

The Education–Employment Mismatch among Ukrainian Migrants in the Czech Republic¹

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The aim of the article is to provide a brief overview of current labour migration from Ukraine to the Czech Republic and to explore the degree to which Ukrainian labour migrants utilise their skills on the Czech labour market. The analysis, using internal statistical data from the Czech Ministry of Labour and Social Affairs and evidence from specific migrant surveys, is focused on the relationship between the formal education of economically active Ukrainian migrants and their position on the Czech labour market, and the extent to which there is an educational–occupational mismatch. The article analyses the factors that might influence the match between jobs and formal education and the position of Ukrainian migrants in the labour market. Analysis of the educational background of Ukrainian respondents does not seem to support the popular stereotype of the average Ukrainian as a university-educated construction-site worker or a cleaner, primarily due to the fact that the Czech Republic does not only attract well-educated Ukrainian migrants. Nevertheless, a comparison of the educational and occupational structures of Ukrainian migration does provide evidence of a significant waste of human capital.

Keywords: Ukrainian migration, Czech Republic, utilisation of skills, education–occupation mismatch, waste of human capital

Introduction

For many years, sociologists have acknowledged that education and skills are among the most important determinants of social class and upward mobility in modern societies. The importance of education and skills has also been studied in the context of international migration. Labour market incorporation is generally considered a precondition for the successful integration of migrants into the host society. In turn, matching the education and skills of migrants to jobs in the destination country is often used as an indicator of labour market integration (Eurostat 2010).

This article is focused on the mismatch between the formal education of economically active Ukrainian migrants and their employment level in the Czech Republic. Ukrainians represent the largest group of migrants in this country, of whom the vast majority are economically active. Although often regarded predominantly as guestworkers, over the last few years they have exhibited a significant tendency towards stabilisation and longer stays, if not actual settlement in the country. Utilisation of their skills in the Czech

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Republic seems to be a prerequisite for successful labour market integration and incorporation into the wider society. Due to the nature of the available data, this article addresses only officially registered migrants,² with specification, where necessary, of their type of economic activity and permit to stay. As the title of the article suggests, the main aim is to explore the extent to which there is a discrepancy between skills and jobs among this largest group of migrants. The analysis which follows allows us not only to estimate the risk which Ukrainian migrants face of being over-educated (in contrast to other more numerous third-country nationals, or TCNs) but also to analyse the factors that might influence this risk. But before we move to a detailed analysis of over-education among Ukrainian migrants, it is essential to have a brief overview of the literature explaining the high occurrence of education–occupation mismatch among migrants in general.

Why do migrants waste their human capital?

Although there is a relatively rich literature on ‘education–occupation mismatch’, there is no unique definition of this term. Some attention has been paid to the utilisation of education in a broader sense, where knowledge acquired through formal and informal learning is viewed as a form of ‘embodied cultural capital’. However, most studies focus on the formal qualifications of a person and treat them as an institutional form of cultural capital, or as ‘certified knowledge’ issued by recognised institutions such as schools or universities and accepted by society at large as formal educational credentials. In a more general sense, a person is considered to be over-educated for a job if he or she acquired an education that is higher than is strictly necessary to do the work. There is no consensus on how to define the required level of skills and educational achievements, since there are no fixed or unique requirements in all occupations evident across space or time.

The literature on education and occupation mismatch highlights two basic types of incongruity: 1) the ‘horizontal’ mismatch, which occurs when the level of education or skills matches the job requirements, but the field of study is inappropriate for that particular job (Robst 2007); and 2) the so-called ‘vertical’ mismatch, which refers to a discrepancy between the level of education and the employment position (Leuven, Oosterbeek 2011). This paper focuses on the second form of education–occupation mismatch, which is considered to have strong implications for a person’s social and economic status.

This mismatch between a formal education and/or skills and a person’s position in the labour market and type of job undertaken is observable not only among migrants, but also among vulnerable categories of a country’s native population, such as women with small children after maternity leave, or recent graduates. Therefore, a considerable volume of literature explaining the determinants of the skills–employment mismatch has focused on the effects of gender and the lack of work experience in the labour market. These determinants of the education–occupation mismatch could apply equally well to both natives and migrants.

One of the key factors explaining why migrants might be less successful in utilising their formal education in foreign labour markets is the lack of work experience in the destination country, insufficient information about the employment situation there and poor orientation in the host society. A lack of post-migration experience is often combined with poor language skills. Proficiency in the language of the host country plays a crucial role in shaping the labour market integration of migrants (Nee, Sanders 2001; Chiswick, Miller 2007). Conversely, important constraints on the use of education in the labour market include problems associated with migrants’ legal status and lack of social networks. The limited status of many newcomers is connected with their limited labour market mobility, and other issues such as minimum rights and no access to the social safety net where unemployment benefits and requalification courses are provided. An inadequate initial contact with the majority population is sometimes compensated for by a migrant’s inclusion in ethnic market niches. Damm (2009) has suggested that living in ethnic enclaves may have a posi-

tive effect on the employment of low-skilled workers; at the same time, it might lead to greater labour market segregation and may also increase the skills–job mismatch for better-educated migrants.

One important obstacle faced by migrants seeking a fair skills–job match is the lack of recognition of their formal foreign qualifications in the host country, both in terms of institutionalised recognition and the discounting of their home-country (or foreign) work experience by employers (Reitz 2001). Another very important factor increasing the risk of over-qualification is the limited transferability of some context-specific skills. Friedberg (2000) found that the origin of an individual's human capital is a crucial determinant of its perceived value. Countries' educational systems differ in quality (Mattoo, Neagu, Özden 2008). In some fields of study, both qualifications and knowledge itself might have limited transferability. Apart from the non-recognition of diplomas and licensing examination requirements, the transferability of foreign education and qualifications might be limited by differences in technology.

