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ABSTRACT

Immigrants and Unemployment in the European Community: From the Eyes of Natives*

This paper examines whether immigrants increase the likelihood of unemployment among native-born workers in the European Union. Earlier papers measure the presence of immigrants in the local labor market by computing the share of the foreigners in specific regions. This paper, instead, utilizes a unique feature of the 1988 Eurobarometer, which asks the native-born workers' assessment of the number of immigrants in the local market. By doing so, the association between unemployment of native-born workers in the European Union and presence of immigrants in the local labor market is evaluated from the native-born workers' own perspective. The empirical results indicate that there is little, if any, association between the presence of immigrants and unemployment among native-born workers.

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1. Introduction

"Immigrants steal jobs from the native-born workers," is common folklore. This belief is often thought to be at the root of negative attitudes and hatred towards foreigners. Indeed, this folklore is frequently resurrected and contributes to the increasingly bellicose attitudes of native-born workers whenever a large portion of native-born workers suffers from unemployment. Is there any evidence supporting this folklore? This paper examines whether immigrants increase the likelihood of unemployment among native-born workers in the European Union. The paper sheds new light on this question by taking advantage of a unique feature of Eurobarometer Survey data.

The number of foreigners in the European Union countries has risen sharply in recent years. In fact, for the first time in many decades, the 1990's saw the share of the population change in the European Union accounted for by net immigration exceed that of natural population growth (OECD (2001, p. 33)). The increased immigration was not always welcome, and has been associated with increased anti-foreigner attitudes and actions in some countries. In Great Britain, for example, the number of racially motivated incidents reported to the police grew from 4,383 in 1988 to 7,793 in 1992 and 13,878 in 1998.[1] In the summer of 2001 this situation exploded when South Asian immigrants in Britain rioted in the cities of Bradford, Oldham, Leeds and Burnley, in large part to protest growing anti-immigrant attitudes and violence (see EUMC (2000) for incidents of other countries).

Economists have long been interested in effects of immigration on employment of native-born workers. They examine whether the association of immigration and unemployment among native-born workers can be established from both theoretical and empirical perspectives. Economic theory warns

[1] The number of incidents reported to the police grossly underestimates the actual number of such incidents since most remain unreported. In 1996, the British Crime Survey estimated that 143,000 offences against ethnic minorities (transgressions considered by the victim to be racially-motivated) had been committed the year before (Channel4 (2000)).

us against hastily assuming that a flow of immigrants into an economy will raise the unemployment of natives. It is only in a simple, one-sector, rigid-wage model where the labor market is homogeneous that increased immigration will augment labor supply and thus raise unemployment. The impact of immigrants on employment is more complex than this. In richer and more realistic models, the impact of immigration on unemployment in any given labor market is ambiguous. For example, general equilibrium modeling suggests that immigrants can be absorbed in the economy with little or no negative impact on employment if the immigrants are employed in expanding, labor-intensive sectors of the economy.[2] The effect of immigrants on native-born employment may vary according to the human capital endowments (for example, schooling and on-the-job experience) of the native-born. It is quite possible that immigrants may be substitutes for some native-born labor while complements to others. If immigrants are complements to some non-immigrants, the foreign labor inflow increases the demand for non-immigrants, thus raising rather than lowering their employment.[3]

Some economists have tried to empirically verify the association between immigration and unemployment of the native-born workers. Overall, the existing evidence on the impact of immigration on European labor markets is inconclusive, often finding small or no effects of immigration on unemployment.[4] Other countries also show small or no effect of migration on the likelihood of employment of native workers. Using the1990 U.S. Census, Card (2001) finds that effects of the immigration inflows in 1980s in the United States on natives as a whole are very small. Negative effects

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[2] See Card (1990) for empirical evidence on this issue relating to the Mariel immigrant flow.

[3] For a discussion of the issue of complementarity between immigrant and native-born workers, see Gang and Rivera-Batiz (1994a).

[4] See the survey paper by Zimmermann (1995), as well as Hunt (1992), DeNew and Zimmermann (1994), Muhleisen and Zimmermann (1994), Pischke and Velling (1997), Winter-Ebmer and Zweimuller (1994), and Winkelmann and Zimmermann (1993).

of the immigration inflows on native-born employment can be found only for younger and less-educated native workers and only in a few high-immigration cities. Studying the effects of immigration on the unemployment rates in Australia over more than a century (1861-1991), Pope and Withers (1993) find no evidence that immigration significantly increased unemployment. Gross (1998) also finds, using the data from the province of British Columbia in Canada, in the long-run immigrant inflows may create more jobs than they occupy, though the effects of the inflows of immigrants on the unemployment in the short-run may be negative.

