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Chletsos, Michael and Roupakias, Stelios

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Chletsos Michael[1*], Roupakias Stelios[2]

Abstract: This paper applies the "spatial correlations" methodology in order to investigate the impact of immigrants on the unemployment rates of natives. We use information on 13 local labor markets for the 1988-2008 period. The data are drawn from the Greek Labor Force Survey. We address the endogeneity of immigrants' location choices and measurement error by using an instrumental variables methodology. Our results provide empirical evidence that immigrants do not displace the indigenous workers. Also, there is evidence that: (i) medium skilled unemployment declines with immigration and (ii) labor force participation rises due to immigration

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[1] University of Ioannina, Department of Economics and Laboratory of Applied Economic and Social Policy
[*] Corresponding author: Michael Chletsos, University of Ioannina, Department of Economics, Greece, Tel: +302651005924, E-mail: mhletsos@cc.uoi.gr
[2] University of Ioannina, Department of Economics

1. Introduction

Greece along with the other Southern European Countries (Spain, Italy and Portugal) was a country of outward migration. Since the early 1990's, the South and Greece in particular have been transformed to a net receiver of immigrants. There are several important factors that have contributed to immigration towards Greece. First, during the last three decades, the gap in wages and living conditions between the Southern and Northern Europe has been significantly narrowing, making Greece a desirable destination for immigration. Second, the collapse of the USSR and the subsequent collapse of all other communist countries in 1989 caused mass migration from the ex-communist countries towards Greece. Third, tight border controls in the Northern and Western Europe along with the weaker border controls in Greece has led to a huge influx of undocumented immigrants from the Middle East, Africa and southern Asia. Finally, Greece has the largest underground economy (about 25% of GDP) among the European countries which has further caused illegal immigration[3].

According to the Census of Population (2001), foreign population is estimated at 797,000 or about 7% of total population. Today, it is estimated that more than one million –of mostly unskilled and medium skilled- immigrants live Greece. Immigrants from Albania (57.5%), Bulgaria (4.6%), Georgia (3.0%), Romania (2.6%) and Russia (2.3%) are the majority among the immigrant population (Cholezas and Tsakloglou, 2006). Moreover, the foreign population tends to be concentrated in large urban centers. Attiki[4] (53.6%) and Central Makedonia (13.6%) appear to be the regions where the concentration of immigrants is the highest, whereas the concentration is lowest in Northen Aegean (0.8%) and Western Macedonia (0.7%).

[3] According to the Hellenic Migration Policy Institute (IMEPO) the number of illegal migrants is estimated at about 400,000.
[4] Attiki covers the city of Athens, the capital of Greece, and the wider Athens area.

The impact of immigration on unemployment has been central to the political debate in recent years[5]. Many people express fears that more migrants mean fewer jobs for the indigenous population. On the other hand, academics share the view that the causes of unemployment are much more complicated that cannot be attributed exclusively to migrants. The employment is not a zero-sum game. The economy does not contain a fixed number of jobs for which native and foreign workers compete. In the real word, immigrants do not only add to the stock of labor, but they also consume local goods and services, increasing the demand for labor (see e.g. Bodvarsson et al., 2008; Bodvarsson and Van den Berg, 2009).

While there is a vast empirical literature[6] concerning the labor market effects of immigration for the US and other European countries, the academic literature for Greece is either descriptive or simulation based[7]. Beginning with Grossmann's (1982) seminal paper, most of the international literature fails to detect large adverse effects[8]. Longhi et al. (2006) applying meta-analytic techniques to a sample of 9 studies for various OECD countries, which generated 165 estimates, found that a 1 percent increase in the number of immigrants reduces the employment of natives by only 0.024 percent.

