three steps. First a descriptive analysis was carried out in order to obtain the estimates of the values of the dependent variables as well as to illustrate their distributions across levels of factors (independent variables). Secondly, a significant association between any dependent and independent variable was examined. Also, where it was useful, a series of test of hypotheses was conducted to see if the observed differences of the estimated values of the dependent

variables across levels of factors were statistically significant. Thirdly, logistic regression model analyses were applied to find out the particular effect of the factors to our dependent variables.

4.3 Empirical Results

The main descriptive statistics concerning characteristics of the population examined show that: The majority consists of Greek citizens (99.5%), women (67.1%), and relatively young people (65.1% is between 25 and 34 years old, 90% of whom are *recent* graduates); while also, the vast majority (94%) of the male graduates have performed military service.

4.3.1 Employment Status (Goal A)

Evidence from descriptive analysis and testing hypotheses. Table 1 reports the *employment status* of our graduates estimated for the total sample as well as its distributions according to *gender*, *cohorts of graduates*, and *graduation class*. It is clear that the majority (89.3%) of the examined graduates are employed. However, there is a rather high proportion (7.2%) of unemployed graduates; the remaining (3.5%), are economically inactive. Excluding from the analysis the latter group that includes only 163 respondents, the proportion of the employed comes up to 92.5% and that of the unemployed, to 7.5%. Comparing these two rates with the corresponding rates of the Greek total population of graduates (93.8% and 6.2% in 2007 (GNSS, 2007)) it is obvious that the employment level of our graduates is lower.

Taking into account *gender* it is apparent (Table 1) that men's employment rate, estimated to 93.5% ($= p_{EM}$), is about six units higher than that of women, (87.2% = p_{EW}). At the same time the unemployment rate of women (8.5% = p_{UEW}) is rather high and is almost double the corresponding rate of men (4.5% = p_{UEM}). The proportion of economically inactive women is 4.3%, also higher than that of men (2.0%), mentioning the corresponding small numbers to these groups. Excluding from the analysis the economically inactive men and women, the employment and unemployment rates for men come up to 94.3% and 5.7% correspondingly, while the respective rates for women, to 90.8% and 9.2%. These results indicate that male social science graduates are doing much better in the labour market in terms of employment, compared to their female counterparts. Moreover, comparing the above rates to the respective ones of the total of male and female graduate populations (for men employment and unemployment rates are 95.8% and 4.2% respectively, and for women 91.7% and 8.3% (GNSS, 2007)) we conclude the following: both male and female social science graduates have a lower employment level compared to the total populations of male and female graduates correspondingly. The Chi-square test for independence showed a significant association ($\chi^2 = 43.42$, $df = 2$, $\alpha = 0.001$) between *employment status* and *gender*. Further statistical analysis based on usual procedures for testing hypotheses (Fleiss, 1981) verifies that the differences of the employment and those of the unemployment rates between male and female graduates, noticed above, are statistically significant

($H_0: p_{EM} = p_{EW}$ vs. $H_1: p_{EM} \neq p_{EW}$, $\alpha = 0.001$, $\chi^2 = 42.37$, $df = 1$), ($H_0: p_{UEM} = p_{UEW}$ vs. $H_1: p_{UEM} \neq p_{UEW}$, $\alpha = 0.001$, $\chi^2 = 24.43$, $df = 1$).

It is also clear that the *employment status* of our graduates differs, taking into consideration *years of graduation* (Table 1). In particular, it comes out that the employment rates vary from a minimum estimated to 87.2% up to a maximum of 92.2%. The corresponding unemployment rates vary from a low 4.4%, which is estimated for the cohort of 1994, to a quite high 9.2% related to the most recent examined cohort of 2000. The Chi-square test showed a significant association ($\chi^2 = 20.11$, $df = 12$, $p\text{-value} = 0.064$) between *employment status* and *year of graduation*. Testing the appropriate statistical hypotheses (Fleiss, 1981) we find that employment rates themselves differ significantly among cohorts of graduates ($H_0: p_1 = p_2 = p_3 = p_4 = p_5 = p_6 = p_7$ vs. H_1 : at least two of the p_i are different, where p_i , $i = 1, 2, \dots, 7$ denote the employment rates of the seven cohort of graduates; see Table 1; $\alpha = 0.05$, $\chi^2 = 13.06$, $df = 6$). The same is true considering unemployment rates ($\alpha = 0.01$, $\chi^2 = 18.13$, $df = 6$).