Ironically, over-education among migrants may stem from the selection effect in the country of origin. There is conflicting evidence regarding the effect of education on decisions to migrate. Some studies suggest that, under certain circumstances, migrants could be negatively self-selected in terms of skills and education (Quinn, Rubb 2005; Borjas 2007). However, other studies suggest that people with higher levels of education are more willing to migrate (Stark, Taylor 1991; Williams 2009). There is a widespread notion that migrants are often favourably selected not only in terms of their more-extended schooling but also because of personal traits enabling them to substitute schooling with other productivity-enhancing skills. Hence, migrants may also be formally under-educated but capable of using their other life skills and abilities to adapt and do well in the host country. They are often described as ambitious, entrepreneurial or otherwise positively selected compared to similar individuals who choose to remain in their home country.

Gender inequalities might explain the higher incidence of mismatch among both native and migrant women. An important issue related to the specifics of gender differences among migrants in terms of over-education is the concept of intersecting inequalities. Traditional gender divisions, which lead to a concentration of women in low-paid, low-status work, can be reinforced by new divisions affecting migrant workers of both sexes (Castles, Miller 2003). According to Morokvasic (1984), migrant women from the periphery represent the most vulnerable, the most flexible and the least demanding work force in advanced industrial societies.

After arrival, migrants tend to occupy the bottom rungs of the labour market in jobs that are traditionally held by low-skilled native workers. This allocation of migrants to unskilled jobs stems in part from the perception that a given job is temporary. Of course, this is only an assumption and may be discounted for a number of reasons. First, many migrants might need to stay abroad for a longer period of time than they initially planned. Second, deskilling on entry into a foreign labour market may prove to be persistent. Third, the long-term under-utilisation of skills often results in the loss of these skills, which leads in turn to a continuous waste of human capital (Brandi 2001).

There are a number of studies confirming that recent migrants are less likely to be able to utilise their formal skills shortly after arrival in a destination country, whereas migrants with a longer migration history manage to achieve a better match between their education and their occupation. This logical positive shift in migrants' integration potential in the labour market has been observed recently in English-speaking countries that have long migration histories – the USA, Australia, Canada, Ireland and Great Britain (Nee, Sanders 2001; Rubb 2003; Barrett, Duffy 2008; Green, Kler, Leeves 2008; Wald, Fang 2008). On the contrary, as noted earlier, there are also concerns that, in some countries, over-education among migrants may be persistent in nature (Fernandez, Ortega 2008; Dell'Aringa, Pagani 2010).

The aim of this paper, then, is to study the phenomenon of over-education among the largest group of economic migrants in the Czech Republic. In order to have a better understanding of the factors which lie

behind these education–employment discrepancies it is important to give at least a brief insight into the context of Ukrainian migration to the Czech Republic.

Ukrainian migration into the Czech Republic

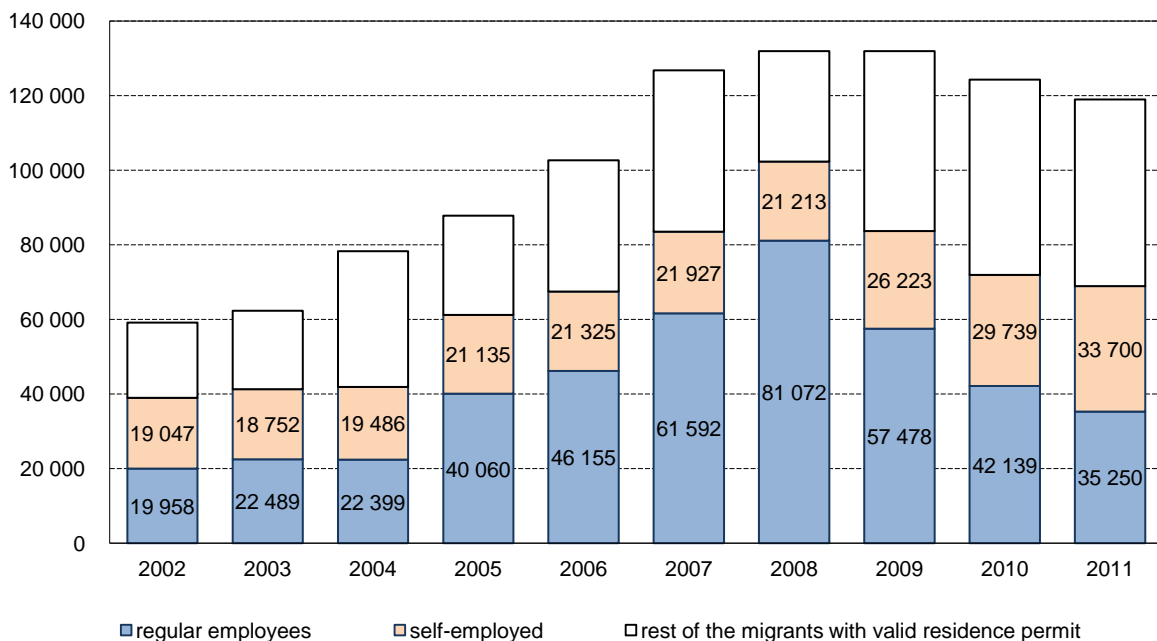
Ukrainian migration to Czech lands has a long history. Already in the 16th century, labour migrants from Halych and Bukovyna used to move for seasonal work, mostly to Bohemia and Moravia (Zilynskyj 1995). At the turn of the 19th century, Ukrainian intellectuals, who abandoned their native country for political reasons, were attracted mainly to Prague and other big cities within the Austrian part of the Hapsburg Empire. During the first decades of the 20th century, the Ukrainian diaspora was organised into several associations with different aims and scopes and was particularly successful in educational and academic activities. Unfortunately the Nazi, and especially the Russian, occupation of Czechoslovakia forced the closure of these Ukrainian associations and the majority of Ukrainian migrants blended into the native population (Zilynskyj, Kočík 2001). Since the fall of the Soviet Union, the Czech lands have attracted a new wave of predominantly economic migrants from Ukraine.

