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# **Social-economic integration of Greek repatriates from the former USSR: obstacles to entry into the Greek labor market**

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## **ABSTRACT**

The purpose of this study is to examine the demographic and social/cultural characteristics of ethnic Greeks from the former USSR and the extent that these characteristics affect their integration into the Greek labor market. For achieving this target we employ logistic regression analysis to test a model to predict the case of being employed or not by considering various factors as explanatory variables. A field research was carried out for the first time in the broader area of West Athens and a total of 6994 respondents are used to estimate the parameters of this model. From past experience we identify 13 major variables contributing to employment or not. The results show an overall significant model with 6 of the 13 variables statistically significant.

**Keywords:** Ethnic Greeks; migration; logistic regression.

## 1. Introduction

During the 20<sup>th</sup> century approximately 400,000 ethnic Greeks from the former USSR were settled down in Greece. The Census of 1928 recorded 230,000 while during the time-period 1989-1999 146,102 ethnic Greeks from the former USSR were settled down holding foreign passports. Among them 103,573 applied and received the Greek Nationality by February 2001 (Fakiolas, 2001).

Today, these people face adaptation difficulties in Greek reality and a plethora of problems related to employment, knowledge of the Greek language and generally the understanding of the Greek way of life. Geographically, 15% were settled down in Thessaloniki, 20% in Thrace and Macedonia and 60% in Athens (mainly in Western Athens).

For a long time, Western Athens has been downgraded in terms of social, economic, environmental and urban planning level. This resulted in a non-structured development and environmental downgrade. In the 1920s refugees from the Black Sea and Asia Minor created the initial settlements in the area. They settled down in the suburbs of West Athens and formed the initial residential cores. At the same time Western Athens consolidated as place for receiving of low-income people, arrived as a result of the internal migration from the rest of the country in the decade of 1940s. All these people contributed to the development of the area since industries as well as large number of small-medium enterprises were based in West Attica (the broader area of Athens). As a result of the poor town planning, of the environmental downgrade reflected in cheap rents and of the increased opportunities for employment, West Athens has become the residential place for aliens and ethnic Greeks from the former USSR in the last fifteen years.

The arrival of such a massive emigrational stream in such a short time period has revealed the lack of appropriate infrastructure and policy for the smooth social and

employment adaptation in the local society. Moreover, the effort of the local government has been proved inadequate to resolve these problems, mainly due to limited funds available. Ethnic Greeks constitute a population group with particular characteristics, which are strongly related to the dissimilar social, political and economic system that they come from. After their arrival in Greece they faced acute problems of housing, employment, communication and cultural impact.

It should be mentioned that in the period of their settlement in Greece they were supported by EIAPOE. This is the National Foundation for the Support of the Ethnic Greeks Settling in Greece. This Foundation was established in 1990 and was very active in the early 1990's in creating reception and educational and building thousands of houses, mainly in Thrace, to house them (Fakiolas, 2001; Ribas 2000).

This study examines the demographic and certain social/cultural characteristics of this particular population group as well as the extent these characteristics affect their integration into the Greek labor market. For this purpose, we conducted a field research. A number of variables were selected and these variables were used to develop an ordinal logistic regression model. The main contributions of this paper are the following:

- i. We record for the first time all ethnic Greeks from the former USSR living in the broader area of West Athens in the form of a field research
- ii. Very few researchers have dealt with the issue of the repatriation of Greeks from the ex USSR. Moreover almost all the studies restrict their analysis to the presentation of basic descriptive statistics. In this paper, a logistic regression analysis is applied trying to calculate the odds ratio of the ethnic Greeks being employed.
- iii. The reliability of our results is even greater since the sample size examined is the biggest compared to the similar studies attempted. Specifically, the sample size recorded approaches the population size in this area.

In the next section a review of current similar research and their main findings is provided. Then in section 3, the methodology of approaching and recording this population group is described and section 4 presents the main statistical results of this effort. Sections 5 and 6 present the suggested technique employed and the empirical results obtained respectively. Finally, the description of the problems that lead to difficulties in finding employment in the local labor market are specified in order to suggest policy actions and to plan a realistic social policy. This would contribute to social and economic adjustment and incorporation of the ethnic Greeks into the Greek social tissue.

## **2. Review of the literature**

International migration has earned a growing importance on both global and domestic policy agenda in the last two decades. Rainer Münz (1996) claims that migration has a greater impact on population size and structure compared to the balance of births and deaths. The author overviews the size and geography of migration to and within Europe for the second half of the twentieth century discussing the changing causes, the patterns and trends of migration in key periods.

Hans van Amersfoort (1996) discusses the limits of governmental control for migration claiming that the variables addressed by governmental measures form only a small part of the relevant variables. To confront effectively these variables we have to overpass the obstacles of the conflicting interests of various economic sectors and the conflicting roles of the various administrative institutions that they have established for themselves. Finally, the article claims that the 'root-cause' approach does not appear to be the case at the moment for better prospects for the management of migration.

Another aspect is that of citizenship and immigration which is discussed by Irene Bloemraad (2000). She defines citizenship as the membership in a socio-political community and identifies four dimensions: legal status, rights, identity and participation. The author

discusses the constraints and determinants of naturalization, the extent to which the rights are linked to personhood rather than membership in a nation-state and to state identity and cohesion due to multiculturalism.

According to Theodora Kostakopoulou (1998) European Union citizenship, as a form of citizenship beyond the nation state, includes the promise of the formation of a heterogeneous and democratic European public strengthening both citizens and ethnic residents. She claims that other reforms such as the establishment of anti-discrimination clause, the empowering of democratic accountability, the enhanced respect for human rights and the institutionalization of the right to information, improve the rights of citizens and ethnic migrant residents.