To identify the groups of cohorts that contributed to the statistical significance of the above hypotheses and in view of an observable (Table 1) increasing process of the employment rates of earlier graduates followed by a decreasing tendency of the corresponding rates of recent graduates (the opposite pattern holds regarding unemployment rates), that brings in to our interest to find out any differences of the *employment status* between earlier and recent graduates, we proceed as follows. Let $p_{E, \text{earlier}}$ and $p_{UE, \text{earlier}}$ denote correspondingly the employment and unemployment rates of earlier graduates while $p_{E, \text{recent}}$ and $p_{UE, \text{recent}}$ those of recent ones. It is easy to find estimates of these rates equal to $p_{E, \text{earlier}} = 90.6\%$, $p_{E, \text{recent}} = 88.6\%$ and $p_{UE, \text{earlier}} = 5.7\%$, $p_{UE, \text{recent}} = 7.8\%$. Evidently unemployment rate is much higher among recent graduates. Testing the hypothesis $H_0: p_{E, \text{earlier}} = p_{E, \text{recent}}$ we found it significant ($\alpha = 0.05$, $\chi^2 = 4.75$, $df = 1$). This means, that there exists a significant difference of the employment rates between earlier and recent graduates where the earlier ones have better employment level. Further analysis for any significant differences of the employment rates among cohorts within the group of earlier as well as within the group of recent graduates concludes that in both cases there are not such as differences on an acceptable level. Testing similar to the above hypotheses regarding unemployment rates we find that they differ significantly between earlier and recent graduates ($\alpha = 0.01$, $\chi^2 = 7.23$, $df = 1$). Thus we conclude that the employment and the unemployment rates differ significantly between earlier and recent graduates even as unemployment is higher among recent graduates.

Closing this first set of the results it is useful to highlight some additional points that came out from the analysis (Table 1). Men's employment rates, for almost all cohorts of graduates, are higher than those of women's while also, for both sexes employment rates tend to decrease for the recent graduates, although this is more apparent in the case of men. We also observe a slight increase in the employment rate (85.8%) of the latest female cohort (2000) compared with the corresponding (83.7%) of the earliest cohort (1988). The opposite holds regarding the respective unemployment rates. As the proportion of inactive female graduates remains roughly the same for these two last mentioned cohorts, the

Table 1: Employment status of social sciences graduates with respect to gender, graduation year, and graduation class

Graduation class	Year of graduation	Employment Status									
		Employed			Unemployed			Economically inactive			
		Men	Women	Total	Men	Women	Total	Men	Women	Total	
Earlier graduates	1998	150 (96.8%)	195 (86.7%)	345 (88.9%)	3 (1.9%)	28 (12.0%)	31 (8.0%)	2 (1.3%)	10 (4.3%)	12 (3.1%)	388
	1991	141 (94.6%)	229 (87.1%)	370 (89.8%)	7 (4.7%)	20 (7.6%)	27 (6.6%)	1 (0.7%)	14 (5.3%)	15 (3.6%)	412
	1994	227 (97.8%)	427 (89.5%)	654 (92.2%)	3 (1.3%)	28 (5.9%)	31 (4.4%)	2 (0.9%)	22 (4.6%)	24 (3.4%)	709
	Total	518 (96.7%)	851 (87.5%)	1369 (90.7%)	13 (2.4%)	76 (7.8%)	89 (5.9%)	5 (0.9%)	46 (4.7%)	51 (3.4%)	1509
Recent graduates	1997	252 (94.7%)	482 (88.0%)	734 (90.2%)	10 (3.8%)	42 (7.7%)	52 (6.4%)	4 (1.5%)	24 (4.4%)	28 (3.4%)	814
	1998	185 (89.4%)	405 (89.4%)	590 (89.4%)	14 (6.8%)	29 (6.4%)	43 (6.5%)	8 (3.9%)	19 (4.2%)	27 (4.1%)	660
	1999	250 (92.3%)	484 (85.5%)	734 (87.7%)	14 (5.2%)	61 (10.8%)	75 (9.0%)	7 (2.6%)	21 (3.7%)	28 (3.3%)	837
	2000	216 (90.4%)	484 (85.8%)	700 (87.2%)	17 (7.1%)	57 (10.1%)	74 (9.2%)	6 (2.5%)	23 (4.1%)	29 (3.6%)	803
Total	903 (91.9%)	1855 (87.0%)	2758 (88.6%)	55 (5.6%)	189 (8.9%)	244 (7.8%)	25 (2.5%)	87 (4.1%)	112 (3.6%)	3114	
Total	1421 (93.5%)	2706 (87.2%)	4127 (89.3%)	68 (4.5%)	265 (8.5%)	333 (7.2%)	30 (2.0%)	133 (4.3%)	163 (3.5%)	4623 (100%)	