The main objective of this chapter is to fill the gap in the literature by presenting empirical evidence on the effects of immigration on the employment opportunities of Greek workers. To this end, we proceed by applying the so-called "spatial correlations" approach. Our dataset consists of 13 Greek regions for the 1988-2008 period. The data are drawn from the Greek Labor Force Survey (LFS). To the best of our knowledge, no other published study has been carried out on the labor market effects of immigration in Greece[9]. Employing three alternative employment measures, namely the unemployment rate, the employment rate and the participation rate, our

[5] There are also strong concerns about the fiscal burden on the public services and the criminality of immigrants.
[6] See among others the influential works by Card (1990), Altonji and Card (1991), LaLonde and Topel (1991); Pischke and Velling (1997); Winter-Ebmer and Zweimuller J (1999); Dustmann et al. (2005).
[7] See Cholezas and Tsakloglou (2008) for a survey of the literature dealing with immigration in Greece.
[8] See among others the excellent reviews of the literature by Borjas (1994), Friedberg and Hunt (1995), and Okkerse (2008).
[9] See however Sarris and Zografakis (1999); Lianos (2003); Hatzinikolaou and Kammas (2010).

results suggest that international migration does not significantly affect the employment opportunities of natives. The results also appear to be robust to a number of alternative specifications

The remainder of this paper is organized as follows: In the next Section we present the theoretical considerations. In Section 3 we discuss the methodology followed in order to estimate the impact of immigration on the unemployment rate of natives. Moreover, we proceed by explaining the strategy followed in order to address the endogeneity of immigrants' location choices. Section 4 describes the data. In Section 5, we report and discuss the empirical results. Finally, section 6 concludes the paper.

2. Theoretical considerations

There is a widespread agreement among academics that the impact of immigration on the labor market opportunities of natives is ambiguous. There are primarily two frameworks for analyzing the effects of immigration: labor market models and trade models. According to Gaston and Nelson (2000) the difference between the basic labor model and the basic trade model is dimensionality. More precisely, labor economists prefer a one final good model and trade economists prefer a model with multiple final goods.

The theoretical literature that is based on labor market models identifies two fundamental channels through which immigration affects the labor market of the destination economy. These are (i) increased supply of labor and (ii) increased consumption of locally produced goods and services. According to the first theory[10], immigration tends to reduce the employment opportunities of factors with which immigrants are substitutes and raise the employment opportunities of factors with which immigrants are complements (see e.g. Friedberg and Hunt, 1995). On the other hand, if skill diversity within the immigrant group is assumed (i.e. skilled and

[10] See Johnson (1980) for a more elaborate description.

unskilled migration), the impact depends on whether migrants change the balance of skills in the destination country. More precisely, no effects are expected when immigrants' skill composition resembles that of the native workers. If, however, we assume that immigrants change the balance of skills in the destination country, then it is expected that factors that have become more scarce will lose from immigration, while factors that have become more abundant will gain[11]. These effects can be viewed as the first-round effects of immigration.

According to the consumer demand effect, migration tends to boost the labor demand and mitigate any possible migration pressure on the labor market in a long-run period[12] (see e.g. Bodvarsson et al., 2008; Cortes, 2008).

On the other hand, trade economists often analyze the effects of immigration within the context of the Heckscher-Ohlin model (hereafter denoted as H-O). If the classical assumptions of the H-O model are fulfilled, the economy adjusts to immigration through changes in output mix. For example, assuming that the host economy produces two commodities using labor and capital, an increase in a country's endowment of labor due to migration induces the labor intensive sector to expand and the capital intensive sector to contract. This is the well known Rybczinski theorem.

A more realistic model of trade is one in which countries have very different endowments of factors, and factor price equalization might not occur even with free trade (see e.g. Friedberg and Hunt, 1995; Lee, 2007). In this case, a small inflow of migrants will not affect wages, as long as the country remains within its diversification cone. On the other hand, if the country moves out of its diversification cone, the economy will be forced to produce a more labor intensive mix of goods, which will deteriorate the employment opportunities of native workers (while capitalists will gain).

[11] See e.g. Altonji and Card (1991) and Dustmann et al. (2005) for more technical details.
[12] There are also factors, such as endogenous skill upgrading and capital mobility, that have been identified as long-run responses to immigration (see e.g. Fuest and Thum, 2001; Ottaviano and Peri, 2011)

3. Empirical Specification

Based on the theoretical considerations of section 2 and following the relevant empirical literature (i.e. Altonji and Card, 1991; Pischke and Velling, 1997; Dustmann et al., 2005), we estimate the following empirical model[13]:

$$U_{it} = \beta_0 + \beta_1 m_{it} + \beta_2 x_{it} + \lambda_t + u_{it} \quad (1)$$

where β_1 and β_2 are vectors of coefficients, λ_t is region i's specific time effects and u_{it} is the idiosyncratic error term. Moreover, U_{it} denotes a alternative employment measures of natives, namely the unemployment rate, the employment rate and the participation rate, M_{it} is the key explanatory variable, the ratio of (economically active) immigrants to total labor force, and x_{it} is a vector of covariates capturing the composition of the native workforce.