Andrew Geddes (1998) explores the impact of European integration on the scope for representation of migrants' interest in EU level decision-making processes by examining the development of political, institutional and legal responsibilities at EU level, which have emerged in order to manage the various immigration and asylum related issues. Dietrich Thränhardt (1996) claims that present-day migration control is mainly a social and political construction and cannot explain the patterns and processes of East-West migration. Uncontrolled immigration is found mainly in sectors of the economy where regulation is weak and internal forces favor unregistered immigration. The author suggests that as Europe is at a demographic decline planned immigration is necessary.

Michael Blos *et al.* (1997) investigate the impact of migration policies on the labor market performance of migrants in Sweden and Switzerland. Specifically, they compare income and employment of groups of foreign residents relative to natives looking at socio-demographic characteristics and educational policies. They claim that the Swiss policy has been economically oriented considering migrants as temporary quests without any explicit integration policy. The Swedish policy has given attention to political and humanitarian and

not to economic aspects aiming at the long-run integration of foreigners once admitted to the country.

Harvey Krahn *et al.* (2000), using a sample of 525 adult refugees, who were in professional or managerial positions prior to their arrival in Canada, explore issues of access to high occupations in the Canadian labor market. They found that these refugees, compared to Canadian-born individuals, experience much higher rates of unemployment, part time employment and temporary employment despite their high educational attainment. Michael Banton (1999) claims that once ethnically distinctive immigrant groups settle in industrial societies, ethnic violence is expected to increase due to the competition promoted by processes of national integration.

During the last two decades there are large-scale migration flows from Eastern European countries due to ethnic tensions, ecological problems and poverty. Krystyna Iglicka (2001) discusses the migration from the former Soviet Union to Poland. There are just a few Greek research efforts concerning ethnic Greeks. These studies record information on a number of issues like the reasons of emigration, marital status, level of education, knowledge of the Greek language and the identification of skillfulness and the correspondence of the ethnic Greeks professional qualifications with the labor demand in the Greek market (Amitsis and Lazaridis, 2001; Kasimati, 1992; Vergeti, 1998; Tsoukalas, 1994; Terzidis, 1995; Hatzivarnava, 2001; Mavrea, 1998; Nikolopoulos, 1998; Georgas and Papastylianou, 1993; Marbakis *et al.*, 2001).

Some of the main difficulties and obstacles for the adaptation into the Greek labor market are the low level of knowledge of the Greek language, the insufficient own capitals for the start and development of their own enterprises, the long period required for the recognition and equalization of their degrees and studies with degrees award from Greek Universities/Technical Schools and the high level of unemployment in Greece (Fakiolas,

2001; Stamatiadis *et al.*, 1999). In a study carried out in the beginning of the 1990's, 75% of the respondents considered that the insufficient knowledge of the Greek language has a negative influence on the preferences of the Greek employers; some of them employ ethnic Greeks with lower payments compared to those offered in the market and relative to their qualifications (Glytsos, 1995; Tressou and Mitakidou, 1997).

Rossetos Fakiolas (2001) claims that even their high educational level cannot help them against unemployment. When the settlement of the ethnic Greeks started in the 1980's the GDP growth rate was quite slow. Specifically, there was an average 1.7 per cent yearly increase for the time period 1979-1997 (Ministry of National Economy). This resulted to an increase in unemployment, which reached gradually the level of 11.9 per cent (more than 530,000 people) at the end of 1999 compared to 9.4 per cent average rate for the EU.

There is also a massive influx of the foreign undocumented economic immigrants. No official recorded information is available on the number of undocumented immigrants in Greece. Theodoros *et al.* (1996) claim that the number of immigrants in 1992 was 271,000 and among them 181,000 were undocumented. In the same research and for the year 1994, the number of undocumented immigrants was 350,000. In 1998 around 371,000 aliens submitted application for legalization while about 200,000 immigrants (according to the information provided by local repatriates unions) have not applied either because they were afraid that submitting personal information to the Greek Authorities would imply their direct expulsion or due to the lack of the necessary certificates (Fakiolas, 2000; Naxakis and Chletsos, 2001). Following the two legislations in 1998 and 2001, it is estimated that about 450,000-500,000 of them are now legal and compete with the ethnic Greek settlers in the labor market for about the same jobs.

Finally, another significant problem is the education of the ethnic Greeks' children in the Greek schools. Approximately, 10% of the pupils in the primary school and 11 out of 20

schoollboys in some schools are children of immigrants (Ministry of Education). A lot of them show a low performance, which results to downgrading of education and thus to the displeasure of the natives. A large percentage of enrolled students have been marginalised in their schools and as a result they either fail in their school efforts or leave school (Tressou and Mitakidou, 1997).

### **3. Sample – Methodological approach**

In this study we have conducted a field research. This research was carried out during the years 1998-1999. The initial problem we faced was the location of the population target group. In order to overpass this, we developed close collaboration with the ten municipalities of West Athens, as well as, with the local repatriates unions. In particular, we consulted the following two sources:

1. The municipal rolls of the Municipalities where ethnic Greeks live
2. The archives of the local ethnic Greeks unions

The research and evaluation of the data collected from these two sources raised several problems. More specifically, we realized that the actual number of ethnic Greeks have not been appeared in the municipal rolls, since during their first period of stay after their arrival in the area, they were guests of their friends or relatives and not permanent residents. In a large number of cases that we obtained sufficient data regarding their place of residence through the municipal rolls, we couldn't actually utilized them because of their increased mobility searching for a better place for residence and a situation of continuous search for means of livelihood. On the other hand the files of the unions were incomplete and therefore the information was inadequate. This is also confirmed from the results of this study, where we located a limited number of people (approximately 4 per cent) participating in these local unions.

