

MIGRATION, SKILL PROFICIENCY AND EMPLOYMENT STATUS: EVIDENCES FROM PIAAC

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ABSTRACT

This article studies the link between level of skills and employment status among migrants and non-migrants from four European countries. We base our analyses on the PIAAC data sets collected during the last wave of enquiries (2011-2012). Competences are categorized in three main groups: literacy, numeracy and problem solving in technology-rich environments. We aim to explore differences in access to employment and level of skills of migrants and non-migrants. Most developed countries are now facing migration related challenges, including the need to enhance social integration of migrants through labour market participation. Our findings are relevant in order to better inform migration policies.

Keywords: migration, skills, employment, labour market

JEL Classification: J61

Introduction

When discussing the impact of migration on the labour markets of the countries of destination, one important aspect is the skills composition of migrants. In United States for example, the composition is biased to the unskilled, while in UK the skill distribution is tilted towards skilled workers (Centre for Economic Performance, 2012). From this perspective, migration might induce a pressure on wages obtained by

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the skilled workers. However, in many cases, migrants occupy mismatched jobs as they have difficulties to transfer the skills that they acquired in their home country.

Several studies have documented employment gaps between migrants and non-migrants. In most countries, migrant workers are more affected by unemployment than non-migrants (Van Tubergen, 2006). Moreover, in most countries, differences in unemployment rates of migrants and natives have increased in recession and narrowed in economic growth periods. One important reason is that migrants are more present in sectors that have been exposed to crisis (such as construction, manufacturing, retail trade), as well as in precarious and informal jobs (OECD, 2012, Davidescu, 2014).

Gaps between unemployment rates of migrants and non-migrants vary across countries due to a wide range of factors: features of the national economies, employment regulations, migration policies, welfare state regime in destination countries, as well as characteristics of the origin societies (Fleischmann and Dronkers, 2010, Stanila, Andreica, Cristescu, 2014).

I. Literature review

Many studies analyzed the characteristics and outcomes of migration in traditional destination countries. Since 1993, the employment rate of migrants in UK is lower as compared with UK-born individuals. However, one could notice that the gap has narrowed for men, while remaining constant for women. Also, the unemployment rate remained constantly higher for foreign-born individuals. Moreover, the occupational profile of migrants by level of education indicates high incidence of education-job mismatch. In fact, foreign-born individuals are more present in professional occupation (especially software professionals and health care professionals), but also in elementary and processing occupations. One very important aspect is that the migrant workforce register more pronounced improvements in educational attainment as against UK-born (Rienzo, 2014).

Also, as a country with high history of migration, Germany was subject to extensive research on unemployment and employment of migrants and natives. Uhlendorff and Zimmermann (2014) studied German panel data and found that male migrants need more time to find stable jobs than non-migrants.

Fewer studies performed cross-country comparisons on the participation of migrants on the labour market. Employing a multilevel analysis approach on migrants and non-migrants from 13 countries, Fleischmann and Dronkers (2010) found that migrants are more affected by unemployment in countries with higher unemployment rates of natives and less exposed to it in economies with more low-status jobs. This article aims to compare share of employed and unemployed of migrants and non-migrants from UK, Germany, Italy and Spain, while taking into account their skills.

II. Data

Our analysis is based on microdata from the Programme for the International Assessment of Adult Competencies (PIAAC) study and to ensure the reliability of our results we had to use special methods specific to complex survey design.

In order to manage the complex features of the PIAAC sample design we used a statistical package in R developed by Jakob Peterbauer and Manuel Reif. Thus we took into consideration the sampling weights and the replication weights. The derivation of the replicate weights is made by the means of a resampling method known as jackknife. The replication schemes used for the countries included in our analysis are known as delete one jackknife (JK1) and paired jackknife (JK2) (OECD, 2013). For each country included in the analysis are built 80 separate replicate weights which facilitates the standard error estimation.