Because of characteristics that are unique to the local labor market (i.e. region specific fixed effects) OLS estimation of equation (1) in levels yields biased results. The immigration literature (see e.g Altonji and Card, 1991; Pischke and Velling, 1997; Dustmann et al., 2003; 2005) employs a first differences strategy in order to purge the region specific fixed effects. Alternatively, we the model can be estimated in levels by adding region dummies. Both strategies are expected to give more robust results than simple OLS.

A second issue is the well known concern about the endogeneity of immigrants' location choices. Immigrants tend to settle into labor markets with booming economic conditions. As a result, better employment opportunities influence immigration while at the same time immigration influences the employment opportunities. Hence, the "true" impact of immigration on unemployment could be masked by the fact that the concentration of migrants is higher in

[13] Equation (1) is referred as the "spatial correlations approach" (see e.g. Borjas, 1999). Most of the "first generation" empirical studies in the 1980's were employing the spatial correlations utilizing cross-sectional data for a single year. Since the early 1990's most of the subsequent studies have employed longitudinal data and a first differenced version of equation (1) to eliminate region specific fixed effects.

regions where the unemployment rates are relatively low. To deal with the problem of endogeneity we employ the instrumental variable (IV) estimation method. We instrument the change in the ratio of foreign to total population using four period lags[14] of the ratio of immigrants to total population (see e.g. Dustmann et al., 2003; 2005). The rationale behind this strategy is that immigrants tend to settle in areas where previous immigrants already live (Bartel, 1989). Hence, an adequate number of lags for the foreign share serves as good instrument.

A third issue is that the measurement error in share of immigrants results in a bias in the OLS estimate of β_1. This bias is called attenuation bias because β_1 is biased towards zero. The problem is magnified when first differencing is used to eliminate fixed effects. According to Dustmann et al. (2003; 2005) the bias is addressed by IV estimation method as long as the instrument is not correlated with the measurement error of the endogenous variable. In our case, this is avoided because we use four lags as an instrument.

Finally, a large strand of the literature shares the view that natives move towards regions with lower immigrant concentrations and hence the effect of migration is dispersed through the national economy. As a result, native out-migration could conceal the large effects of immigration (see e.g. Filer, 1992; Frey, 1995; Hatton and Tani, 2003; Borjas, 2005). On the other hand, some other empirical studies provide evidence that native outflows are not associated with migration (see e.g Butcher and Card, 1991; Wright et al., 1997; Pischke and Velling, 1997; Card and DiNardo, 2000). Unfortunately, the LFS does not allow us to carry out a similar test fo Greece.

4. Data and Descriptive Statistics

Our dataset consists of 13 regions of Greece, namely, Attiki, Central Macedonia, Sterea & Evoia, Crete, Peloponnesus, Thessaly, Western Greece, Eastern Macedonia, Ionia, Southern

[14] For robustness purposes we have also experimented with further lags of the ratio of immigrants to total labor force. Nevertheless, our results remain quantitative intact.

Aegean, Epirus, Northern Aegean and Western Macedonia, for the 1988-2008 period. All variables are taken from the Greek Labor Force Survey (LFS). The LFS has been carried out on annual basis since 1988. The sample size is about 75,000 individuals every year, representing around 0.7 percent of the population. The questionnaire contains information on individuals' employment status during the reference week. It also collects information about the respondents' demographic characteristics, such as age, education and nationality.

The sample is restricted to individuals whose age lies between 18 and 64. Our key independent variable is the ratio of economically active immigrants to total labor force. In order to capture other forces that affect the unemployment rate of natives we employ the following four variables (see e.g. Pischke and Velling, 1997): (i) the share of unskilled (*edul*) natives, (ii) the share of medium (*edum*) skilled natives, (iii) the female participation rate (*female*) and (iv) the fraction of the labor force aged 45 to 64 years (*old*). Medium education level is equivalent to a high school or vocational school diploma, while low education level is equivalent to an elementary school diploma.