The contribution of the Municipalities and unions was substantial. They assisted our attempt to approach this population group in a more direct way in order to assure the maximum possible accuracy of the data, and thus the reliability of this study. They contributed in that direction, by suggesting the appropriate persons as interviewers in the research attempted. Most of these interviewers were also ethnic Greeks belonging to our target-group. Knowing the language, they played an important role in achieving better communication with the target-population. In addition they knew the places where most of the ethnic Greeks live, thus helping locate them easily. The recording was finally implemented, door-to-door with all the difficulties this method implied.

In this study, we distributed individual questionnaires and along with these questionnaires personal interviews were also performed. The questionnaire was properly designed to provide us personal data of the economically active population, demographic characteristics, employment and education characteristics and other data, which enable us to determine the degree of adaptation into the Greek society. That is, the first questions were general and referred to the individual personality of the respondent. Specifically, we gather information on the sex, nationality, religion, educational level, marital status and other private information. The rest of the questions were formed using mostly the Likert scale. The proposed questionnaire was first tried out on a small sample of respondents in an effort to assure that the instructions and questions were clear and comprehensible. This kind of pretest provided with a limited amount of data, which gave an idea of what we'd expect for the upcoming full scale study. It was also a chance to realise the redundancy of some of the initial questions included in the initial questionnaire and which were eventually excluded.

Twenty interviewers were employed in a total of ten Municipalities of Western Athens. The main problem they encountered was the disbelief and suspiciousness on behalf of the ethnic Greeks. Some of them even denied they were Greek repatriates, while others

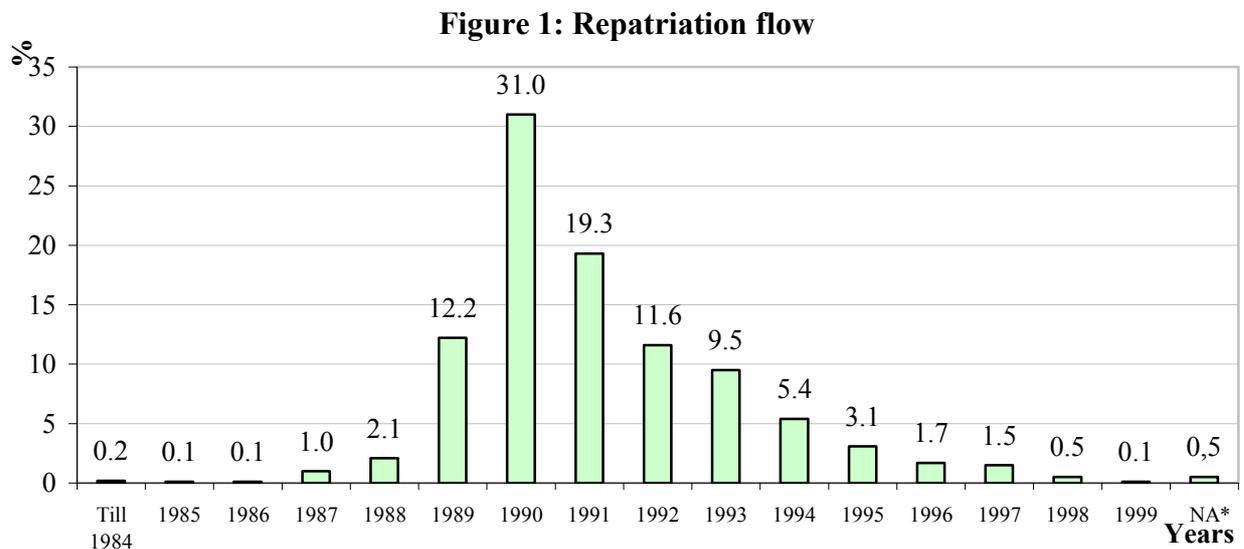
feared that they would be persecuted. However, most of them were convinced of the true nature and the positive results of this research for them.

This is the first time in conducting a field research of this particular population-group in Western Athens and it includes the population located and assented to cooperate with us. In total, 6994 persons recorded from which 3436 were men and 3558 were women. This population constitutes the reference set on which this study materialized.

#### **4. Statistical Results**

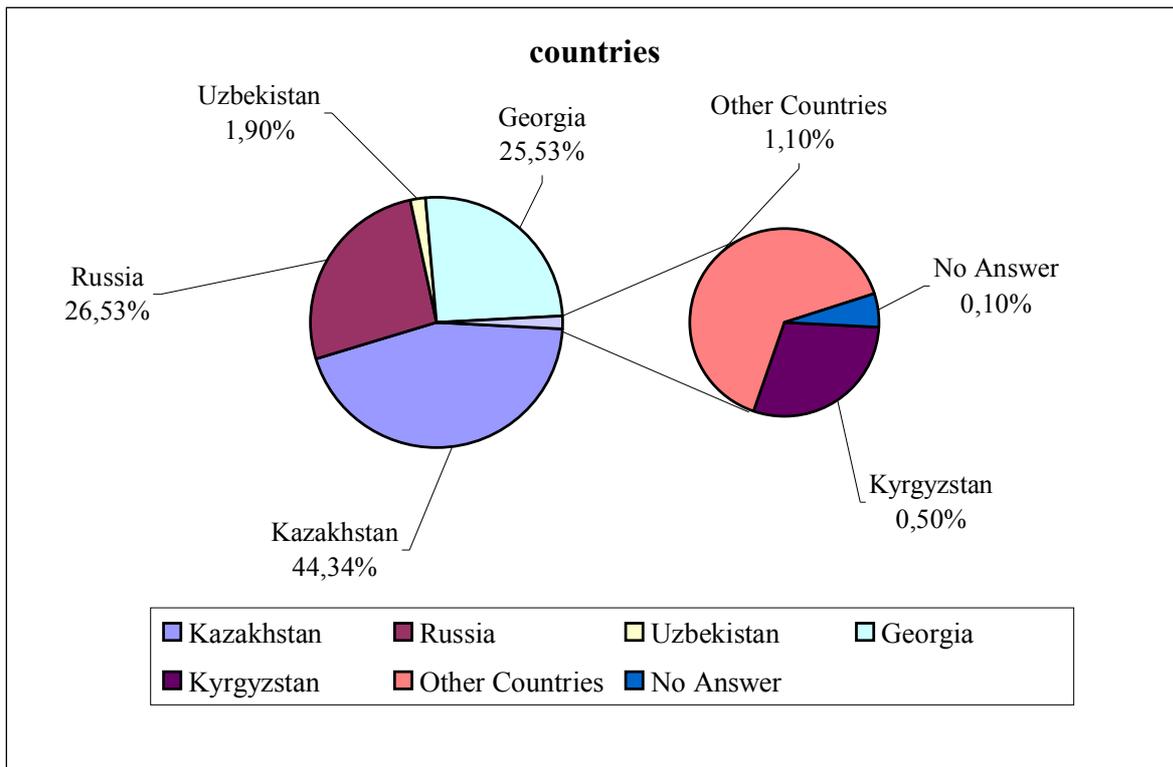
The information gathered from this study reflects the particular characteristics of the ethnic Greeks, as well as the development of their social economic condition by the time they first settled down in Greece. From our field research we conclude that the main reason for immigration is the minority syndrome. The choice of Greece as their destination country instead of any other country is due to the fact that they always considered Greece as their homeland. As far as their social – economic condition is concerned we realized that in their country of origin they had created a satisfactory level of living conditions, since the majority of them had a secure job and place to stay, while unemployment was at a low level. Thus it can be argued that the reason for immigration had no strong financial motive as the financial condition of the ethnic Greeks in the former USSR was at a satisfactory level.