In short, economic theory and empirical evidence show little or no association between immigration and unemployment among native-born workers. This is contradictory to what folklore says, i.e., that immigration has a detrimental effect on native-born workers' employment. This paper calls attention to the fact that the presence of immigrants in earlier studies is measured by computing the share of foreigners in specific regions based on Census-type survey data. Instead, this paper examines whether the association between immigration and unemployment among native-born workers can be found if the presence of foreigners in the local labor market is assessed by the native-born workers themselves.

For our analysis, we utilize a unique feature of the Eurobarometer Survey, October/November 1988. This survey asks a question "are there many, a few or no people of another nationality who live in your neighborhood?". We use the response to this question as native-born workers' self-assessment of the concentration of immigrants in the local labor market.[5] The response has an advantage in that

[5] One shortcoming is that the neighborhood and the local labor market may diverge. Since the data does not have information where individuals work, our estimation may be biased. We assume that respondents usually encompass their workplace as their neighborhood. For Germany, Gang and Rivera-Batiz (1994b) performed the statistical analysis using the actual percentage of foreigners in the region (Bundeslaender) where the person lives instead of the variables from the response to the question. No substantial difference in results were found.

it represents native-born workers' perception and not the researcher's discretion as to the extent of the local labor market and the concentration of foreigners. Computing the proportion of foreigners in the local market using Census-type data, as done in other studies, faces the danger of defining too small or too large an area as the local labor market. Since in our data what constitutes the local labor market and the concentration of foreigners is determined by the native-born workers' own assessments, our measure of the presence of foreigners will be more relevant in understanding why the unsophisticated and sometimes bellicose folklore resonates for some European Union citizens.

It is unfortunate that the same question has never been asked again in the Eurobarometer surveys. This prohibits us from studying the association before and after the fall of the Berlin Wall in 1989. However, it is still interesting to study the association prior to the fall of the Berlin Wall and the sea-change in political and economic relations that accompanied and followed it. Our analysis is able to provide a backdrop on which to view and interpret the changes which followed. If the concentration of immigrants in the local labor market as assessed by the native-born workers themselves fails to show a detrimental effect of immigration on native-born employment, then one must wonder what lies at the root of the immigrant–unemployment folklore and policies enacted in its wake.

In the next section we offer some background discussion on the Eurobarometer survey data set utilized in this paper, and present mean characteristics. Section 3 examines the determinants of likelihood of employment of native workers by utilizing probit analysis and tests various hypotheses related to the effects of the concentration of foreigners in the neighborhood on the employment of native workers. Section 4 concludes.

2. Data

The analysis in this paper uses the October/ November 1988 Eurobarometer Survey. The Eurobarometer surveys are carried out each year among citizens of Europe to examine attitudes towards a variety of issues. The surveys give rise to unique data sets consisting of single cross-sections of a geographically distributed random sample of households across Europe. The October/November 1988 survey was conducted among the 12 countries that were members of the European Union at that time (see Reif and Melich (1991) for a detailed description of the procedures followed in each country). In addition to information on household economic and demographic behavior, the October/November 1988 Eurobarometer survey contains detailed questions on immigrants and foreigners, whether the survey respondent was a citizen or not, and information on whether any immediate family member is of foreign-origin, or not of foreign-origin.

The sub-sample of the population studied consists of European citizens in the labor force, 16 - 70 years of age, not of foreign origin, not self-employed and not in the military. In addition, respondents who did not answer questions as to their nationality, occupation, age or gender were excluded. Our final sample size of European Union citizens is 4,324.

Table 1 presents a summary of the sample means of the variables used in the analysis. Among the 4,324 observations, 86 percent of them (3,737) were employed and the remaining 14 percent (587) were unemployed. The data includes labor market relevant human capital variables, education and potential labor market experience. Education is quantified by years of schooling, measured in the survey by the age at which the person left school minus six. Potential labor market experience is measured by an individual's age minus the age at which he or she left school. Two dummy variables are constructed to incorporate demographic effects. Gender is equal to one if the person is male, and zero if female. Head of household is equal to one if the person is a head of the household. Another

variable is equal to the number of children less than 15 years old living in the household where the respondent to the survey resides.