The expected sign for the above variables is ambiguous. Different skill groups may have more or less chances to find a job, depending on the relative demand for skills in the labor market. Moreover, the unemployment rate among older workers is lower than it is for their younger counterparts. However, older persons who become unemployed spend more time searching for a job. Finally, it is also ambiguous whether females substitute or complement male workers.

In Table 1 we present the variables employed in our analysis as well as some descriptive statistics. As can be seen, unemployment is higher for the medium skilled group, with an average unemployment rate of 13.1 percent. As far as the structure of native population is concerned, we observe that around 55.9 percent are low skilled workers. Moreover, natives aged 45 to 64 years represent about 38.9 percent of the population, while around one of two females has been active

in the labor market during the period under consideration. Finally, the average foreign share is about 2.3 percent.

Table 1. Summary statistics

Variable	Mean	Std. Dev.	Min	Max	Description
Une	0.088	0.029	0.026	0.188	Is the number of unemployed natives divided by the native labor force; where the labor force is the number of the unemployed persons plus the number of employed persons.
Unehigh	0.082	0.032	0	0.169	Is the unemployment rate of skilled natives
Unemed	0.131	0.047	0.037	0.256	Is the unemployment rate of medium-skilled natives
Unelow	0.064	0.029	0.013	0.179	Is the unemployment rate of unskilled natives
Edul	0.559	0.144	0.158	0.798	Is the number of native labor force with primary education divided by the native labor force
Edum	0.263	0.061	0.120	0.415	Is the number of native labor force with secondary education divided by the native labor force
Eduh	0.176	0.093	0.049	0.507	Is the number of native labor force with tertiary education divided by the native labor force
IMM	0.023	0.022	0	0.141	Is the number of economically active immigrants divided by total labor force
Old	0.389	0.034	0.288	0.460	Is the number of the native labor force (between 45 and 64 years old) divided by native labor force
Female	0.478	0.074	0.208	0.608	Is the ratio of native women who work or seek to work divided by total native female population aged between 18-64 years

5. Empirical Results

In this section we present the results obtained by estimating Eq. (1). Table 2 summarizes the OLS results of the regression of three alternative employment measures of natives on migrant concentrations. Column 1 shows the effect on unemployment, columns 2, 3 and 4 show the results for the unemployment rates of different education groups, that is, natives with tertiary *(skilled)*, secondary *(medium skilled)* and primary education *(unskilled)* and columns 5 and 6 show the results for the employment and participation rates, respectively[15]. All regressions include a set of time dummies to control for common time effects. As explained in Section 3, because of unobserved heterogeneity and endogeneity, we expect the OLS estimates to underestimate the "true" impact of migration. Nevertheless, we report the results for illustration purposes. As can be seen (columns 1 to 4), the coefficient on migration appears to negative and significant in the estimations for unemployment, implying that immigration is associated with lower unemployment rates among natives (as in Dustmann et al., 2005). On the other hand, in columns 5 and 6, immigration bears a positive and significant coefficient, which implies that migrants increase the employment and participation rates of native workers.

Table 2. The impact of immigration on the labor market outcomes of natives (Static Model)

	Une	*Unel*	*Unem*	*Uneh*	*Emp*	*Par*
IMM	-0.450**	-0.176	-0.697***	-0.296*	0.494***	0.568*
	(0.157)	(0.144)	(0.170)	(0.144)	(0.139)	(0.240)
Edul	-0.081**	-0.113***	-0.093*	-0.043	0.192***	0.177***
	(0.030)	(0.030)	(0.041)	(0.031)	(0.029)	(0.038)
Edum	0.076	0.121	-0.106	-0.108	0.028	-0.213**
	(0.062)	(0.063)	(0.088)	(0.067)	(0.058)	(0.078)
Old	0.023	0.000	0.185	-0.074	-0.018	0.008
	(0.074)	(0.067)	(0.121)	(0.088)	(0.057)	(0.098)
Female	-0.041	-0.023	-0.019	-0.019	0.537***	
	(0.034)	(0.029)	(0.049)	(0.038)	(0.028)	
Year dummies	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
R^2	0.375	0.413	0.380	0.361	0.798	0.485
Sample Size	273	273	273	273	273	273

Notes: ***,**,* denote statistical significance at 1%,5%,10% significant levels. Robust standard errors are shown in the parentheses below the estimated coefficients.