As can be seen from figure 1 the immigration flow was gradually reduced since 1991. In particular, 71.4 per cent of the sample moved to Greece in the period of 1990-1993, only 12.3 per cent the period 1994-1999, 15.7 per cent the period till 1989, while 0.5 per cent did not answer. This is explicable as a result of the stabilization of the political situation in their countries of origin as well as the reality that in Greece their expectations were no longer satisfied. As far as their financial situation in Greece is concerned, 43 per cent responded it's worse than before, 34 per cent said it's the same, 22 per cent said it's better, while 1 per cent refused to answer.

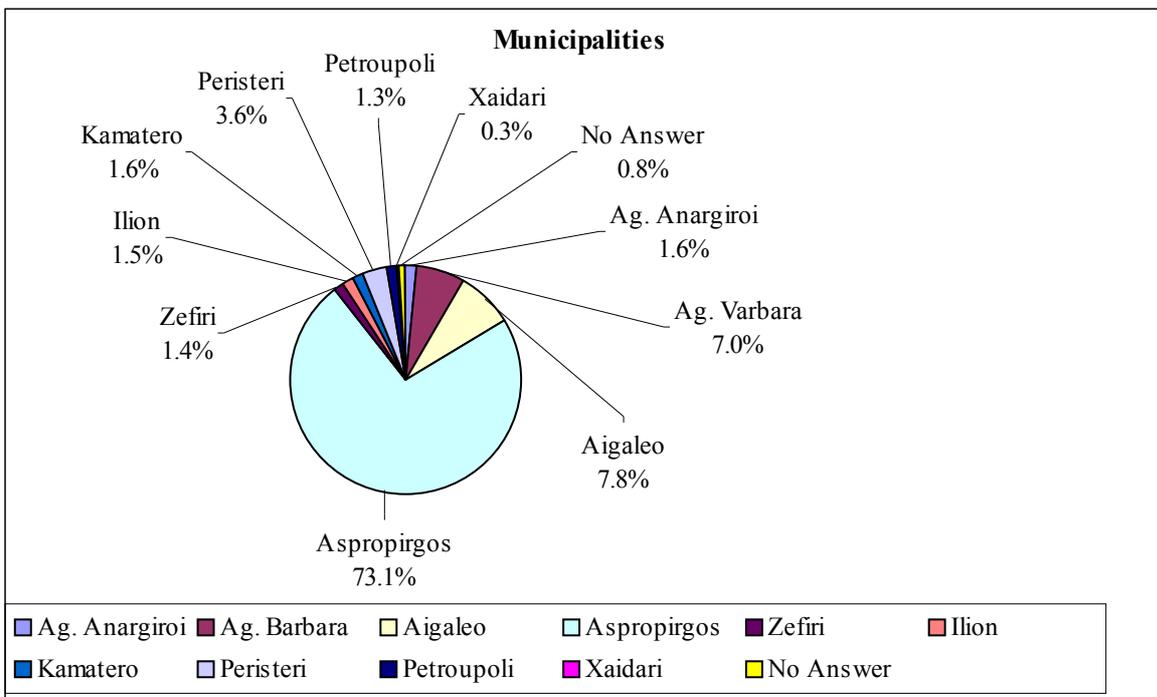


The Greeks coming from Kazakhstan and Georgia (account for almost two thirds of the sample considered as can be seen in Figure 2), had preserved their Greek character (Greek nationality, ethos and family structure) to a great extent. After the collapse of USSR, the unstable political conditions, the continuous economic crisis, the war zones and the ethnic tensions, led to the high number of immigrants from these two countries. The vast majority of the ethnic Greeks asserted West Athens as the place of permanent residency. Figure 3 presents the distribution of residency in the municipalities under consideration where the majority of them live in Aspropirgos due to cheap rents. As far as the reasons for choosing West Athens are concerned, 80 per cent of the people said because their friends and family already lived there.

**Figure 2: Repatriates county of origin**



**Figure 3: Municipalities of residence**



From the analysis of the demographic characteristics we found that 64 per cent of the ethnic Greeks moved along with their families, while a 36 per cent of them moved alone. Certain conclusions concerning the age, sex and marital status of the targeted population were also obtained from our research as shown in Table 1. This shows that the majority of the population was at age of 20-49, which is the most productive age. Specifically, 61.93 of the population recorded were married and 27.21 per cent were single. Also, 7.4 per cent of the remaining were widowed and 3.42 per cent were divorced.