To quantify the presence of the foreigners in local labor markets, we use the Eurobarometer respondents' self-report of foreign presence, elicited in response to the question "are there many, a few or no people of another nationality who live in your neighborhood?". In the empirical analysis, two dummy variables are utilized: the first dummy variable is equal to one if the person responded that there were many foreigners in their neighborhood, and the second dummy variable is equal to one if the person stated that there were a few foreigners in their neighborhood. Less than a half of the sample (44 percent) declared that there were no foreigners residing in their neighborhood, while 46 percent stated there were a few foreigners in their neighborhood, and 10 percent said that there were many foreigners.

Table 1 also reports mean characteristics of sub-samples partitioned by employment status (employed versus unemployed), educational attainment (schooling of 12 years or more versus less than 12 years) and age (older than 30 years versus 30 years or younger). According to t-tests, only number of children aged less than 15, gender, and the variables related to the existence of foreigners in the neighborhood are not significantly different between the employed and the unemployed. For the more-educated (12 years or more) versus less educated groups, only head of household is not significantly different from each other. For the age partition, in comparing younger (30 years or less) and older groups, all of the variables except no foreigner in a neighborhood are significantly different from each other.

3. Immigrants and Unemployment: Probit Analysis and Hypothesis Tests

This paper examines whether the existence of the immigrants has detrimental effects on the

employment rates of European Union citizens from the native-born workers' own perspectives. In measuring the degree of the existence of immigrants in the local labor market, the variables of the self-reported concentration of foreigners (many, few, and no foreigners in the neighborhood) are used as proxies. For our empirical study, a probit analysis is employed using a binary variable of being employed as the dependent variable. The dependent variable is qualitative, equal to one if the person is employed and zero if unemployed.

The probability of being employed is defined as Prob(Employed = 1) = F (Xß), where F is a standard normal cumulative density function and X includes various exogenous variables including potential experience and its square in tens, education, number of children aged less than 15, head of household, male, and dummy variables for the existence of foreigners in the neighborhood.

Table 2 presents the results of the probit analysis. The first column reports the probit estimates for the entire European Community sample. The variables related to human capital show the expected signs; schooling increases the probability of employment, while potential labor market experience at first (26.82 years or less) increases the likelihood of employment and afterward decreases the likelihood of employment. Only household head significantly increases the probability of employment among other variables not related to human capital.

The impact of the (perceived) presence of foreigners in local labor markets on the probability of employment may be measured from the estimates of the dummy variables associated with "many" or "few" foreigners in the neighborhood. When the whole sample is used, the dummy variables associated with "many" or "few" foreigners in the neighborhood are, respectively, negative and positive, but neither is significant at 5 percent level of significance. These results suggest that immigrant presence in a local labor market, regardless of the density of immigrant presence, is not significantly

associated with a greater or lesser likelihood of employment among native-born workers in that labor market. Furthermore, we test the joint hypothesis of ß(many foreigners) = ß(few foreigners) = 0 employing a likelihood ratio test (for the likelihood ratio test, see Amemiya (1985), section 4.5). Another probit model under the null hypothesis is estimated to calculate a likelihood ratio test statistic. The null hypothesis cannot be rejected at 5 percent of significance since the likelihood ratio test statistic is 2.766 (= 2*(1646.282-1644.899)) with two degrees of freedom, which means that the likelihood of employment is not increased or decreased with the presence of immigrants in the local labor market.

In order to test whether there are differential effects of the presence of immigrants in the local labor market on less-educated citizens or on younger citizens, the likelihood of employment is analyzed for sub-groups partitioned by education (reported in columns 2 and 3 of Table 2), and by age (reported in the last two columns of Table 2). When the sample is partitioned by whether the respondent is under or over 30 years, probit estimates of dummy variables associated with the presence of foreigners in the neighborhood are not significant. Also a joint hypothesis of ß(many foreigners) = ß(few foreigners) = 0 cannot be rejected at 5 percent of significance for both sub-groups. We also partition the sample according to educational attainment; more educated workers with 12 years or more schooling versus less educated workers with less than 12 years of schooling. The effects of the presence of immigrants in the local labor market on the employment of more educated native-born workers are not significantly detrimental. However, a substantial presence of immigrants in the local labor market (many foreigners in the neighborhood) significantly lowers the likelihood of employment of the less-educated native-born workers. A joint hypothesis of ß(many foreigners) = ß(few foreigners) = 0 is also rejected at 5 percent of significance for less educated group.