[15] Unfortunately, there is no information about different skill groups' employment and participation rates.

In order to overcome the econometric problems of unobserved heterogeneity and endogeneity we employ the Blundell and Bond (1998) estimator. More precisely, we proceed by estimating equation (1) using the system GMM technique and the fourth lag of the ratio of immigrants to natives as instrument. The estimated coefficients are reported in Table 3[16]. Moreover, we present the results of the tests for first and second order autocorrelation of residuals and for overidentifiying restrictions. The AR tests provide evidence of first order serial correlation, while second order serial correlation is clearly rejected. The Sargan test fails to reject the null hypothesis that the selected instruments are valid, that is, the instruments are uncorrelated to errors.

As far as the impact of immigration on the unemployment rates of natives is concerned (columns 1 to 4), immigration still bears a negative coefficient. However, as it is evident, the estimated effects are close to zero and not statistically different from zero at the conventional significant levels. More precisely, the effect on aggregate unemployment appears to be reduced from -0.450 (in the OLS specification) to -0.018. Similarly, the estimated effect declines from -0.176 to -0.020 (unskilled), from -0.697 to -0.130 (medium skilled) and from -0.296 to -0.86 (skilled).

In columns 5 and 6, we examine the impact of immigration on the employment and participation rates of natives. As can be seen, immigration bears a positive and insignificant coefficient in the specification for employment. On the other hand, the estimated effect on participation is positive and marginally significant at a level of 90 percent. More precisely, an increase in the inflow of immigrants by one percent increases the participation rate of natives by 0.073 percent. However, as can be easily verified, both effects appear to be significantly lower in magnitude than the estimated effects in the OLS specifications.

[16] The results shown in Table 3 are generated by a specification where next to lagged dependend variable and immigration, both contemporaneous and lagged values of the explanatory variables have been included in the model. Our model selection is based on the results from the serial correlation LM tests. In any other specification that we tried, the null hypothesis for no second-order serial correlation is rejected.

Table 3. The impact of immigration on the labor market outcomes of natives (Dynamic Model)

	Une	*Unel*	*Unem*	*Uneh*	*Emp*	*Par*
Une_{t-1}	0.810***					
	(0.038)					
$Unel_{t-1}$		0.763***				
		(0.040)				
$Unem_{t-1}$			0.775***			
			(0.040)			
$Uneh_{t-1}$				0.471***		
				(0.089)		
Emp_{t-1}					0.830***	
					(0.028)	
Par_{t-1}						0.273***
						(0.066)
IMM	-0.018	-0.020	-0.130	-0.086	0.067	0.073*
	(0.101)	(0.119)	(0.096)	(0.131)	(0.078)	(0.043)
Edul	-0.137*	-0.190**	-0.286***	-0.023	0.079	-0.023
	(0.057)	(0.065)	(0.075)	(0.057)	(0.052)	(0.035)
$Edul_{t-1}$	0.137***	0.174*	0.269***	0.012	-0.054	-0.004
	(0.052)	(0.070)	(0.076)	(0.058)	(0.043)	(0.034)
Edum	0.016	0.021	-0.154	0.163	-0.044	-0.062
	(0.105)	(0.082)	(0.092)	(0.168)	(0.095)	(0.037)
$Edum_{t-1}$	-0.007	0.018	0.106	-0.214	0.072	0.039
	(0.104)	(0.110)	(0.088)	(0.169)	(0.086)	(0.037)
Old	-0.188*	-0.175	-0.147	-0.009	0.085	0.027
	(0.095)	(0.096)	(0.127)	(0.151)	(0.104)	(0.050)
Old_{t-1}	0.177	0.156	0.170	0.032	-0.072	0.084
	(0.102)	(0.093)	(0.154)	(0.197)	(0.093)	(0.047)
Female	0.132*	0.134*	0.200*	0.189**	0.373***	
	(0.058)	(0.068)	(0.090)	(0.068)	(0.040)	
$Female_{t-1}$	-0.137**	-0.134*	-0.216*	-0.185**	-0.284***	
	(0.044)	(0.061)	(0.088)	(0.063)	(0.042)	
Year dummies	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Sargan test	1.000	1.000	1.000	1.000	1.000	1.000
AR(1)	0.003	0.004	0.009	0.003	0.003	0.000
AR(2)	0.616	0.298	0.920	0.272	0.397	0.263
Sample Size	260	260	260	260	260	260