The number of Ukrainians in the Czech Republic has grown rapidly over the past 20 years. Starting with fewer than 10 000 in the early 1990s, the official number of Ukrainian citizens residing in the Czech Republic has risen to over 100 000 people. Ukrainians represent the largest migrant community in the Republic: they constitute about 25 per cent of all migrants and about 40 per cent of migrants coming from countries outside the European Union (EU). The total number of Ukrainian citizens registered by the end of December 2013 was 105 239 (Ministry of the Interior 2013), which represents a slight drop-off from the end of 2008, when their number was about 132 000 (Czech Statistical Office 2013).³

For more than two decades, Ukrainian migration to the Czech Republic has been primarily economic in nature. Most of the Ukrainian migrants are traditionally occupied in the secondary labour market doing low-skilled manual jobs.⁴ By the end of 2011⁵, official records reported 68 650 economically active citizens of Ukraine in the Republic. Approximately half of those migrants were self-employed (some peculiarities of migrant self-employment are described later in the paper) and the rest had regular employment contracts. However, the nature of Ukrainian migrants' economic activities has changed significantly over the last five years. Figure 1 illustrates the dramatic drop in the number of directly employed Ukrainians – i.e. those with the status of a regular employee; this group exhibited an almost 60 per cent decrease in 2011 when compared with 2008. This did not, however, coincide with the mass return of migrants, as the total number of Ukrainians officially registered in the country remained the same. In order to understand this development, as illustrated in Figure 1, it is important to note that nine out of ten directly employed Ukrainians did not have free access to the labour market in 2008. These almost 74 000 people had to apply for work permits, which were mostly issued for up to one year and were employer-, position- and region-specific. At the very initial phase of the economic recession, the Czech state adopted a rather restrictive approach not only towards newcomers but also towards migrants already in the country. Since the beginning of 2009, the Ministry of Labor and Social Affairs (MoLSA) has sent out several memoranda addressed to labour offices (LOs), with the intention of facilitating the employment of Czech citizens through the strict regulation of the employment of TCNs. First, the MoLSA rather vaguely appealed for 'greater consideration' for the general decline in demand for foreign labour within the Czech economy. In spite of generally declining trend in the direct employment of TCNs, the MoLSA decided, in early 2012, to instruct LOs to discontinue issuing work permits for positions for which employers do not request the *Maturita* (General Certificate of Secondary Education, or GCSE). However, in June 2012, following strong criticism from NGOs and Czech companies employing migrants, the MoLSA modified the aforementioned regulations and instructed LOs to prolong and issue work

permits to unskilled workers for a shorter period of time: up to six months – for professions needing no GCSE qualifications, up to one year – for professions requiring a GCSE certificate, and up to two years – for highly qualified professions requiring a university education. However, the new memorandum insisted on official proof of qualification requirements for all applicants. In the middle of November 2013, the MoLSA again modified the regulations, this time prolonging up to 12 months the maximum validity of permits for unskilled and semi-skilled workers. The regulations concerning those professions requiring applicants to have a university education remained the same; however the proof of qualification is now required only for new work permits and not for the prolongation of existing permits.

Figure 1. Registered economic activities of Ukrainian migrants before and during the economic downturn



Source: Czech Statistical Office (2013).

Unfortunately Figure 1 – which indicates the drop in the total number of Ukrainian regular employees – does not illustrate the noteworthy fact that, according to official statistics, the economic recession did not have any negative impact on the economic activities of directly employed Ukrainians who had free access to the labour market (i.e. employed holders of permanent residence permits, working family members, working students and graduates of Czech universities, etc.). Quite the reverse, the aforementioned groups exhibited an increase in numbers (slightly more than 7 000 people in 2008 compared to almost 13 000 in 2011) but they failed to compensate for the significant drop in direct employment since their number is still smaller than that of work permit holders. It seems that the decline in the direct employment of TCNs cannot be explained purely by staff reductions and the bankruptcy of Czech companies. On the contrary, it is likely to be strongly associated with the changing approach towards work permit regulations (as described above).