above stated change signifies a small but not significant improvement of women’s status. The exact opposite pattern appears in the case of men indicating that the deterioration of our graduates’ employment status is mainly attributed to a worsening of men’s status; nevertheless, men continue to experience a better employment situation.

The results so far show a lower employment level of our population compared with other Greek graduates, as well as significant differences in both employment and unemployment rates between men and women, and between earlier and recent graduates. Thus it is reasonable to estimate how much *gender* and *graduation class* (considered as explanatory variables/factors) contribute to the probability a social science graduate has to be employed.

Evidence from Logistic regression approach. The objective here is to investigate the model of the relationship between the *employment status* of our graduates, considered as a binary output variable (Y), and two explanatory variables that correspond to *gender* and *graduation class*. It is well known that binary logistic regression method (see for example, Agresti and Finlay, 2009; Kleinbaun and Klein, 2010) serves for this purpose. The outcome variable is coded with a value of zero to indicate a graduate is unemployed, or 1 to indicate he/she is employed. The group of economically inactive graduates is excluded from this analysis due to small numbers. *Gender* coding is made so that zero indicates female and 1, male while the coding for *graduation class* defines zero to indicate earlier graduates and 1, recent graduates. Apparently in all cases zeros indicate reference categories. The results from the logistic regression analysis are presented, in the form of a model, by the equation

$$\log\left(\frac{P(Y=1)}{1-P(Y=1)}\right) = 2.524 + 0.705gender_{(1)} - 0.282graduation_{(1)} \quad (1)$$

which gives the log odds of a randomly selected graduate to be employed as a function of *gender* and *graduation class*. Further information concerning the above model is given in Table 2.

Table 2: Statistical information of model (1)

Variables	<i>b</i>	s.e	Wald	sign	<i>Exp(b)</i>
<i>Gender</i>	0.705	0.140	25.383	0.000	2.024
<i>Graduation class</i>	-0.282	0.129	4.810	0.028	0.754
constant	2.524	0.114	486.202	0.000	12.478

$N = 4459$; Hosmer and Lemeshow test suggests that the data fit the model adequately $\chi^2 = 4.944$, $df = 2$, $p - value = 0.84 > 0.5$; A test of model (1) versus a model with intercept only was significant $\chi^2 = 34.433$, $df = 2$, $p - value < 0.001$; overall prediction success rate 92.5%.

Several interesting results emerge from this analysis. It is clear that a statistically significant relationship between the *employment status* of our social science graduates and

the two explanatory variables, *gender* and *graduation class*, is verified. It is also clear that the chances of employment are higher for men (compared with women) and for earlier (compared with recent) graduates. In particular, it comes out that for any level of *graduation class* the ratio of the probabilities that a man is employed/unemployed is about 2 times (or the 202%) the corresponding ratio of women ($Exp(b) = 2.024$). Also, adjusting for *gender*, the ratio of the probabilities that a recent graduate is employed/unemployed is 0.754 times (or the 75.4%) the corresponding ratio of earlier graduates. Finally, the model predicts that among recent graduates the 93% of men and the 90% of women will be employed. These predictions are closed to estimates (94.3% and 90.7% respectively) we can get using our data (Table 1).

4.3.2 Job-Studies Relevance (Goal B)

Following the steps of the analysis of the previous subsection, we examine here the second major issue studied in this paper, concerning the relevance between job and studies. The analysis is applied to the group of 4093 employed graduates who gave a clear answer to the corresponding question (self-assessment or subjective measurement). As mentioned earlier, the incident of job mismatch (either level or type of education mismatch) has been traditionally measured by means of objective or subjective indicators both of which have certain strengths and limitations (see, Barone and Ortiz, 2010; Chevalier, 2000). Thus, it is important the methodology used to estimate this incident, to be taken into account when one tries to make comparisons.