Notes: ***,**,* denote statistical significance at 1%,5%,10% significant levels. Heteroskedasticity consistent standard errors are shown in the parentheses below the estimated coefficients. All estimations are carried out using system GMM estimators. AR(1) and AR(2) are the p-values of the Lagrange Multiplier (LM) tests of serial correlation of order 1 and 2, under the null of no autocorrelation. The Sargan test is a test of overidentifying restrictions, under the null that the selected instruments are uncorrelated to errors.

Summarizing the results from Table 3, we conclude that migration does not significantly affect the employment opportunities of natives. Nevertheless, the relatively large difference between the OLS and IV estimated coefficients provide clear empirical support for the existence

of bidirectional causality between the share of immigrants and the regional employment outcomes (i.e. endogeneity). Moreover, it should be noted that the first differenced specifications do not allow us to infer anything about the long-run consequences of immigration. However, given that the economic theory suggests that the long-run impact of immigration is expected to be lower than it is expected to be in a short-run period (see e.g. Dustmann et al., 2005), we could argue that the effects reported in Table 3 are the most adverse that could be obtained from our dataset. Furthermore, it must be also noted that our findings are in line with the findings of previous empirical studies referred to other European countries (see e.g. Pischke and Velling, 1997; Dustmann et al, 2005).

5.1 Robustness checks

In Table 4, we test the robustness of our results by trimming all observations with an error term in the 5th and the 95th percentile. The results are shown in columns 1, 3, 5, 7, 9 and 11. As it is evident, the results clearly indicate that most of the conclusions presented in Table 3 are not driven by outliers. However, as far as the impact of immigration on the unemployment rate of medium skilled natives is concerned, the results indicate a negative and significant association. More precisely, we find that a one percent increase in the inflow of migrants decrease medium skilled unemployment by 0.162 percent.

In recent years, and after 1998 in particular, the preparations of Athens due to the Olympic Games in 2004 caused a construction boom that helped to increase the employment of unskilled workers in building/construction sectors. Hence, in a second robustness check (columns 2, 4, 6, 8, 10 and 12), we re-estimate the model by excluding observations from the wider area of Athens (Attiki) to address the concerns that our results are driven due to the aforementioned economic expansion[17]. Nevertheless, as it is evident, the results remain quantitative similar to those presented in Table 3.

[17] We have also examined the impact of immigrants between 1988-1998 and 1998-2008. This has very little effect on the results, so to save space we do not report these results.

Table 4. Robustness check (Dynamic Model)