Another important change illustrated in Figure 1 is the 60 per cent growth in the officially registered entrepreneurial activities of Ukrainian migrants since 2008 (from 21 200 self-employed in 2008 to 32 700 in 2011). Here it is important to reflect on the nature of migrant self-employment in the Czech Republic. There are different forms of irregular economic activity involving migrants (Drbohlav 2008). Besides the employ-

ment of migrants without a valid residence permit and/or valid work permit, there is also the quite widespread phenomenon of employment hidden behind self-employment. In practice this means hiring the holder of a trade licence (a person who works freelance) without a working contract, not only for occasional jobs but also for regular dependent working activities. Although these ‘bogus employment’ practices (in the Czech context often called the ‘Švarc system’) are actually illegal under the Czech Labour Code, they are preferred (mostly for tax reasons) not only by employers and migrants, but also by natives. For migrants it is often a more flexible and convenient way to obtain formal employment while avoiding work permit regulations, especially when the work is in unqualified occupations such as cleaners, cashiers, welders, etc. There are no reliable data on how widespread the use of the ‘Švarc system’ is among Ukrainian migrants; however, several studies suggest that it might be an important strategy for them (Drbohlav 2008; Leontiyeva, Nečasová 2009; Hofírek, Nekorjak 2010; Drbohlav, Medová, Čermák, Janská, Čermáková, Dzúrová 2010; Čermáková, Schováňková, Fiedlerová 2011).

Over the past decade the share of female Ukrainian migrants has not changed much but has fluctuated between 40 and 45 per cent, with a slight increase since 2010. On the contrary, the stagnation of the migrant inflow, as a consequence of the Czech Republic’s changing approach to newcomers, has resulted in a significant increase when it comes to the share of permanent residence permit holders. The share of Ukrainians with a permanent residence permit in 2000 was less than a fifth, whereas it was almost a third in 2008 (Czech Statistical Office 2013) and almost two-thirds (65 per cent) by the end of December 2013 (Ministry of the Interior 2013). Ukrainian female migration is more settled, and the share of permanent residence permit holders is significantly higher (70 per cent compared to 61 per cent among men).

The strict regulations implemented by the MoLSA have targeted low-skilled migrants occupied in jobs not requiring a complete secondary education. In 2011 the vast majority (58 per cent) of Ukrainians were employed in unskilled auxiliary work, 20 per cent – in craft and related trades, and only 5 per cent – in managerial or skilled positions. Ukrainians are employed mostly in construction (44 per cent), manufacturing (21 per cent), the wholesale and retail trades, motor vehicle repair and personal and household goods (8 per cent) and transport storage and communication (6 per cent) (Czech Statistical Office 2013). The educational level of Ukrainian migrants is often a matter of speculation, as only limited data are available. Traditionally Ukrainians in the Czech Republic are portrayed as well educated but over-skilled and under-paid (Drbohlav, Janská, Šelepová 2001; Uherek, Plochová 2003; Drbohlav, Dzúrová 2007; Drbohlav *et al.* 2010; Ezzeddine 2012).

Data and methods of measurement

The literature on over-education offers several ways of measuring this phenomenon. This article uses a method often referred to as the ‘statistical approach’ or ‘realised-matched procedure’ (RM). This approach is based on the observation of a ‘normal’ correspondence between employment and education based on years of schooling (Verdugo, Verdugo 1989; Quinn, Rubb 2005). The distribution of education is calculated for each particular occupation and then organised into detailed categories. Consequently, employees who depart from the ‘norm’ or mean value are classified as mismatched: above the ‘norm’ indicates over-education while below denotes under-education.⁶ This type of measurement contains observations on the equilibrium realised by the interplay of supply and demand and may be inadequate when it comes to measurement on the demand side, i.e. it measures the allocation or actual job market practices determined by hiring standards and labour market conditions (Hartog 2000).

The following analysis is based on data from two research projects conducted by the Institute of Sociology at the Academy of Sciences of the Czech Republic. The first dataset (also referred to below as *Employed*

Foreigners) comes from a national survey of non-EU work permit holders (N = 1 011) conducted in 2006. This survey targeted members of the population having three key characteristics: a) employed foreigners from non-EU countries, who b) had resided in the Czech Republic for at least a year, and who c) held a valid work permit. With respect to the target population's distribution, the main nationality groups included in the survey were Ukrainians (70 per cent), Russians (8 per cent), and other less numerous nationalities such as Belarusians, Moldovans, Vietnamese, Chinese, Americans and Mongolians.⁷ The second survey (later referred to as *Economically Active Foreigners*) had a somewhat different target group and was conducted four years later. The survey of economically active foreigners (N = 1 004) realised in 2010 targeted five groups of economically active (including self-employed) non-EU migrants based on their citizenship: Ukrainians, Vietnamese, Russians, Moldovans and citizens from the former Yugoslavia – excluding Slovenia, which has been an EU member state since 2004.

The data collection for both surveys was carried out using quota sampling with quota characteristics (nationality, sex, age and region) based on the anonymous official database of registered migrants. Taking into account the limitations of the sampling method, both surveys produced comparable results when it came to characteristics not controlled by quotas, like the family status of migrants, their educational level, length of stay, and type of work in the Czech Republic (Bernard, Leontiyeva 2013).

Although neither of the surveys was primarily focused on the study of education–occupation mismatch, they both provided unique and valuable information on the educational levels of non-EU work permit holders and economically active migrants from selected countries and their position in the Czech labour market. Though Ukrainians represented the largest group in both surveys, the analysis presented here does not exclude other nationalities (coded in larger groups). This comparative analysis will help us to understand Ukrainian migration in the broader context of non-EU labour migration to the Czech Republic.

Are Ukrainian labour migrants over-educated and why?

In order to study the factors influencing the risk of migrants being over-educated for their jobs in the Czech Republic, multinomial logistic regression was used on data collected from work permit holders in 2006. First, it was necessary to define the dependent variable as an indicator of education–occupation mismatch. In order to do so, the realised-matched method described earlier was used. In spite of certain limitations, in the case of migrants this measurement is very useful because it respects country context and reflects the disadvantages faced by migrants relative to natives. For example, if at a given moment in time there is a higher incidence of native university graduates working in specific professions 'traditionally' defined as not requiring a university education (such as sales persons or office clerks) then migrants with a university education working in these professions should not be thought of as being discriminated against (even if they as well as locals might waste their skills at given job).