Evidence from descriptive analysis and testing hypotheses. Table 3 gives estimates on the issue for the total group of employed graduates as well as considering *gender*, *year of graduation*, and *graduation class*. The results show that the incident of ‘job-studies no relevance’ is quite extended in our examined population as more than half (54.9%) of the respondents declare holding not relevant jobs –the remainder (45.1%) state being in relevant jobs. This finding is in agreement with those reported in the literature, where a large part of the examined social science graduates (either in Greece or elsewhere) are in jobs with no or little relevance to their studies. Thus, it gives further support to the fact that in general, social science graduates face difficulties as regards this particular important qualitative aspect of their job. Additionally, taking into consideration the type of measurement used, it is clear that the incident of ‘job-studies no relevance’ is more extensive (54.9%) in our social science graduates comparatively to other Greek graduates (27.9%) (Karamesini et al., 2008) as well as to social science graduates from other countries e.g. Swedish (40%), German (50%), Africans (27.5%) (Ama, 2008; Teichler, 1989).

With regards to *gender*, it is apparent (Table 3) that the incident of ‘job-studies no relevance’ is also quite extended to male and female subpopulations. In both cases, more than half of the graduates declare holding not relevant jobs. Moreover, it is clear that there are small differences between percentages of men and women in relevant (43.8% vs. 45.8%) and in not relevant jobs (56.3% vs. 54.2%), where more women than men, are in relevant jobs. However, these differences are not proved significant. In particular, the

proportions of male and female graduates are not significantly different either performing jobs relevant ($\chi^2 = 1.49$, $df = 1$) or not relevant ($\chi^2 = 1.64$, $df = 1$) to their studies. Testing for independence we also found ($\chi^2 = 1.64$, $df = 1$) a not significant association between *job-studies relevance* and *gender*. Thus, we conclude that our male and female social science graduates have almost equal (high) chances of performing a job not relevant to their studies. This last finding on the similarity between sexes has also been revealed in Dolton and Vignoles's (1996) study where it is found that male and female UK graduates were equally as likely to be overeducated. However, as results on graduates' job mismatch are mixed regarding gender and there is no clear trend to this issue, further comparisons are hard to be made. We note that in some surveys women are more likely to be overeducated or in jobs not related to their field of studies (e.g. Barone and Ortiz, 2010; Betti et al., 2010; Quintano et al., 2008), while in others, the findings are unclear (e.g. Chevalier, 2000).

Table 3: Job-studies relevance of social sciences graduates with respect to gender, graduation year, and graduation class

		Job-Studies Relevance						Total
		Relevance			No relevance			
Graduation class	Year of graduation	Men	Women	Total	Men	Women	Total	
Earlier graduates	1998	76 (50.7%)	89 (45.6%)	165 (47.8%)	74 (49.3%)	106 (54.4%)	180 (52.2%)	345
	1991	52 (37.4%)	102 (45.7%)	154 (42.5%)	87 (62.6%)	121 (54.3%)	208 (57.5%)	362
	1994	99 (43.8%)	194 (45.9%)	293 (45.1%)	127 (56.2%)	229 (54.1%)	356 (54.9%)	649
	Total	227 (44.1%)	385 (45.8%)	612 (45.1%)	288 (55.9%)	456 (54.2%)	744 (54.9%)	1356
Recent graduates	1997	101 (41.2%)	221 (46.7%)	322 (44.8%)	144 (58.8%)	252 (53.3%)	396 (55.2%)	718
	1998	89 (48.1%)	193 (47.9%)	282 (48.0%)	96 (51.9%)	210 (52.1%)	306 (52.0%)	588
	1999	96 (38.7%)	212 (43.8%)	308 (42.1%)	152 (61.3%)	272 (56.2%)	424 (57.9%)	732
	2000	103 (47.9%)	220 (45.5%)	323 (46.2%)	112 (52.1%)	264 (54.5%)	376 (53.8%)	699
	Total	389 (43.6%)	846 (45.9%)	1235 (45.1%)	504 (56.4%)	998 (54.1%)	1502 (54.9%)	2737
Total		616 (43.8%)	1231 (45.8%)	1847 (45.1%)	792 (56.3%)	1454 (54.2%)	2246 (54.9%)	4093 (100%)

Analogues to the above are the results taking into account *years of graduation* and *graduation class*. We note (Table 3) that more than half of the subpopulations corresponding to *years of graduation* and to earlier and recent graduates perform jobs not relevant to their studies. The observed differences of the percentages of the graduates who perform jobs relevant or not relevant to their studies do not differ significantly among cohorts of graduates ($\chi^2 = 7.03$, $df = 6$ for both cases). Additionally, the test for independence verifies no association between *job-studies relevance* and *years of graduation* ($\chi^2 = 7.12$, $df = 6$). The same is true considering *graduation class* ($\chi^2 = 0.00$, $df = 1$). These results indicate the permanence of the incident under study to our graduates, a fact thoroughly discussed in the next subsection.