	Une		*Unel*		*Unem*		*Uneh*		*Emp*		*Par*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Une_{t-1}	0.780[a]	0.804[a]										
	(0.031)	(0.044)										
$Unel_{t-1}$			0.759[a]	0.762[a]								
			(0.027)	(0.043)								
$Unem_{t-1}$					0.783[a]	0.765[a]						
					(0.035)	(0.040)						
$Uneh_{t-1}$							0.481[a]	0.476[a]				
							(0.083)	(0.100)				
Emp_{t-1}									0.814[a]	0.814[a]		
									(0.019)	(0.035)		
Par_{t-1}											0.596[a]	0.447[a]
											(0.079)	(0.061)
IMM	-0.029	0.007	0.008	-0.013	-0.162[c]	-0.122	-0.081	-0.033	0.083	0.062	0.114[c]	0.124
	(0.086)	(0.116)	(0.092)	(0.150)	(0.088)	(0.109)	(0.127)	(0.149)	(0.065)	(0.089)	(0.052)	(0.071)
Edul	-0.177[b]	-0.131[c]	-0.206a	-0.152[c]	-0.317[a]	-0.263[b]	-0.018	0.013	0.109[c]	0.084	0.014	0.059
	(0.060)	(0.060)	(0.056)	(0.066)	(0.072)	(0.082)	(0.054)	(0.061)	(0.054)	(0.059)	(0.054)	(0.050)
$Edul_{t-1}$	0.172[b]	0.125[c]	0.198[b]	0.152[c]	0.295[a]	0.245[b]	0.004	-0.047	-0.077	-0.054	0.021	-0.057
	(0.056)	(0.058)	(0.064)	(0.077)	(0.077)	(0.079)	(0.060)	(0.055)	(0.047)	(0.050)	(0.055)	(0.059)
Edum	0.009	-0.003	-0.021	0.025	-0.143	-0.159	0.155	0.194	-0.040	-0.013	-0.111	-0.081
	(0.105)	(0.119)	(0.063)	(0.100)	(0.090)	(0.112)	(0.162)	(0.189)	(0.085)	(0.107)	(0.096)	(0.110)
$Edum_{t-1}$	0.001	-0.045	0.071	-0.047	0.102	0.038	-0.231	-0.286	0.070	0.094	0.051	-0.036
	(0.103)	(0.113)	(0.087)	(0.109)	(0.097)	(0.093)	(0.169)	(0.181)	(0.079)	(0.096)	(0.097)	(0.103)
Old	-0.160	-0.223[c]	-0.239[c]	-0.259[b]	-0.078	-0.244[c]	0.008	-0.078	0.071	0.082	-0.042	-0.052
	(0.101)	(0.102)	(0.105)	(0.086)	(0.150)	(0.122)	(0.145)	(0.158)	(0.109)	(0.108)	(0.108)	(0.099)
Old_{t-1}	0.172	0.212[c]	0.232[c]	0.236[b]	0.126	0.262	-0.013	0.109	-0.067	-0.075	0.022	0.178
	(0.105)	(0.104)	(0.108)	(0.073)	(0.165)	(0.150)	(0.190)	(0.201)	(0.097)	(0.097)	(0.125)	(0.117)
Female	0.097[c]	0.121[c]	0.065	0.102	0.172[c]	0.185	0.182[c]	0.189[b]	0.391[a]	0.380[a]		
	(0.040)	(0.060)	(0.057)	(0.071)	(0.087)	(0.097)	(0.074)	(0.070)	(0.040)	(0.042)		
$Female_{t-1}$	-0.110[b]	-0.138[b]	-0.087	-0.123[c]	-0.186	-0.221[c]	-0.191[b]	-0.188[b]	-0.281[a]	-0.270[a]		
	(0.038)	(0.045)	(0.056)	(0.059)	(0.096)	(0.094)	(0.066)	(0.068)	(0.044)	(0.048)		

Table 4 continued

Sargan	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
AR(1)	0.004	0.003	0.003	0.005	0.009	0.010	0.003	0.004	0.002	0.003	0.001	0.001
AR(2)	0.650	0.665	0.360	0.325	0.653	0.918	0.590	0.286	0.931	0.359	0.317	0.169
Sample Size	234	240	234	240	234	240	234	240	234	240	234	240

Notes: [a,b,c] denote statistical significance at 1%,5%,10% significant levels. Heteroskedasticity consistent standard errors are shown in the parentheses below the estimated coefficients. All estimations are carried out using system GMM estimators. AR(1) and AR(2) are the p-values of the Lagrange Multiplier (LM) tests of serial correlation of order 1 and 2, under the null of no autocorrelation. The Sargan test is a test of overidentifying restrictions, under the null that the selected instruments are uncorrelated to errors.

6. Conclusion

The main objective of the present paper was to examine the impact of immigrants on the employment opportunities of Greek workers. Our dataset (LFS) consists of longitudinal data of 13 local labor markets over the period 1988-2008. This is the first attempt to estimate the labor market effects of immigration in Greece. We also have to note that, although the LFS contains the richest and most reliable information about migration in Greece, possible measurement errors in the foreign concentrations could cause problems in the empirical analysis. Hence, the results should be treated with some caution.

Our results suggest that migrants do not adversely affect the aggregate employment and unemployment rate of natives. As far as the impact of immigration on the unemployment rates of different education groups is concerned, we also fail to detect significant effects for unskilled and skilled workers (as in Dustmann et al., 2005). On the other hand, our empirical results provide evidence that migration reduces the medium skilled unemployment. Moreover, we find that domestic labor force participation increases due to immigration. The results also appear to be robust to a number of alternative specifications.

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