Following the logic of the RM method of measurement, the 'usual' educational attainment for the domestic population in a given profession had to be measured as a first step of the analysis. For this purpose, Czech data from the European Social Survey (ESS) were used to compute the mean for years of completed full-time education for migrants with work permits employed in different sections of the labour market.⁸ Czech data from the ESS round IV were collected in June 2009 with a total sample of 2 018 respondents. For the purpose of comparison, the data on occupation were coded using the ISCO sub-major groups.⁹ Critical judgement of the measure of educational attainment used (expressed by number of years spent at school) involves the comparison of this parameter for both majority and migrant populations. The results revealed that the differences were not substantial¹⁰ and that the usage of upper and lower bands for further classification (the measure of 1 standard deviation below and above the mean rounded up to complete years) helped to make

any further amendments necessary. Therefore, in the second analytical step, migrant respondents were classified into three groups according to their educational attainment compared to Czechs. At the top end were over-educated migrants with years of education one measure above the mean for a given profession. At the bottom end were under-qualified migrants one measure below the mean for a given profession. The remaining migrants were classified as being 'relatively well matched'.

As a result, 16 per cent of migrants in the sample were identified as being under-educated, 21 per cent as over-educated and 60 per cent as reasonably matched (3 per cent of respondents did not specify the number of years spent at school and therefore could not be classified). This finding was compared with incidences of mismatch in the domestic population, where the share of both over- and under-education was lower (8 and 6 per cent respectively). These outcomes are consistent with two concepts discussed earlier: the poor human capital transferability among better-educated migrants and the positive selection among lesser-educated ones.

According to our measurements, every fifth Ukrainian respondent (22 per cent) was classified as over-educated. Comparison of the incidences of education–occupation mismatch among migrant groups of different origins brings to light a rather interesting finding. Ukrainian migrants who, in Czechia, became the symbol of unqualified foreign labour, do not seem to face a higher risk of being over-educated than Russians (the second largest group in the survey). The results of the measurements, however, show that the share of the over-educated among Russian respondents (although they occupy more qualified jobs and are relatively better educated) is even higher (28 per cent). Other nationalities included into the survey (coded as one group due to the small number of cases) had a lower share of over-educated respondents (18 per cent).

As mentioned, the effect of country of origin might be spurious and explained, for example, by the different structure of the migrant population. Therefore, in order to make any assumptions about the possible effect of country of origin, further analysis was carried out taking into account the influence of other important factors. Apart from controlling for the influence of other predictors of the risk of a migrant being over-educated, the analysis tested a limited number of working hypotheses. First, the data were expected to reveal the intersection of inequalities associated with gender and migrant status. Female migrants were expected to be more at risk of being over-educated than their male compatriots. Secondly, the influence of the family situation was also tested. It was assumed that separation from a partner and/or children, rather than family status as such, would have a significant impact on migrants' success in the Czech labour market. Bearing in mind that the relation between the family situation of migrants and their incorporation into the labour market can be bi-directional, it was presupposed that the presence of the migrants' closest family members in the Czech Republic would be associated with a greater probability of their skills being fully utilised. On the one hand, the presence of family members in the country can play a supportive role, whereas separation from them (a very typical situation for Ukrainian migrants) might result in their determination to take any job available in order to support the family back home. On the other hand, the absence or presence of family could be the result of the migrant's economic situation (relative to the type of job), especially for families with only one income. The third and major expectation was that we would find some evidence of the positive influence of length of stay in the country on the matching of the formal education of migrants with their jobs in the Czech Republic.

The effect of factors influencing the utilisation of migrants' educational potential was analysed by means of multinomial logistic regression with the dependent variable described above and indicating the association between migrants' educational level and the educational level typical for a given profession. The dependent variable takes the following values: 1 = 'over-educated', 2 = 'relatively well matched' and 3 = 'under-educated'; the middle category is assigned to be the reference category in the multinomial regression model. The independent variables¹¹ were introduced into the regression models in three steps. Comparison of the nested model parameters and associated fit statistics shows that the inclusion of additional explanatory varia-

bles in each step of the modelling process improves the overall fit of the model. For the sake of brevity, the results of the most extensive estimated model are illustrated and interpreted in what follows. Table 1 presents the results (along with the fit statistics) for the regression, taking into account the national origin of the respondents, their gender, age, family situation, length of stay in the Czech Republic and type of job, both in the destination country and back home.

Table 1. The determinants of educational mismatch for immigrants with a work permit (N = 844)

	Under-educated	Over-educated
Male	1.049	1.107
<i>Nationality (other reference group)</i>		
Ukraine	0.460***	0.863
Russia	0.356**	1.093
Age (in years)	1.014	1.028**
<i>Nuclear family in the Czech Republic (reference group)</i>		
Nuclear family members not in the Czech Republic	1.004	0.729
Single	1.570	0.830
Length of stay in the the Czech Republic (months)	1.010***	1.000
<i>Unskilled job in the Czech Republic (reference group)</i>		
Semi-skilled job in the Czech Republic	0.821	0.714*
Skilled job in the Czech Republic	0.724	0.176***
<i>Unskilled job in home country (reference group)</i>		
Semi-skilled job in home country	0.290***	1.507
Skilled job in home country	0.076***	9.227***
Never worked in the home country	0.440**	3.452***
Log likelihood		-683.7498
Df		26
BIC		1542.692
AIC		1419.5
Nagelkerke R ²		0.235

Notes: The coefficients express the relative risk ratios for the multinomial logit regression, with the dependent variable measuring the match between the job and the level of education. The values are: 1 = under-educated, 2 = relatively matched (used as a reference category), 3 = over-educated. The symbols (***), (**) and (*) represent statistical significance at $p < 0.01$, $p < 0.05$ and $p < 0.1$, respectively.