Evidence from Logistic regression approach. The relation between *job-studies relevance* and the factors related to *gender* and *graduation class* was further analysed using binary logistic regression methods. The results, illustrated in Table 4, support the ones described above.

Table 4: The incident of job-studies relevance, Logit regression results

Variables	<i>b</i>	s.e	Wald	sign
<i>Gender</i>	-0.085	0.066	1.646	0.200
<i>Graduation class</i>	-0.005	0.067	0.006	0.941
constant	-0.163	0.060	7.373	0.007
<i>N</i> = 4093				

4.4 Discussion on the Results

According to the results of the analysis, one could first argue that our social science graduates perform relatively well in the labour market (92.5%, among active graduates, are employed). However, we call attention to the unemployment rate (7.5%) which is not of any kind of unimportance and it clearly shows that these graduates face more difficulties in finding a job compared to other Greek graduates. Additionally, the fact that more than half of our employed graduates stated they performed jobs not relevant to their studies indicates a high degree of job mismatches. Taken together these findings suggest, that ***the employment situation of our graduates is not particularly good regarding two important labour market outcomes, employment status and job-studies relevance.***

The above results support the notion that the skills and knowledge acquired through social science studies are not particularly used and/or valued in the Greek labour market. Various aspects could be taken into account to interpret the situation our graduates encounter. The ones that seem to be more in line with the empirical evidence involve: a) Issues particularly related to the field of social sciences, namely, the high proportion of social science graduates compared to those of other fields; the large absorption in the public sector where there is a tendency towards the recruitment of social science graduates, however, as

holders of a university degree and not as specialists; and finally, the delayed evolution of social sciences in Greece and the low value placed on social research, affecting the creation of suitable places in the labour market. b) The specific conditions of the Greek society and economy i.e. the high demand for university degrees valued mostly in terms of personal prestige and independently of any link with professional qualification or employment, the expansion of higher education against the needs of the society and the economy, the lack of dynamic forces in the Greek labour market and the economic recessions.

The results on *employment status* in view of two important factors (*gender* and *time of graduation*) are indicative of the general existing trends as they show employment difficulties for female and young (recent) graduates. More specifically: i) women are found to have a lower employment level compared to men, showing that ***female social science graduates remain on average more likely to be unemployed than male***. Our female graduates are also found to have a lower employment level compared to other Greek female graduates, indicating that they cope with a particularly hard situation in the labour market. The above findings could be attributed to the fact that female graduates constitute the majority of social science graduates and therefore, they are confronted with all the problems (mentioned earlier) this group faces in general. The underlying reasons though, should be looked for in a different context involving: the choices women make about their studies and their potential careers; the ways they have been socialized so as to make choices driving them to go for less demanding and prestigious studies (such as social sciences) and therefore, less remunerative in terms of employment opportunities; and, the problems women generally encounter in today's segregated labour markets (e.g. they hold lesser positions with lower incomes, mainly in the public sector which leaves them vulnerable to political and economic shifts in this sector). ii) Additionally, we found a substantial rise of the unemployment rates of the recent graduates comparatively to the earlier ones, proving that ***recent graduates have less probabilities of being employed***. Along with the explanations concerning the total group of social science graduates, provided earlier, the supply of the recent graduates could also be used here to explain the lowering of their employment chances as the total number of these graduates is almost twice that of the earlier ones. A further reason could be the significant hiring reductions across the public sector that has been traditionally the main employer of social science graduates. Overall, the results show ***a worsening employment status of the social science graduates (for both sexes)***, which is a particularly crucial finding to be considered by all parts involved and related to this field of studies (potential students, university departments, and educational policy makers).