Another important feature of the PIAAC sample design is related to the multiple imputation process of the proficiency scores aiming to derive the plausible values. PIAAC is a large scale assessment data hence the survey design. Hence it includes plausible values in order to increase the accuracy of the cognitive measurement. The results presented in this paper are produced by routines which properly estimate the statistics for the variables capturing the skills assessment for each domain. This means that we took into consideration the sampling error component and the variance due to imputation of proficiency scores.

In this study we investigated the differences in access to employment of migrants and non-migrants for the following data sets: UK, Italy, Spain, and Germany. Tables 1 and 2 describe the distributions by employment status and immigration status for each country.

The variable we used to capture immigration status represents background information derived from original items such as: country of birth and respondent's parents' background (OECD, 2013). Thus, we understand by 1st generation of immigrants refers to those people that were born in other countries that the one they are living in, while, by 2nd generation of immigrants we understand the people born in the analysed country, but with parents born in other ones.

Table 1 Immigration status

	1st generation immigrants	2nd generation immigrants	Non 1st or 2nd generation immigrants
UK	14.84%	5.11%	80.04%
IT	7.62%	0.33%	92.04%
ES	12.03%	0.34%	87.63%
DE	15.62%	7.23%	77.15%

Table 2 Employment status

	Employed	Unemployed	Out of the labour force
UK	71.19%	6.25%	22.56%
IT	56.19%	9.16%	34.64%
ES	58.53%	13.83%	27.64%
DE	75.19%	4.01%	20.80%

III. Results

First we computed a weighted cross-tabulation to investigate the differences between migrants and non-migrants with respect to the integration into the labour market. These results are represented in the following graphs. The share of unemployed adults residing in a country but born in another country exceeds the one of the adults born in the same country. The most significant differences are found for Spain and Italy, namely 8.8 percentage points and 7.75 percentage points.

The situation differs a lot in between 1st and 2nd generation of immigrants and the country analysed. On the one hand, we can notice that the employment status of 2nd generation of immigrants is improved as against the one of the 1st generation in UK and Germany, but still inferior to the one of the natives. On the other hand, in Spain and Italy, the structure of generations by employment status changes significantly. The share of those employed decrease in the 2nd generation of immigrants as against the 1st one, the unemployment rates also decrease, while the share of those “out of the labour force” is more than double in the 2nd generation as against the 1st one, being influenced by the age and gender structure. The history of immigration is shorter in Spain and Italy, countries with far more history of immigration, so the high shares on those inactive on the labour market could be explained by the high share of children and youth among the 2nd generation of immigrants.

