

Title: Does immigration grease the wheels of European labor markets?  
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## Does immigration grease the wheels of European labor markets?

### Abstract

Do immigrants grease the wheels of European labor markets? The methodology used in this paper is motivated by Borjas (2001) who studied whether immigration into the US greases the wheels of the labour market and found that newly arrived immigrants are much more likely to be clustered to those states which offer higher wages for the types of skills they offer and so help to equalize economic opportunities across areas. Dustmann, Frattini and Preston (2010) applied similar estimation strategy to assess whether immigration reduces regional disparities between wages in the United Kingdom. Using a similar approach, we test whether immigration helps to reduce labour shortages in the European labour market. In particular we look at the relationship between residual wage differentials of jobs in different industry-skill groups and the decision of migrants and natives to work in these jobs. Wage differentials across jobs that go beyond what can be explained by differing characteristics of workers in these jobs – residual wage differentials or wage premiums – are then taken as a measure of labour shortage in a given industry-skill cell. The analysis evaluates the responsiveness of migrants towards jobs with higher wage premiums, i.e. sectors with more severe skill shortages. Given their positive selection into mobility (being migrants) and other predispositions, we hypothesize that migrants are at least as and maybe more mobile than natives and so effectively fill up skill shortages. An alternative hypothesis is that stringent immigration policies and other barriers to immigrant integration significantly hinder the job mobility of migrants.

The analysis will draw on EU LFS and EU SILC dataset. Both data sets are household surveys conducted annually in the all Member States of the European Union. The information on earnings of workers in the EU is taken from EU-SILC to determine the labor shortages (wage premium). Owing to its large sample size, EU-LFS provides reliable information on the share of foreign-born population and it is commonly used in the research analysis on immigration in the European context (Huber et al. 2010; Dustmann and Frattini, 2011; D'Amuri and Peri, 2012). In this paper EU-LFS is used to calculate the shares of native/foreign-born workforce within industry and occupation groups. Sample includes 15 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

The empirical frameworks tests two interrelated questions: 1) Are migrants more, or less, responsive to labor shortages in EU labor markets than the natives? 2) Are there any institutional or policy contexts under which migrants respond to labor market shortages better than under other contexts? Following the review of accessible indicators measuring labor shortage and due to data constraints, we adopt a top-down approach and proxy labor shortage on an industry-occupation-country level by measuring unexplained wage level (wage premiums).

We define four skill groups, based on the one-digit ISCO classification and nine industry groups based on the NACE classification. Such a categorization generates 36 groups for which we calculate the labor shortage and the index of relative supply of migrants in each country and in every year, which we develop to measure the responsiveness of migrants to identified shortages. Naturally due to data limitation groups including unsatisfactory number of respondents were dropped from analysis. The final analysis distinguishes 381 industry-skill-country groups over period 2004-2012 for which we calculate labor shortage and relative supply of migrants. In addition to enlarging the sample of observations, a matrix based on ISCO and NACE intersection acknowledges inter-sectoral skill variation in the levels and in skill specificity that might have an effect on workers' reallocation responsiveness.

The definition of migrant worker is based on the country of birth and we distinguish migrants born in EU-15 and outside EU-15 countries, where third-country nationals as well as labor migrants from the new EU member states (2004 and 2007 enlargements) are included. The analysis proceeds separately for both groups and tests responsiveness of EU15 migrants to labor shortage in EU15 countries and responsiveness of non-EU15 migrants to labor shortage in EU15 countries. This research design helps us to model different migration policy contexts with free mobility for intra-EU15 mobility and fully (third-country nationals) or partly (new member states) restricted mobility of these countries into and across EU15 receiving states.

After the baseline model, responsiveness of migrants is tested under different calibrations and in interaction effects. These test economic conditions, including economic crisis, GDP growth and unemployment rate; migration policies and broader institutional variables proxied mainly by the welfare state typology.

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