Finally, a further crucial finding is ***the high degree of 'job-studies no relevance' that characterizes almost equally male and female as well as earlier and recent social science graduates***. Regarding gender this finding suggests that although men have higher employment rate compared with women, this does not also imply better employment outcomes concerning the job-studies relevance. In other words, a better employment status does not also imply higher performance in terms of 'quality of job' obtained after the university degree. Additionally, the fact that graduates who earned their degrees more

than 10 or 15 years prior to the time of research, are still in jobs not relevant to their studies indicates that this incident is not only extensive to our population but also, a rather permanent feature of their working lives. Therefore, in our case, job mismatch does not seem to be a temporary phenomenon disappearing once these graduates were established in the labour market, as some surveys in other countries reveal (see, Section 3). In this respect, this finding is challenging the view of human capital theory on overeducation as a negligible, transient phenomenon. According to Chevalier (2000) the persistence of overeducation seems to be in accordance with the large heterogeneity in the skills of graduates as some have developed qualities that make them suitable for a graduate job whereas others appear to lack these skills; moreover, some graduates may choose to be overeducated to suit their long term plans while others may be forced into jobs for which they are overeducated. Barone and Ortiz (2010) emphasize the supply-demand approach and the degree of stratification and selectivity of both educational and labour market institutions, arguing that when mass participation in higher education is not accompanied by a high rate of skilled employment creation, overeducation is a concrete risk. This line of explanation seems to fit to our case, as in Greece there exist a large number of social science graduates and at the same time, a scarcity of suitable working places. A further explanation could be that matching job with studies may not be a priority to our population caused by the need to avoid unemployment that, as we have shown, is not negligible. It appears thus, that both these reasons (unemployment and scarcity of suitable jobs) prevail over the effect of the gender and time factors, on the incident of 'job-studies no relevance'. All the above results signify that job-studies mismatch is one major concern for social science graduates, which has to be taken into consideration by all parts involved.

5. Conclusions

The expansion of higher education, in step with the changing needs of the economy, has entailed considerable changes in graduates' employment prospects which have become more uncertain. In this complex emerged reality the choice of a field of study became an important issue. The focus in this paper was on the field of social sciences, examining labour market prospects of graduates. In Section 3 we show that there are contradictory views and findings as to these prospects, and that the relevant studies in Greece –although not exclusively focused on social science graduates– reveal employment difficulties. With the purpose to study in a systematic way Greek social science graduates' labour market prospects, in Section 4, we proceeded with an analysis of two important labour market outcomes, employment status and job-studies relevance examined with respect to gender and time of graduation. The data used come from a survey on graduates from a public university, the Panteion University of Social and Political Sciences that offers degrees exclusively in these disciplines.

Results show a lower employment level of our social science graduates compared to other Greek graduates, a worsening of the recent graduates' employment situation, and women's lower chances to be employed compared to men. Moreover, results show a high

degree of 'job-studies no relevance' that exists overtime and regardless of graduates' sex. We attribute these findings partly to the increase in social science graduates' supply and to the large proportion of women, taking into consideration the general socio-economic condition of the country. However, we strongly believe that factors specifically related to the status of social sciences in the Greek society (e.g. delayed evolution, low value placed in social research) and to the labour market's 'attitude' towards the corresponding graduates (employed mainly as public servants and not as specialists), are significant as well.

Our empirical results add to the relevant literature as they show that social science graduates encounter and will probably continue to, difficulties as regards two important labour market outcomes. Overall, the analysis suggests that in the case of Greece, these graduates' skills and competencies are not sufficiently appreciated, used, or being in demand. All these findings underline the need for new educational and labour market policies to be developed targeting this specific group of graduates, and they are of obvious relevance to the academic institution concerned. However there are several other issues which have not been addressed yet, such as graduates' perceptions about their studies and future prospects, other job characteristics (e.g. job satisfaction, income). These issues would add to the overall picture of social science graduates' situation in the Greek labour market, they belong to our research interests, and we hope to report on them in future work.

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References

- Ama, N.O., 2008, 'Transition from higher education to employment: A case study of graduates of faculty of social sciences University of Botswana', *Educational Research and Review*, 3, 8, pp. 262-274.
- Allen, R., 1998, 'The employability of university graduates in the humanities, social sciences, and education: recent statistical evidence', *Discussion Paper No. 98-15*, Vancouver, Department of Economics, University of British Columbia, <http://economics.ouls.ox.ac.uk/12102/1/dp9815.pdf> (accessed 7/7/2011).
- Agresti, A. and Finlay, B., 2009, *Statistical Methods for the Social Sciences*, fourth edition, Pearson, Prentice Hall Inc., New Jersey.
- Ballarino, G. and Bratti, M., 2009, 'Field of Study and University Graduates', Early Employment Outcomes in Italy during 1995-2004', *Labour*, 23, 3, pp. 421-457.
- Belogiannis, G., Kougioumoutzaki, F. and Kalamatianou, A., 2007, 'Gender Participation in Greek Education: A social, political and cultural issue', *Proceedings, 5th Interdisciplinary*