Age Groups	Single		Married		Widowed		Divorced		Total		Single Per cent	Married Per cent	Widowed Per cent	Divorced Per cent	Total	
	M	F	M	F	M	F	M	F	(M+F)	M+F percent						
14-19	166	174	1	7	0	0	0	0	348		4.86	0.11	0.00	0.00	49.1	50.9
20-29	687	437	97	254	0	2	0	10	1487		16.07	5.02	0.03	0.14	27.2	72.8
30-39	202	76	483	574	2	20	18	54	1429		3.97	15.11	0.31	1.03	27.2	72.8
40-49	70	38	753	656	1	34	15	72	1639		1.54	20.15	0.50	1.24	27.2	72.8
50-59	11	13	331	303	4	43	13	22	740		0.34	9.06	0.67	0.50	27.2	72.8
60-69	3	13	279	240	21	94	6	18	674		0.23	7.42	1.64	0.34	27.2	72.8
70-89	3	11	223	131	45	252	2	10	677		0.20	5.06	4.25	0.17	27.2	72.8
Total	1142	762	2167	2165	73	445	54	186	3436	3558					49.1	50.9
	1904		4332		518		240		6994			27.2	61.09	7.4	3.4	100

In table 2, the results regarding the level of unemployment by age and sex are presented. High percentage of unemployment is observed, especially in the young groups of age and in females. As it can be seen, 2492 out of 6994 (35.63 per cent) were unemployed from which 66.85 per cent are females and 33.15 per cent are males. Moreover for the most productive ages of 20-29, 30-39 and 40-49, the unemployment rate is 22.79 per cent, 21.19 per cent, and 23.43 per cent respectively. The unemployment level at the remaining ages is also considered as quite high compared to the level of unemployment of the native population.

Age	Male	Female	Total	per cent Male	per cent female	per cent Total
14-19	22	22	44	0.88	0.88	1.77
20-29	236	332	568	9.47	13.32	22.79
30-39	136	392	528	5.46	15.73	21.19
40-49	171	413	584	6.86	16.57	23.43
50-59	91	243	334	3.65	9.75	13.40
60-69	119	201	320	4.78	8.07	12.84
70-	51	63	114	2.05	2.53	4.57
Totals	826	1666	2492	33.15	66.85	100

Furthermore, table 3 presents the answers relatively to the question “occupation in Greece today”. It can be seen that, only 0.19 per cent of them were employers and 41.12 per cent were employees. 35.63 per cent were unemployed and 1.36 per cent claimed they were self-employed. Those who were not employed for various reasons (housewives, etc.) corresponded to 12.11 per cent while 9.59 per cent were pensioners.

	Male	Female	Total	per cent Male	per cent Female	per cent Total
Employers	9	4	13	0.13	0.06	0.19
Employees	1873	1003	2876	26.78	14.34	41.12
self-employed	73	22	95	1.04	0.31	1.36
Unemployed	826	1666	2492	11.81	23.82	35.63
Pensioner	266	405	671	3.80	5.79	9.59
Housewives, etc.	389	458	847	5.56	6.55	12.11
Totals	3436	3558	6994	49.13	50.87	100

As we can see in table 4, the level of education of the ethnic Greeks could be considered as relatively satisfactory. In particular, 6.53 per cent are university graduates, 7.42 per cent are HND equivalent graduates, which means that a total of 13.95 per cent are higher education graduates. The 40.09 per cent of the population are secondary and

secondary technical school graduates, 26.54 per cent finished the primary school, while a considerable percentage of the population (15.13 per cent) are illiterates. It is worth mentioning here that, compared to the native population and especially relative to the younger generations this level is poor and this may in the long run affect the social and economic integration of the ethnic Greeks.

<b>Level Of Education</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>per cent Male</b>	<b>per cent Female</b>	<b>per cent Total</b>
University	214	243	457	6,23	6,83	6,53
HND - Polytechnics	194	325	519	5,65	9,13	7,42
Students	32	53	85	0,93	1,49	1,22
Secondary School	974	871	1845	28,35	24,48	26,38
Secondary Technical School	474	485	959	13,80	13,63	13,71
Primary School	1017	839	1856	29,60	23,58	26,54
Illiterates	444	614	1058	12,92	17,26	15,13
No Answer	87	128	215	2,53	3,60	3,07
Totals	3436	3558	6994	100,00	100,00	100,00

Table 5 presents the unemployment by level of education. We observe high unemployment rates for all levels of education. More specifically, females' unemployment rate (46.82 per cent) is significantly higher than males' unemployment (24.04 per cent) at all levels of education. The high unemployment rate of people with higher education (44 per cent for university graduates and 43 per cent of HND equivalent graduates) underlines the acute absorption problem of the scientific workforce in the Greek economy. According to the results of this research, most of the higher education graduates are under-employed or they work in a different field than their specialization.

Level of Education	(M)	Unemployed		(F)	Unemployed		(M+F)	Unemployed	
		(M)	(M) per cent		(F)	(F) per cent		(M+F)	(M+F) per cent
University	214	56	26.17	243	143	58.85	457	199	0.44
HND, Polytechnics	194	49	25.26	325	174	53.54	519	223	0.43
Students	32	4	12.50	53	11	20.75	85	15	0.18
Secondary School	974	206	21.15	871	420	48.22	1845	626	0.34
Secondary Technical School	474	104	21.94	485	260	53.61	959	364	0.38
Primary School	1017	271	26.65	839	413	49.23	1856	684	0.37
Illiterates	444	125	28.15	614	226	36.81	1058	351	0.33
No Answer	87	11	12.64	128	19	14.84	215	30	0.14
Totals	3436	826	24.04	3558	1666	46.82	6994	2492	0.36

The main explanation of the above situation is that most of the ethnic Greeks have specialties, which do not correspond to the needs in the Greek labor market. This divergence which creates structural unemployment is mainly attributed to the widest strategy of the ex USSR central government for specialization of the economic activity in every Republic. As a consequence this led to the development of particular skills of the Greeks depended on the place of residence. As it is derived from this study, the professional activities of Hellenism were relatively restricted in activities in the primary sector. Specifically the biggest parts of the labor force were employed mainly in agricultural family small enterprises, and to a lesser extent in the industry while few were employed in commerce and in cattle breeding.