Probit analysis and hypothesis tests are used to find whether the presence of immigrants in the local market lowers the employment rate of the native-born workers in the European community

countries. The results of the analysis indicate that, consistent with those of previous papers based on computed share of foreigners as a measure of concentration of immigrants, the presence of immigrants in the local labor market is not detrimental to the native-born workers as a whole, but may have negative effects on less educated native-born workers.

4. Conclusions

This paper answers the question, "Is the presence of immigrants in a neighborhood detrimental to the likelihood of employment of native-born workers"? The folklore, "immigrants steal jobs from the native-born workers," bluntly takes for granted the negative association between immigration and unemployment among the native-born workers. Previous studies use the proportion of foreigners in the region computed using Census-type surveys as the measure of the presence of foreigners. We push the analysis one step further by examining their presence from the native-born worker's perspective. One would expect this to increase the effect of the presence of foreigners on unemployment. Our measure of immigrant presence is possible thanks to a unique data set, the Eurobarometer 1988, which contains a question asking the native-born workers' own assessment of the number of immigrants in their neighborhood. The response reflects not only a native-born worker's perception of concentration of foreigners but also the extent of their neighborhood, which is presumed to be closely related to the local labor market. Though there may be a discrepancy between an individual's neighborhood and his workplace, the question provides invaluable information on the presence of foreigners in the local labor market from the assessment by native-born workers.

The results from the probit analysis on who is employed and who is not are quite consistent with other previous studies using computed concentration of immigrants in the regions based on Census-type data. Even with the native-born workers' self-assessment on the concentration of immigrants, the

presence of foreigners in a neighborhood is not significantly associated with a lower likelihood of employment among European citizens in that neighborhood. The exception is that the presence of a substantial proportion of foreigners in a neighborhood significantly lowers the likelihood of employment among less educated native-born workers.

Great care, of course, is warranted in interpreting these results. The finding that, in general, the presence of foreigners in a neighborhood is not associated with a lower likelihood of employment of native-born workers in a local labor market does not exclude the possibility that immigration has effects on the unemployment among native-born workers prevailing in other neighborhoods. Indeed, immigration into one local labor market may lead to unemployment in other labor markets, as native-born workers emigrate from the labor market into which the immigrants are flowing. In this case, empirically, one would not necessarily observe areas of concentration of foreigners being linked to greater unemployment in those areas.[6]

With this caution taken, the findings shed light on how to deal with the increasing negative attitudes toward foreigners in European Union (see Gang, Rivera-Batiz, and Yun (2001)). The increased flow of migrants during the 1990's has generated fears in a significant portion of the public and policymakers that immigrants are displacing native-born workers, i.e., causing unemployment among the native-born workers.[7] It is believed that the less skilled native-born workers are more vulnerable to increasing competition with immigrants. This has been accompanied by strong policy measures oriented to restrict immigration to the European Union.

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[6] See Filer (1992), White and Hunter (1993) and Card (2001) for this issue and implications of the results presented in this paper in the presence of internal migration among the native-born.

[7] Several papers investigating the effects of economic strain, as measured by high unemployment, low wages, or employment structure, which might be caused by the increasing number of immigrants in the labor market on anti-foreigners attitudes (Krueger and Pischke (1997), Dustmann and Preston (2000, 2001), Bauer, Lofstrom and Zimmermann (2000), and Gang, Rivera-Batiz, and Yun (2001)).

The findings in this paper show that the association between immigration and unemployment among native-born workers, as suggested by folklore, cannot be strongly established even with using the perception of the native-born workers on the concentration of foreigners in the local labor market, and on what the local labor market is. Indeed, studies on attitudes towards foreigners in European Union countries generally show that the unemployed do not have more negative attitudes towards foreigners relative to the employed, though overall the negative attitudes towards foreigners have increased. This does not necessarily mean that economic strains caused by increasing immigration in terms of high unemployment and stagnant earnings do not play any role in increasingly negative attitudes toward foreigners. However, it may suggest that the association between economic strain (at least as increasing unemployment) and negative attitudes towards foreigners may not be the major reasons why the anti-foreigner attitudes have increased. The folklore may be just a reflection of prejudice and discrimination against foreigners in the European Union countries. The findings in this paper strongly suggest that prejudice and discrimination against foreigners in the European Union countries are playing substantial roles in increasing negative attitudes towards foreigners. European countries face a major challenge in battling the ignorance and the social environment that give rise to prejudice and discrimination.