Source: Employed Foreigners Survey 2006.

The results of the regression analysis reveal that the national origin of respondents has no significant influence on the probability of being over-educated. However, one interesting finding is that, compared to the other work permit holders, migrants from Ukraine and Russia have fewer chances of being under-educated (i.e., 11.5 per cent and 8.7 per cent respectively when compared to 21.5 per cent for the rest of the sample). These two nationality effects are significant even when control is made for other factors.

When it comes to these other factors, the analysis reveals some systematic features. Age significantly increases the risk of over-education, whereas it has no significant effect on the probability of being under-educated. According to the preferred model estimations, an average migrant at the age of 50 faces a 25 per cent risk of under-utilising his or her formal education, while the risk for a younger migrant, half that age and with the same characteristics, is only 15 per cent¹². The results of the model testing do not support our initial assumption about migrant women being more at risk of a mismatch than men. Another interesting finding is the role played by the family situation in migrants' integration into the labour market. An initial expectation was that migrants whose families were in the Czech Republic would be better-off and more successful in utilising their formal education. At the same time, those migrants who left their families back home would be more likely to take any job, even if they were over-educated for the position. This might be relevant for Ukrainian migrants with transnational families, who might feel more pressure to support their families back home by sending remittances (Leontiyeva, Tollarová 2011; Ezzeddine 2012; Strielkowski, Weyskrabova 2014). However, our analysis suggests that there is no significant difference between these two categories of migrant – at least, not among work permit holders.

The level of success in matching education and occupation varies for the different skills. The finding that the type of job in the Czech Republic has a smaller impact on mismatch than the last type of employment in the home country is interesting. The probability of being over-educated is highest among migrants employed in unskilled jobs (ISCO Major group 9) in the Czech Republic when compared to those migrants employed in semi-skilled (ISCO Major groups 4–8) and skilled (ISCO Major groups 1–3) jobs. At the same time, migrants employed as managers, professionals, technicians and associate professionals have the greatest likelihood of being employed in positions with comparable educational attainment to that of the natives. According to the results of our estimations, the probability of being reasonably matched for these migrants employed in a skilled job is 82 per cent. The chances of their being under-educated do not vary significantly across the professions in the Czech Republic when control is made for the last type of work performed in the home country.

Work experience prior to migration seems to have an important influence on success in matching education with the appropriate job in the Czech Republic.¹³ This may be explained by the fact that the education of migrants is more correlated with their last job before migration than with the work they do on arrival in the Czech Republic. This is especially true for those migrants who reported that their last job in the home country was skilled, as they then had a significantly higher risk of mismatch. The probability that these migrants will be over-educated for their job in the Czech Republic is 52 per cent (regardless of age, gender, family situation and length of stay in the country). Most of the well-educated migrants were employed in the country of origin as teachers.¹⁴

A lack of work experience back home also influences the utilisation of formal education in the Czech labour market. Migrants who had never worked in their home country were less likely to be under-educated when compared to those who did unskilled and semi-skilled jobs in the home country (even if controlled by age, which can be correlated with the lack of work experience). At the same time, those migrants with no work experience were more likely to be over-educated. The situation of these migrants is, in some respects, very similar to the difficulties faced by recent graduates in the Czech Republic.

Finally, the last predictor to be discussed in this part of the analysis is the length of stay in the destination country. The analysis revealed one important concern about the persistent nature of over-education. On the one hand, post-migration experience helps to compensate for insufficient formal education: the probability of being under-educated is less than 10 per cent for newcomers and those who stay in the host country for less than a year while, after eight years there, the probability of mismatch doubles. On the other hand, the length of stay in the Czech Republic does not significantly decrease the probability of being over-educated. There-

fore migrants who stay for a longer period of time in the country do not seem to ‘catch up’ in terms of matching their higher educational attainment to more appropriate occupations. To understand the real influence of post-migration experience, one should keep in mind that, after five years of residence in the Czech Republic, migrants are entitled to apply for a more secure status (permanent residence), with its free access to the labour market. Therefore, it is very likely that successful migrants who stayed longer in the country were not in our sample. On the contrary, migrants who remain in the Czech Republic for a long time on the basis of a work permit are either not motivated to be more integrated in terms of acquiring a more stable status (i.e. a permanent residence permit), which poses no institutional obstacles to labour market mobility, or are less successful in matching their formal education to their job and have very specific non-transferable job skills.

Worth noting also is the fact that the effects of other control factors included in the analysis did not differ between nationalities (the interaction effects with the country of origin were not significant). Therefore the individual characteristics of migrants and their work experience back home have a universal effect on the likelihood of skills utilisation for all three groups of respondents, regardless of their origin.

Is education a ticket to a better job?