The central planning of the economic activity is also confirmed in our study. As mentioned above, the majority of ethnic Greeks living in West Athens come from the Republics of Kazakhstan and Georgia. In Kazakhstan the Greeks were working in the industry of minerals of the area and few of them in agriculture and services. In Georgia there are rural areas which consist only of Greeks working mainly in agriculture. However, the continuously increasing urban part of the Greeks of Georgia, as a result of the industrial

development, come from the rural areas and they are employed in industrial production and to a lesser extent to the service sector. The central planning for the development of particular sectors of economic activity in these regions, in combination with the orientated technical education in these sectors resulted to the creation of a strictly specialized labor force unable to find employment in Athens.

In table 6 the level of proficiency of the Greek language (written and verbal) is presented. At a first glance, we can see that the level of knowledge of the Greek language is poor for older ages. The higher the age groups the higher the percentage of ethnic Greeks that speak the Greek language at poor or moderate level. This conclusion holds for both verbal and written knowledge of the Greek language. Moreover, the level of knowledge for written Greeks is worse than the level of knowledge of verbal Greeks. Specifically 77.05 per cent of the population know poor or moderate written Greek while 49.55 per cent knows poor or moderate verbal Greek.

At the ages of 14-19 the problem is minor since only 20.28 per cent of them said they have “poor” or “moderate” knowledge of the written Greek language, while 79.72 per cent said “good” or “excellent”. This is because the majority of these children had Primary School education in Greece. The problems start becoming acute at the age groups of 20-29, 30-39, and 40-49 where the level of knowledge of the written Greek language is poor or moderate and the percentages are 56.02, 82.33 and 88.73 respectively. By comparing these results with those of Table 2, which shows the unemployment percentage of these particular age groups, we can see that the relation between unemployment and level of knowledge of the Greek language is quite close. Since these age groups comprise the economically active population, it is necessary to develop a policy, which will help these people learn the Greek language. For the age groups of 50-59, 60-69 and >70, the problem is quite dramatic since only quite small percentage of them said their level is “good or excellent”. On the other

hand, the level of knowledge of the Greek language at a verbal level is slightly better compared to that of written, but this doesn't improve this generally poor picture.

**Table 6: Level of knowledge of Greek Language**

<b>- Written level</b>										
<b>Ages</b>	<b>Poor</b>	<b>Moderate</b>	<b>Good</b>	<b>Excellent</b>	<b>Total</b>	<b>per cent Poor</b>	<b>per cent Moderate</b>	<b>per cent Good</b>	<b>per cent Excellent</b>	<b>per cent Total</b>
14-19	16	56	238	45	355	4.51	15.77	67.04	12.68	100
20-29	291	523	490	149	1453	20.03	35.99	33.72	10.25	100
30-39	530	630	234	15	1409	37.62	44.71	16.61	1.06	100
40-49	757	661	163	17	1598	47.37	41.36	10.2	1.06	100
50-59	427	233	60	6	726	58.82	32.09	8.26	0.83	100
60-69	491	130	26	4	651	75.42	19.97	3.99	0.61	100
>70	492	152	24	1	669	73.54	22.72	3.59	0.15	100
No Answer					133					1.90
<b>Total</b>	<b>3004</b>	<b>2385</b>	<b>1235</b>	<b>237</b>	<b>6994</b>	<b>42.95</b>	<b>34.10</b>	<b>17.66</b>	<b>3.39</b>	<b>100</b>
<b>- Verbal level</b>										
<b>Ages</b>	<b>Poor</b>	<b>Moderate</b>	<b>Good</b>	<b>Excellent</b>	<b>Total</b>	<b>per cent Poor</b>	<b>per cent Moderate</b>	<b>per cent Good</b>	<b>per cent Excellent</b>	<b>per cent Total</b>
14-19	5	32	233	75	345	1.45	9.28	67.54	21.74	100
20-29	24	365	814	259	1462	1.64	24.97	55.68	17.72	100
30-39	35	576	761	49	1421	2.46	40.53	53.55	3.45	100
40-49	41	801	740	33	1615	2.54	49.60	45.82	2.04	100
50-59	35	441	242	15	733	4.77	60.16	33.02	2.05	100
60-69	68	476	114	3	661	10.29	72.01	17.25	0.45	100
>70	96	470	100	7	673	14.26	69.84	14.86	1.04	100
No Answer					84					1.20
<b>Total</b>	<b>304</b>	<b>3161</b>	<b>3004</b>	<b>441</b>	<b>6994</b>	<b>4.35</b>	<b>45.20</b>	<b>42.95</b>	<b>6.31</b>	<b>100</b>

## 5. The Technique

In this paper we propose to develop an ordinal logistic regression model. This method of statistical analysis was preferred over multiple regression for a number of reasons. First, the dependent variable is ordinal and not continuous. Second, the ordinal logistic regression model is a more appropriate monotone function for our data set in contrast to the least squares criterion of a multiple regression analysis. At the same time, logistic regression was preferred to discriminant analysis as the latter relies on meeting the assumptions of

multivariate normality and equal variance-covariance matrices across groups. These assumptions are not required with logistic regression and simultaneously logistic regression is similar to multiple regression.