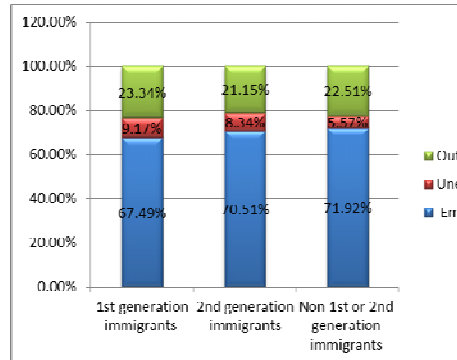


Fig. 1 Employment status by immigration status- UK data set

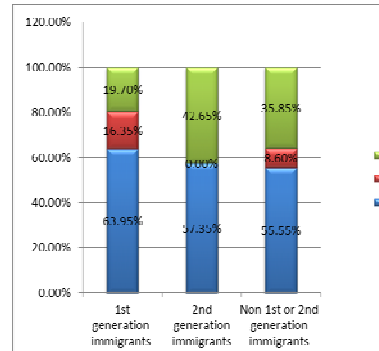


Fig. 2 Employment status by immigration status- Italy data set

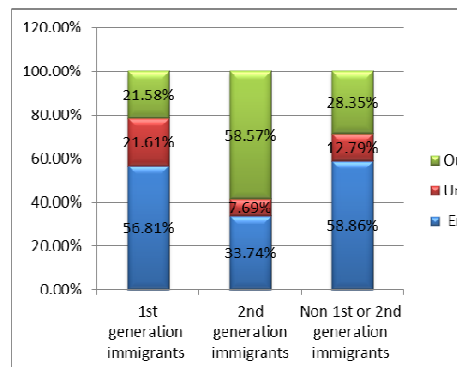


Fig. 3. Employment status by immigration status- Spain data set

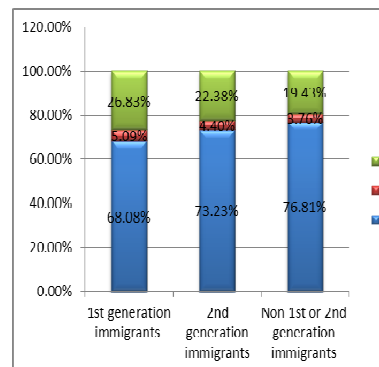


Fig 4. Employment status by immigration status- Germany data set

We tested the correlation between the two categorical variables capturing the employment status and the immigration status using a Chisquared test of association. As can be seen in Table 3 which presents the p-values associated to this test, the null hypothesis of independence was rejected for each country. This means that the differences between migrants and non-migrants highlighted by the Figures 1 to 4 are statistically significant.

Table 3 Test of association results

Country	<i>pvalue</i>
UK	0.103
IT	1.55E-06
ES	3.92E-06
DE	0.006

This study investigated whether these differences in employment could be explained by the skills possessed by the adults. We used the measures of proficiency levels in literacy, numeracy and problem solving offered by PIAAC. Table 4 presents the median computed for the scores obtained in the evaluation process for these three domains of cognitive skills. We did not include statistics regarding problem solving in technology-rich environments for Italy and Spain because these countries did not participate in the assessment of problem solving dimension. The scores provided in PIAAC are measured on a scale from 0 to 500 because the results from the assessment are reported on proficiency scale ranging from 0 to 500 with tasks at the bottom of the scale being easier than those at the higher end (OECD, 2013). A respondent receiving a score at a certain level is also proficient at an inferior level.

The results presented in Table 4 show that in each country we included in this study, regardless the domain, the proficiency levels of immigrants are lower than those hold by non-migrants.

Table 4 Skill proficiency by immigration status

		Literacy (Q50%)	Numeracy (Q50%)	Problem solving (50%)
UK	1st generation immigrants	255.5	238.6	271.4
	2nd generation immigrants	269.9	253.7	282.9
	Non 1st or 2nd generation immigrants	278.8	269.2	283
IT	1st generation immigrants	228.8	232.7	..
	2nd generation immigrants	228	229.5	..
	Non 1st or 2nd generation immigrants	254.1	250.3	..
ES	1st generation immigrants	233	229.7	..
	2nd generation immigrants	251.4	246.4	..
	Non 1st or 2nd generation immigrants	258.1	252.7	..

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	1st generation immigrants	239.7	239.9	256.5
	2nd generation immigrants	262	268	275.8
DE	Non 1st or 2nd generation immigrants	280.1	282.25	289.7

IV. Conclusions

Even if the labour market and migrants' inclusion policies vary a lot among the countries analysed, the position of migrants on the labour market remains vulnerable as against the natives' position. The data for the 2nd generation of immigrants slightly improves in the destination countries, but remains under the one of the natives. The situation is different in Spain and Italy, countries with a short history of immigration, where the second generation has larger shares of children and youth.

The most important finding of our paper is that the level of skills for immigrants is in all the cases lower as against natives. One explanation could be found in the structure of immigrants by level of education, large segments of them having lower levels of education and skills and working in informal sector or in elementary occupations. Another explanation could be the depreciation of skills acquired at a certain moment in time, if they are not used or upgraded according to the technological and economic progress. And not the least, we have to consider the low access of immigrants to education and training opportunities in destination countries, irrespective the status of the performed occupation or profession.

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