- Interuniversity Conference of the National Technical University of Athens and the Metsovion Interdisciplinary Research Centre*, 'Education, Research, Technology. From the Past to the Future', http://www.ntua.gr/MIRC/5th_conference/5th_conference.html (accessed 7/7/2011) (in Greek).
- Barone, C. and Ortiz, L., 2010, 'Overeducation among European University Graduates: a comparative analysis of its incidence and the importance of higher education differentiation', *Higher Education*, status: on line first.
- Basiakos, J.K., 2010, 'Out of field employment and Education: Survey and Interpretation in Greece in 2009', *Proceedings, 23rd Panhellenic Statistics Conference*, 'Statistics and Internet', Veroia, Greece (accessed 2/9/2011) (in Greek).
- Betti, G., D'Agostino, A. and Neri, L., 2010, 'Educational Mismatch of Graduates: a multidimensional and Fuzzy Indicator', *Social Indicator Research*, status: on line first.
- Buonanno, P. and Pozzoli, D., 2009, 'Early Labour Market Returns to College Subject', *Labour*, 23, 4, pp. 559-588.
- Chevalier, A., 2000, 'Graduate Over-Education in the UK', Centre for the Economics of Education London School of Economics and Political Science, London.
- Dolton, P.J. and Vignoles, A., 1996, 'The Incidence and Effects of Overeducation in the Graduate Labour Market', *Economics of Education Review*, 19, 2, pp. 179-198.
- Dolton, P.J. and Vignoles, A., 1997, 'Graduate Overeducation: A European Perspective', *Higher Education in Europe*, 22, 4, pp. 475-484.
- Drewes, T., 2002, 'Value added: humanities and social sciences degrees. Evidence supports long-term employment success', *Ontario Confederation of University Faculty Associations Forum (OCUFA Forum)*, Spring issue, pp. 10-12.
- Eurostat, 2003, *Statistics in Focus. Population and Social Conditions 'School leavers in Europe and the labour market effects of job mismatches. Youth transitions from education to working life in Europe' Part II*, Luxembourg: Office for Official Publications of the European Communities.
- Eurostat, 2005, *Key data on education in Europe 2005*, Luxembourg: Office for Official Publications of the European Communities.
- Eurostat, 2007, *Education statistics. Tertiary education graduates 2007*, Luxembourg: Office for Official Publications of the European Communities.
- Eurostat, 2009, *Key data on education in Europe 2009*, Luxembourg: Office for Official Publications of the European Communities.
- Fleiss, L.J., 1981, *Statistical Methods for Rates and Proportions*, John Wiley & Sons, New York.
- Glytsos, N.P., 1990, 'Anticipated Graduate Job Mismatches and Higher Education Capacity Inadequacies in Greece', *Higher Education*, 19, 4, pp. 397-418.
- GNSS (Greek National Statistical Service), 2005, *Education statistics 2005*, Greece: General Secretariat of the Ministry of Economy and Finance.
- GNSS (Greek National Statistical Service), 2007, *Labour force survey statistics 2007*, General Secretariat of the Ministry of Economy and Finance, Greece.
- Hadjiyanni, A. and Kallas, J., 2006, 'Educational capital and access to the labour market:

- The case of University of Athens social sciences graduates', *The Greek Review of Social Research*, 116A, pp. 141-165.
- Kalamatianou, A.G., 1990, 'Greek students abroad. Research Project on Immigration-Return home of Greek population', General Secretariat for Greek Abroad, Vol. A, pp. 133-152, Athens (in Greek).
- Kalamatianou, A.G., 1992, 'A model proposed for projecting degrees awarded in universities', *Statistical Data Analysis, Proceedings, Institute of Mathematics, Computer Stochastic Laboratory, Section on Computational Statistics of the Bulgarian Statistical Society*, Sophia, pp. 25-37.
- Kalamatianou, A.G. and McClean, S., 2003, 'The Perpetual Student: Modeling Duration of Undergraduate Studies Based on Lifetime-Type Educational Data', *Lifetime data Analysis*, 9, 4, pp. 311-330.
- Karameini, M., Vitoratou, S., Gazon, E. and Moustaki, I., 2008, *The absorption of university graduates in the labour market. A nationwide survey of 1998-2000 graduates*, Dionikos, Athens (in Greek).
- Kikilias, I., 2008, 'The tendencies, the characteristics of the employment and the transition to the labour market of higher education graduates in Greece', *Research Series: Education and Development: the link between Education and Employment, Vol III*, Education and Development Initiative, Athens, ISBN 978-960-98785-3-1 <http://www.protovoulia.org/en/index.htm> (accessed 9/11/2009) (in Greek).
- Kleinvaun, D.G. and Klein, M., 2010, *Logistic Regression. A Self-Learning Text*, third edition, Springer, New York.
- Liagouras, G., Protogerou, A. and Caloghirou, Y., 2003, 'Exploring mismatches between higher education graduates and the labour market in Greece', *European Journal of Education*, 38, 4, pp. 413-426.
- Livanos, I., 2009, 'Education and Labour Market in Greece: the Weakest Link?' (unpublished), (Munich Personal RePEc Archive) http://mpra.ub.uni-muenchen.de/16239/1/MPRA_paper_16239.pdf (accessed 7/7/2011).
- Lyon, Stina E., 1996, 'Success with qualifications: comparative perspectives on women graduates in the labour market', *Higher education*, 31, 3, pp. 301-323.
- Ministry of Education, 2002, Office of Higher Education Documentation, archive.minedu.gov.gr/docs/ae_st_kat_tmh_2002.doc (accessed 2/9/2011).
- National Centre for Social Research (NCSR), 2005, 'Social sciences and social research in Greece. Sociological approaches of their requisites, conditions and development perspectives', *Conference paper*, Athens 8-9 December 2005 (in Greek).
- Núñez, I. and Livanos, I., 2009, 'Higher education and unemployment in Europe: an analysis of the academic subject and national effects', *Higher Education*, status: on line first.
- OECD, 2010, *Education at a Glance: OECD Indicators 2010*, Organisation for Economic Co-operation and Development, Paris.
- Patrinos, H.A., 1997, 'Overeducation in Greece', *International Review of Education*, 43, 2/3, pp. 203-223.

- Petmesidou, M., 1998, 'Mass Higher Education and the Social Sciences in Greece', *International Sociology*, 13, pp. 359-384.
- Purcell, K. and Elias, P., 2006, *The Employment of Social Science PhDs in Academic and non-Academic Jobs: Research Skills and Postgraduate Training*, Economic and Social Research Council, UK.
- Reimer, D., Noelke, C. and Kucel, A., 2008, 'Labor Market Effects of Field of Study in Comparative Perspective. An Analysis of 22 European Countries', *International Journal of Comparative Sociology*, 49, 4/5, pp. 233-256.
- Samatas, M., 2010, 'The sociological imagination against the Socio-economic Insecurity' www.soc.uoc.gr/social/survey/koinon-fantas.pdf (accessed 2/9/2011)
- Quintano, C., Castellano, R. and Antonella D'Agostino, A., 2008, 'Graduates in economics and educational mismatch: the case study of the University of Naples 'Parthenope'', *Journal of Education and Work*, 21, 3, pp. 249-271.
- Sianou-Kyrgiou, E., 2008, 'Social class and access to higher education in Greece: supportive preparation lessons and success in national exams', *International Studies in Sociology of Education* 18, 3, pp. 173-183.
- Teichler, U., 1989, 'Research on Higher Education and Work in Europe', *European Journal of Education*, 24, 3, pp. 223-247.
- Teichler, U., 2002, 'Graduate employment and work in Europe: diverse situations and common perceptions', *Tertiary Education and Management*, 8, 3, pp. 199-216.
- Tsoukalas, K., 1977, *Dependence and Reproduction: the social role of educational mechanisms in Greece (1832-1922)*, Themelio, Athens (in Greek).
- ISCED (International Standard Classification of Education), Unesco, 1997, [http:// www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm](http://www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm) (accessed 7/7/2011).
- Walters, D., 2004, 'A Comparison of the Labour Market Outcomes of Postsecondary Graduates of Various Levels and Fields over a Four-Cohort Period', *Canadian Journal of Sociology*, 29, 1, pp. 1-27.
- Wolbers, M.H.J., 2003, 'Job mismatches and their labour market effects among school-leavers in Europe', *European Sociological Review*, 19, 3, pp. 249-266.