The regression coefficients of the proposed logistic model quantify the relationship of the independent variables to the dependent variable involving the parameter called the Odds Ratio (for more details on the properties and applications of logistic regression see Hosmer and Lemeshow (1989), Collett (1991), Kleinbaum (1994), Kleinbaum *et al.* (1999), Hair *et al.* (1998), Sharma (1996)). As odds we define the ratio of the probability that employment will take place divided by the probability that it will not take place. That is

$$\text{Odds (E} \mid X_1, X_2, \dots, X_n) = \frac{\text{Pr}(E)}{1 - \text{Pr}(E)} \quad (2)$$

Where  $X_1, X_2, \dots, X_k$  the  $k$  independent variables. Instead of minimizing the squared deviations as in multiple regression, logistic regression maximizes the likelihood that an event will take place.

$$\ln \frac{\text{Pr}}{1 - \text{Pr}} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k \quad (3)$$

or

$$\text{Pr} = \frac{1}{1 + e^{-(\beta_0 + \sum_{i=1}^k \beta_i X_{ij})}} \quad (4)$$

where Pr is the probability of being employed given the independent variables  $X_1, X_2, \dots, X_k$ . Equation (3) models the log of the odds as a linear function of the independent variables and it is equivalent to a multiple regression equation with log of the odds as the dependent variable.

The logit form of the model is a transformation of the probability  $\text{Pr}(Y=1)$  which is defined as the natural log odds of the event  $E(Y=1)$ . That is

$$\text{logit} [\text{Pr}(Y=1)] = \log_e[\text{odds (Y=1)}] = \log_e \left[ \frac{\text{Pr}(Y = 1)}{1 - \text{Pr}(Y = 1)} \right] \quad (5)$$

## 6. EMPIRICAL RESULTS

As our main interest is in terms of the main effects we have ignored interactions. We have considered a number of variables. Namely, sex (male or female), age (in years), religion, nationality, number of family members with special needs, family status (single, married, divorced, widowed), number of children, graduate or not (0 and 1), difference in profession in Greece from the one in the source country (0 or 1), written knowledge of Greek Language (ordinal variable with values 1,2,3,4), verbal knowledge of Greek Language (ordinal variable with values 1,2,3,4), education level (ordinal variable with values 1,2,3,4,5,6,7) and years of Education.

From these 13 explanatory variables only 6 were found to be statistically significant in influencing the level of employment. Prior to our study we expected to see the ethnic Greeks absorbed easily by the large numbers of industries and small-medium enterprises based on the area of West Athens. But due to the incompatibility of their professional qualifications with the demands of the local labor market this didn't prove to be the case. For exploring this reason, we have constructed a variable that reflects the difference between the profession of ethnic Greeks before coming to Greece and after they settled down.

The logit form of the fitted model may be presented as

$$\text{logit}[\text{Pr}(Y=1)] = \beta_0 + \beta_1 \text{Sex} + \beta_2 \text{Age} + \beta_3 \text{DiffProf} + \beta_4 \text{GreekWr} + \beta_5 \text{GreekVr} + \beta_6 \text{Educlev}$$

where Y denotes the dependent variable as 1 for being employed and 0 for being unemployed. The explanatory variables are sex, age, difference in profession in the Former Soviet Union and Greece (DiffProf), the written and verbal knowledge of the Greek language (GreekWr, GreekVr) and the education level (EducLev).

Based on the fitted model and the information provided, we can compute the estimated odds ratio (OR). This is the probability that ethnic Greeks will be employed in different professions relative to ethnic Greeks being employed in similar professions

controlling for sex, age, written and verbal knowledge of the Greek language and education level, then

$$\text{OR}_{(\text{DiffProf}=1 \text{ vs } \text{DiffProf}=0 | \text{Sex, Age, GreekWr, GreekVer, EducLev})} = e^{0.165} = 1,18$$

This algebraic expression gives us the adjusted odds ratio equal to 1,18 which means that the odds of employment is about 1.18 times higher for a repatriate who accepts a different profession than for a repatriate who does not accept. But, as it can be seen from Table 7, the Wald statistic is not significant which indicates that there is no statistical evidence in these data that the difference in profession significantly increases the probability of employment.

**Table 7: Logistic regression results**

Regressors	Coefficients	Standard Errors	Wald Statistic (Chi-sq)	Sig.	$e^{\hat{\beta}_i}$	95 per cent CI for EXP(B)	
						Lower	Upper
-Constant	0.849	0.299	8.065	0.005	2.337		
-Sex	-1.290	0.069	345.9	0.000	0.275	0.240	0.315
-Age	0.005	0.003	3.610	0.057	1.005	1.000	1.011
-DiffProf	0.165	0.114	2.075	0.150	1.179	0.942	1.476
-GreekWr	0.179	0.056	12.204	0.001	1.196	1.072	1.335
-GreekVr	0.223	0.064	12.086	0.001	1.250	1.102	1.418
-EducLev	0.083	0.021	15.781	0.000	1,087	1.043	1.132

The explanatory variables are sex, age, difference in profession in the Former Soviet Union and Greece (DiffProf), the written and verbal knowledge of the Greek language (GreekWr, GreekVr) and education level (EducLev).

Working with the results of Table 7, we can realise the importance of the variable Sex. We may compute the difference  $e^{\hat{\beta}_i} - 1$ , which estimates the percentage change (increase or decrease), in the odds  $\pi = \frac{\Pr(Y=1)}{\Pr(Y=0)}$  for every 1 unit in  $X_i$  holding the other entire X's fixed. The coefficient of Sex is  $\hat{\beta}_1 = -1.290$ , which implies that  $e^{\hat{\beta}_1} = 0.275$  and  $e^{\hat{\beta}_1} - 1 = -0.725$ . This means that we estimate the odds of employment to decrease by 72.5 per cent holding all the rest fixed. Similarly, the coefficient of Age is  $\hat{\beta}_2 = 0.005$ , which implies that  $e^{\hat{\beta}_2} = 1.005$  and  $e^{\hat{\beta}_2} - 1 = 0.005$ . This means that for each additional year of age we estimate the

odds of being employed to increase by only 0.5 per cent holding fixed all the rest. Similarly, looking at the difference in profession, the written and verbal knowledge of the Greek language and the education level we expect the odds of employment to increase by 17.9, 19.6, 25 and 8.7 per cent respectively, all the other remaining fixed in each case.