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Table 1. Sample Means

Variable	Whole Sample	Employed		Education		Age	
		Yes	No	12 Years or more	less than 12 Years	older than 30 Years	30 Years or less
Age	36.28 (11.90)	36.76* (11.71)	33.26 (12.69)	35.09* (11.10)	37.45 (12.53)	43.76* (8.97)	24.54 (3.47)
Potential experience	18.61 (12.52)	19.01* (12.29)	16.08 (13.63)	14.96* (10.94)	22.20 (12.93)	26.19* (9.95)	6.72 (3.97)
Education (years)	11.67 (2.83)	11.74* (2.85)	11.17 (2.66)	14.13* (1.67)	9.25 (1.15)	11.57* (3.02)	11.82 (2.51)
No. of children < 15	0.71 (1.01)	0.72 (1.00)	0.66 (1.06)	0.65* (0.97)	0.76 (1.05)	0.81* (1.07)	0.55 (0.89)
Head of household	0.62 (0.49)	0.63* (0.48)	0.50 (0.50)	0.61 (0.49)	0.62 (0.49)	0.74* (0.44)	0.42 (0.49)
Gender (Male = 1)	0.60 (0.49)	0.61 (0.49)	0.58 (0.49)	0.58* (0.49)	0.62 (0.48)	0.64* (0.48)	0.55 (0.50)
Many foreigners in neighborhood	0.10 (0.29)	0.09 (0.29)	0.11 (0.31)	0.11* (0.32)	0.08 (0.26)	0.09* (0.28)	0.11 (0.31)
Few foreigners in neighborhood	0.46 (0.50)	0.47 (0.50)	0.43 (0.50)	0.50* (0.50)	0.43 (0.50)	0.48* (0.50)	0.44 (0.50)
No foreigners in neighborhood	0.44 (0.50)	0.44 (0.50)	0.46 (0.50)	0.39* (0.49)	0.49 (0.50)	0.44 (0.50)	0.45 (0.50)
Employed	0.86 (0.34)			0.88* (0.32)	0.85 (0.36)	0.90* (0.31)	0.82 (0.39)
Number of cases	4324	3737	587	2142	2182	2641	1683

Standard deviations are reported in parentheses.
* means that the null hypothesis of equal means between comparison groups is rejected at the 5% level of significance.

Source: Authors' calculations from the Eurobarometer data (Reif and Melich (1991)).

Table 2. Probit Results on Probability of Being Employed

Variable	Whole Sample	Education		Age	
		12 Years or more	less than 12 Years	older than 30 Years	30 Years or less
Constant	-0.182	-0.070	0.153	-0.083	-0.137
	(0.142)	(0.324)	(0.341)	(0.354)	(0.262)
Potential experience	0.059*	0.071*	0.044*	0.039*	0.107*
	(0.007)	(0.011)	(0.011)	(0.019)	(0.031)
Potential experience^2/10	-0.011*	-0.014*	-0.008*	-0.006*	-0.037
	(0.002)	(0.003)	(0.002)	(0.003)	(0.021)
Education (years)	0.062*	0.042	0.049	0.084*	0.037*
	(0.010)	(0.023)	(0.032)	(0.014)	(0.018)
No. of children < 15	-0.006	0.033	-0.030	0.032	-0.058
	(0.026)	(0.042)	(0.033)	(0.034)	(0.041)
Head of household	0.158*	0.377*	-0.005	-0.106	0.364*
	(0.062)	(0.090)	(0.088)	(0.101)	(0.087)
Gender (Male=1)	-0.058	-0.094	-0.035	0.008	-0.055
	(0.057)	(0.083)	(0.080)	(0.090)	(0.077)
Many foreigners in neighborhood	-0.130	0.017	-0.285*	-0.206	-0.081
	(0.085)	(0.126)	(0.119)	(0.121)	(0.121)
Few foreigners in neighborhood	0.009	-0.082	0.086	-0.114	0.148
	(0.052)	(0.080)	(0.070)	(0.071)	(0.078)
Log-likelihood	-1644.899	-705.963	-923.437	-858.780	-766.424
Log-likelihood when ß(Many foreigners) = ß(Few foreigners) = 0	-1646.282	-706.630	-928.090	-860.825	-769.122
LR test: ß(Many foreigners) = ß(Few foreigners) = 0	2.766	1.334	9.306*	4.090	5.396

Dependent Variable: Employed = 1; Unemployed = 0.
* means statistically significant at the 5% level.
Standard errors are reported in parentheses.

Source: Authors' calculations from the Eurobarometer data (Reif and Melich (1991)).