

Do (naturalized) immigrants affect employment and wages of natives? Evidence from Germany

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15 September, 2008

Extended Abstract

Since the beginning of the 1990s Germany has experienced a rise in wage inequality as well as an increase in unemployment [Dustmann, Ludsteck and Schönberg (2007)]. During the same period of time a massive inflow of immigrants can be observed so that the question regarding the wage and labor market effects of immigration arises. Although, there is an extensive literature on the impacts of immigration on the host economy existing studies come to ambiguous conclusions. The results of these investigations are often driven by the controversially discussed assumption whether and to what extent immigrants represent complements or substitutes for native workers. However, there is another aspect which is often neglected in the discourse, namely the question which individuals are considered immigrants. In empirical investigations for Germany (and for other industrialized countries as well) usually only individuals with a foreign citizenship are regarded as immigrants whereas long-term foreign-born residents, i.e. naturalized foreigners, and the descendants of immigrants, i.e. second generation immigrants, are captured as natives.

In my empirical analysis, I will show whether the effects of immigration on the host country differ if there is a change from the narrow to the broad definition of immigrants. In other words, I do not only consider individuals with a foreign citizenship as immigrants but I will extend the analysis by including individuals who have been naturalized or who have at least one parent with a foreign citizenship. According to data provided by the Federal Statistical Office of Germany (2007) the share of foreigners on the total population is 8.9 % whereas in the broader definition all individuals with a migration background represent 19.6 % of the entire population in Germany. Thus, the effects of immigration are likely to differ

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significantly if naturalized persons as well as second-generation immigrants are considered as well.

From a theoretical point of view, immigration might entail positive or negative effects on the labor market of natives. Assuming that immigrants of a specific worker type, e.g. with respect to the skill level, represent substitutes for native workers in the production process the wage and employment levels are negatively affected by immigration (e.g. low-skilled immigrants). However, in case immigrants are complements for natives the marginal productivity of native workers is assumed to increase resulting in a higher wage and employment level for that specific worker type (e.g. high-skilled immigrants). Hence, in this framework the overall effect of immigration depends on the skill composition and the relationship between immigrant and native workers in production. However, since the native and immigrant work force do not only differ in educational attainment but also in their working experience and/or in their concentration of occupations, theoretical models are getting too complex when taking these heterogeneities into account. For this reason, the impact of immigration on wage and employment levels in the host country has predominantly remained an empirical question.

Whereas there is a huge literature on the effects of immigration in the United States [e.g. Friedberg and Hunt (1995), Borjas (1999, 2003), Ottaviano (2006, 2008)] evidence presented for European countries is quite rare. In particular, there are only few studies that have analyzed the impact of immigration in Germany. De New and Zimmermann (1994) use the German Socio-Economic Panel for the years 1984-1989 in order to analyze the effects of foreign workers on the wages for blue and white collar native workers. Whereas they find small gains for white collar employees, the less experienced blue collar workers are negatively affected by immigration. In contrast to this study, Pischke and Velling (1997) as well as Bonin (2005) use data from the German Social Security records (IAB data). Although they cover different time periods in their analysis, both studies come to the conclusion that immigration neither affects employment nor wages of native workers negatively. In a recent paper D'Amuri, Ottaviano, and Peri (2008) use a general equilibrium framework [see Ottaviano and Peri (2006)] in order to investigate the effects of immigration in Germany in the 1990s. They show that immigration does not entail negative effects for native workers with respect to wages and employment levels.

As already mentioned, these studies use the narrow definition of an immigrant, i.e. individuals

with a foreign citizenship only. This paper will provide empirical evidence on the wage and labor market effects of immigration considering alternative classifications for immigrants. For this purpose, I use data from four waves (1996, 1999, 2002 and 2005) of the German micro census which annually covers one percent of all households residing in Germany

With regard to the empirical strategy many previous econometric investigations have exploited variation in the regional concentration of immigrants in order to determine the impact of migration on natives. The basic idea is to use the correlation in the variation of wages (or employment) for natives and variation in the concentration of migrants in geographic areas. However, this approach is likely to suffer from a potential endogeneity bias since migrants may move to a particular region because of higher wages and/or a favourable labor market situation. A second concern is that natives may respond to the entry of immigrants by moving to another area.² In order to circumvent these issues, alternative approaches have been developed. Card (1990) uses a natural experiment in order to determine the effects of immigration on the host economy. In particular, he investigates the impact of the Mariel boatlift, i.e. a relatively large influx of Cuban refugees on the regional labor market of Miami in 1980. Econometric evidence shows that immigration had no adverse effects on wages as well as labor market participation of natives. As an alternative to the spatial correlation approach or the natural experiment design, some researchers have used variation in the concentration of immigrants in industries, occupations, skill levels and/or experience groups in order to analyze the effects of immigration [e.g. see Orrenius and Zavodny (2007)].

In my empirical study, I follow the latter approach using variation in the concentration of immigrants in skill-occupation-experience groups. To put it differently, I will examine whether there is a relationship between the concentration of immigrants in a specific skill-occupation-experience group on the one hand and wages/unemployment of natives in the same group on the other hand. The concentration of immigrants m in a particular group (cell) is obtained by the absolute number of immigrants M in a particular cell divided by the number of immigrants plus the number of natives N in that cell (see equation 1):

$$m_{ijkt} = \frac{M_{ijkt}}{M_{ijkt} + N_{ijkt}} \quad (1)$$

² Butcher and Card (1991), Card and Di Nardo (2000) and Card (2001) show that in the United States the immigrant inflow is positively correlated with native inflows.

The share of immigrants is reported for four skill-groups i (unknown, low, medium, high), six occupations j (managers, craftsmen etc.) and seven experience levels (1-5 years, ..., 31-35 years) k . Since four waves of the micro census are used the overall number of cells is calculated by 4 (skill groups) * 6 (occupations) * 7 (experience levels) x 4 (time periods) = 672.

In order to determine the impact of migration on the wages and the labor market outcome for natives the regression model is specified as follows (see equation 2). The dependent variable y represents the outcome variable of the natives, e.g. (log) skill-experience-occupation specific wage and the (un-)employment rate in a particular cell, respectively. The coefficient β captures the effect of the immigrant share in a particular cell whereas the α is a constant term. Various vectors of fixed effects are introduced such as δ which is associated with the skill levels, τ capturing occupations, η which is associated with experience groups and σ with time effects. The random disturbance term is represented by ε .

$$y_{ijkt} = \alpha + \beta m_{ijkt} + \delta_i + \tau_j + \eta_k + \sigma_t + \varepsilon_{ijkt} \quad (2)$$

A priori to the empirical investigation it is difficult to infer to what extent the alternative classification for immigrants affects the results. The sign and the magnitude of the effects might depend on the distribution of the skill level, the experience group and the occupation of the immigrants.

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