This part of the analysis, based on data from the survey of economically active migrants conducted in 2010, has a slightly different focus. As mentioned earlier, the second survey was conducted during an economic recession and included not only migrants working for an employer, but also those who were self-employed. Therefore interpreting the rate of over-education in a similar way to that described in the previous section of this article could be quite problematic.¹⁵ Besides, it is not possible here to apply the same measurement since the data on years spent in school are missing in the 2010 survey. By using similar multinomial logistic regression, the intention was to explore how formal education and the individual-level characteristics of migrants determine the type of jobs undertaken in the Czech Republic. Following the same logic as before, the dependent variable of multinomial logistic regression describing the current job of migrants is here categorised into three groups: skilled jobs (ISCO-88 Major groups 1–3), semi-skilled jobs (ISCO-88 Major groups 4–8, used as a reference category) and unskilled jobs (ISCO-88 Major group 9). According to this categorisation, most Ukrainian respondents ended up in unskilled (43 per cent) and semi-skilled (44 per cent) sub-groups, with only 13 per cent of them occupying skilled jobs. When it comes to the other nationalities in the survey, Moldovans exhibited a very similar occupational structure (41, 44 and 13 per cent respectively), the Vietnamese dominated in semi-skilled jobs (5, 69 and 27 per cent respectively), the Russians were distributed almost equally between three groups (27, 37 and 37 per cent respectively) and citizens of ex-Yugoslavia – with the exception of those from Slovenia – were predominantly in skilled jobs (16, 39 and 45 per cent respectively).¹⁶

Significant attention is paid here to the relation between the formal education of migrants and the type of job they perform in the Czech Republic. Here, again, the main focus of our research was on the effect of the country of origin on migrants’ success in the labour market. In other words, the analysis explored whether Ukrainians have a higher risk of ending up on the bottom rungs of the labour market comparing to other non-EU migrants with similar characteristics. Following the logic outlined in the hypotheses concerning the risk of mismatch, we expected to find some proof of gender inequality when it comes to the type of job performed by migrants. Similar expectations also concern the presence of migrants’ closest family members and the effect of their length of stay in the Czech Republic. The analysis also studied the effect of language skills, legal status and employment status of migrants.

As noted earlier, the permanent residence permit allows free access to the labour market. It implies that non-EU holders of permanent residence permits are expected to have more opportunities on the labour market and are, therefore, more likely to occupy 'better jobs'. If this expectation is not fulfilled, then we may speak of a risk of persistent discrimination against migrants (on the basis of culture, ethnicity, language, etc.). Likewise, migrant self-employment is also expected to contribute to mobility in the labour market. Here it is important to remember that some migrant groups, such as the Vietnamese, Russians and migrants from the former Yugoslavia, are, in general, 'more entrepreneurial' than other groups such as Ukrainians or Moldovans. The disadvantage of aggregation based on ISCO coding is that it does not always distinguish between self-employment, business ownership and supervisory positions. Foreigners who own small businesses such as retail shops, restaurants, etc., were coded in one group with those who have skilled jobs (for example, managers and professionals). However, self-employed migrants are not merely business owners but also do semi-skilled and unskilled jobs. Many of them are officially freelance cleaners, bricklayers or drivers but are, in reality, working for a single employer as dependent workers. Notwithstanding the negative aspects of this 'bogus employment' strategy, I believe that, especially when combined with the temporary residence permit, the self-employment status may have a positive effect on labour market success. This is because self-employment gives migrants more independence from employers and reduces the risk connected with the loss of a current job and, by implication, the residence permit.

Table 2 presents the results for the regression analysis (along with the fit statistics), taking into account the national origin of the respondents, their gender, age, family situation, language skills, legal status, type of economic activity and length of stay in the Czech Republic.

Analysis of the 2010 data in many respects revealed similar findings. Contrary to expectations, the results did not provide strong support for the theory of intersecting inequalities, as male respondents had only a slightly greater chance of finding a skilled job; at the same time, the two genders were at equal risk of ending up in unskilled jobs, regardless of other characteristics. According to these new data, the age of a migrant does not have an equal effect on labour market success. While older migrants have a significantly higher chance of finding a skilled job in the Czech Republic than their younger compatriots, age does not significantly reduce the risk of ending up on the bottom rungs of the labour market. Similarly, the presence of family seems to have a significant positive effect only on one type of transition within the labour market: while the probability of occupying skilled work is relatively higher, the risk of ending up in unskilled work is comparable with that for semi-skilled jobs.¹⁷

Language skills turned out to be fairly important determinants of labour market success. In spite of the fact that the effect of language skills weakens when one controls for the influence of other factors, migrants with an advanced knowledge of the Czech language were, on average, less likely to hold elementary jobs than all other migrants with lesser linguistic skills.

The 2010 survey reveals another important finding that institutional barriers in the labour market have a negative impact on the job status of migrants. Respondents with permanent residence permits turned out to be twice as likely to have skilled jobs compared to those with temporary residence permits and were half as likely to end up on the bottom rungs of the labour market.

The employment status of migrants has a significant effect only on having a skilled job. Regardless of age, education, origin, etc., self-employed migrants were much more likely to be in skilled jobs than waged, employed migrants (26 compared to 9 per cent). In contrast, both self-employed and waged employees appear to have an equal propensity toward being employed in unskilled jobs: one in five were employed in elementary occupations. The survey data show that self-employment does not help migrants to move up from the bottom echelons of the labour market because many of them held low-status, low-paid jobs and had no protection under the Czech Labour Code. Being self-employed at the very bottom of the labour market is not

always a rational strategy for migrants who wish to reduce the risk of losing a residence permit. Some employers tend to push migrants into adopting this strategy in order to cut labour costs and avoid quite strict work permit regulations.