The standard errors of the  $\beta$  estimates are given in the column Standard Error of Table 7 and the squared ratios of  $\beta$  estimates to their corresponding standard errors are presented in the column Wald Statistic (Chi-square). The significance levels of the individual statistical tests (i.e. the P-values) are presented in the column Sig (Significance) and correspond to  $\text{Pr} > \text{Chi-square}$ . Note that the constant term and the variables Sex, Greek Language written and verbal and educational level are significant in all statistical levels. The variable Age is statistically significant at the 0.1 while the variable Difference in Profession is not statistically significant in the usual significance levels (0.05, 0.01 and 0.1).

The overall significance of the model is given by  $X^2=23.447$  with a significance level of  $P=0.000$  and 7 degrees of freedom. Based on this value we can reject  $H_0$  (where  $H_0: \beta_0=\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=0$ ) and conclude that at least one of the  $\beta$  coefficients is different from zero ( $X^2_{0.05,7}=14.067$ ). That is, to assess the model fit we compare the log likelihood statistic ( $-2 \log \hat{L}$ ) for the fitted model with the explanatory variables with this value that corresponds to the reduced model (the one only with intercept). The likelihood ratio (LR) statistic for comparing the two models is given by the difference

$$\text{LR} = -2 \log \hat{L}_R - (-2 \log \hat{L}_F) = 256.012 - 232.565 = 23.45$$

where, the subscripts R and F correspond to the Reduced and Full model respectively. This value must be compared with  $X^2_{0.05,7}=14.067$ , which implies again a rejection of  $H_0$ .

The Hosmer and Lemeshow value equals to 6.327 (with significance equal to 0.347). The non-significant  $X^2$  value indicates a good model fit in the correspondence of the actual and predicted values of the dependent variable.

## **7. Conclusion and Policy Implications**

During the last fifteen years, the emigrational stream of ethnic Greeks from the former USSR to Greece created a particular population group in the Greek society, which shows acute signs of social exclusion. The change of the political situation in the former USSR created an economic decline and social disorganization. Greeks mainly those of east republics like Kazakhstan, as well as those from the republics of Georgia and Ukraine and to a lesser extent of Russia, experienced vivid political and economic upheavals. As minorities felt vulnerable, unprotected, and threatened to the forthcoming political, religion and social changes due to their historical experiences (persecutions, exiles, etc). They chose to move to Greece since they were ever considering it as their historical country of origin. They considered that in Greece they would find the appropriate situation, which would permit them to subsist properly covering their needs for employment, education, housing, insurance and social welfare.

Their demographic statistics as described show a healthy population from a demographic point of view, (age pyramids) in productive age, with professional experience and high level of education (mainly those coming from Kazakhstan). All these data reveal that Greek labor market could easily absorb with low additional cost for professionally training the ethnic Greeks in the productive age. However, the reported unemployment rates for all population age groups in both sexes - with more emphasis in women unemployment - are quite higher compared to the official unemployment rates for Greece. For reasons of comparison, it is worth mentioning that the official unemployment rates for Greece are 11.9 per cent or 532,700 people in 1999 and 11.4 per cent or 504,200 people in the year 2000. At the same time, the corresponding figures for Attica are 12.7 per cent or 222,700 people in 1999 and 12.3 per cent or 218,000 people in the year 2000 (Labor Force Survey, National Statistical Service of Greece).

Moreover it is observed that the majority of those who are employed are working in different areas relatively to their profession in the former USSR or they are under-employed. The problem of unemployment is becoming more severe since the leaders – responsible persons of the families are reported as unemployed, while there is no other source of income except the income acquired from their work.

Furthermore, it is quite disappointing that unemployment is higher for the people with higher level of education and professional experience. One of the most important reasons for the high unemployment level of the ethnic Greeks seems to be the inadequate knowledge of the Greek language and the difficulty of adaptation in the reality of the free market in Greece. The adjustment difficulty became greater since their arrival coincided to a period of significant realignments in the production and by extension to the needs of contemporary specializations in the labor market. If we add in the aforementioned, the suspicion of the Greek society and the acute psychological operations they suffer during their effort for adaptation, is becoming noticeable the sensation of social isolation. This is something, which the Greek State should never let become a reality. The support and extension of the existing structures and systems for effective professional and social adaptation is considered as a necessity.

The elimination of phenomena of social exclusion requires an organized political intervention, which would activate and coordinate the responsible services and utilize the existing structure in national as well as in local level. The content of this policy should include the development of employment capabilities, to cope with the housing problems and the materialization of training programs. Any intervention for the solution of these problems presupposes the determination of the particular characteristics of the repatriates, and will lead to the effective planning of policy actions. To this direction valuable is the experience

acquired by the Ethnic Greeks Centers of Social and Labor Adaptation, which are developed from the continuous and direct contact with the problems of this particular population group.

It is important the ethnic Greeks to access in the labor market and to the legal economy. The creation of new work opportunities presupposes research for the skillfulness identification and correspondence of the professional qualifications of the ethnic Greeks with the demand for labor from the local industry – enterprises.

In addition it is necessary professional training to be developed for them, in order to adapt to the needs of the Greek labor market. It is necessary all training programs to be accompanied to with the learning of the Greek language which proved to be an impediment in finding work. In this way we may seek effectively the breaking of the circular flow of the repatriates' exclusion and of the resulting downgrade of their receptions' areas.

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