Table 2. The determinants of the labour market success of economically active immigrants (N = 872)

	Skilled job	Unskilled job
Male	1.321	1.126
<i>Nationality – Ukraine (reference group)</i>		
Vietnam	0.931	0.059***
Russia	2.991***	0.776
Moldova	1.487	0.846
Ex-Yugoslavia	1.870*	0.517**
Age (in years)	1.028**	1.003
<i>Nuclear family not in the Czech Republic (reference group)</i>		
Nuclear family members in the Czech Republic	1.972**	0.884
Single	1.698	1.096
<i>Language skills – Poor skills (reference group)</i>		
Reasonable language skills	0.969	0.567*
Very good language skills	0.739	0.715
<i>Educational level – basic (reference group)</i>		
Secondary education without diploma	0.933	0.566**
Secondary education with diploma	2.883**	0.383***
Tertiary education	24.41***	0.398**
Permanent residence permit	2.164***	0.545**
Employee	0.264***	0.863
Length of stay in the Czech Republic (months)	1.045**	0.979
Log likelihood		-647.775
Df		34
BIC		1525.756
AIC		1363.549
Nagelkerke R ²		0.513
Models comparison Likelihood-ratio (Assumption: nested models) test probe > chi ²		0.000

Notes: The coefficients express the relative risk ratios for multinomial logit regression with the dependent variable indicating the type of job in the Czech Republic. The values are: 1 = skilled job (ISCO 1–3), 2 – semi-skilled job (ISCO 4–8, used as a reference category), 3 – unskilled job (ISCO 9). The symbols (***), (**) and (*) represent statistical significance at $p < 0.01$, $p < 0.05$ and $p < 0.1$, respectively.

Source: Economically Active Foreigners Survey 2010.

In line with the analysis described earlier, post-migration experience had a mixed effect on migrants' position on the labour market. On the one hand, it had a positive effect on the probability of the migrant getting

a skilled job. On the other hand, it did not have much impact on the probability of working in an unskilled job. On arrival in the Czech Republic, a large proportion of Ukrainian migrants ended up in unskilled jobs and, even after significant time spent in the country, the risk of being on the bottom rungs of the labour market remained high. It seems that, in the Czech context, having an unskilled job as an entry point onto the labour market due to limited experience, poor language skills and limited legal rights can, in some cases, become a permanent state of affairs. However, this is true not only for Ukrainian migrants.

The formal education of economically active migrants is still an important determinant of labour market success; even when one controls for the influence of other important factors (like nationality, age, language skills, length of stay in the country, type of residence permit, etc.) the impact of education remains very significant. On the one hand, foreigners who had graduated from universities had a significantly higher chance of securing skilled jobs than their compatriots with lower levels of education. The estimated probability for the university-educated migrant group is 64 per cent, compared to 18 per cent for migrants with a secondary education with GCSEs, and 5 per cent for migrants with no school-leaving exam and those with only an elementary level of education. On the other hand, a university education significantly reduces the risk of ending up at the bottom of the labour market. Migrants with tertiary education face a 7 per cent risk of ending up there (compared to 17 per cent for migrants with secondary education with GCSE, 26 per cent for secondary-educated migrants without the school-leaving exam, and a 38 per cent risk for migrants with basic education).

There is a significant positive relationship between migrants' labour market success and their educational achievements, meaning that university-educated migrants are much more likely to get skilled jobs. However, education is not always a ticket to the most prestigious (better paid) jobs. The results of the estimations indicate that even migrants who are university graduates still have a significant risk of being unable to find a skilled job. More than a third of migrants with tertiary education end up in jobs other than skilled ones (ISCO 4–9), including elementary jobs not requiring any specific skills. Keeping in mind the results of the previous analysis, which estimated the risk of over-education, and also the fact that there is a very low, if not zero, share of native Czech university graduates in semi-skilled and unskilled jobs, concerns about wasting the human capital of non-EU migrants seem justified.

Last but not least, one of the important conclusions of the analysis of the 2010 data is the fact that, even when the influences of other factors are controlled for statistically, a migrant's origin continues to have a significant impact on his or her labour market success. Analysis of the survey data showed that, out of the five migrant groups studied, Ukrainian citizens faced the highest risk of ending up in elementary low-status occupations. According to the survey estimates, four in ten Ukrainians are occupied in unskilled jobs regardless of their level of education and, at the same time, have one of the lowest chances of securing skilled employment (about 10 per cent). Predictions based on regression modelling suggest that a Ukrainian migrant with a university degree, who has stayed in the Czech Republic for two years and does not have a permanent residence permit, has a 31 per cent chance of ending up in an unskilled job.¹⁸ This risk is almost three times higher than that estimated for a Vietnamese migrant with a basic level of education who has resided in the country for the same period on the same type of residence permit (this person has only a 12 per cent chance of being at the very bottom of the labour market).

As already mentioned, the institutional obstacles connected with the limited rights of migrants who do not hold a permanent residence permit are significant and might influence their labour market integration as well as the successful utilisation of their skills. In fact, Ukrainian migrants often occupy jobs at the very bottom of the labour market even after a considerable number of years spent in the country. Imagine a Ukrainian university graduate who, say, spent ten years in the Czech Republic but still did not apply for a permanent residence permit. Based on the results of the preferred model, such a migrant with a long-term residence permit

and, for example, an advanced knowledge of the Czech language, still has a non-negligible (12 per cent) risk of being employed in an elementary occupation.¹⁹ However, if after ten years in the country he or she applies for a permanent residence permit, then the risk of ending up in the lowest echelons of the labour market is close to zero (3 per cent).²⁰

Concluding remarks

The disparity between the skills of migrants and their occupation in the destination country is currently a fairly well-researched topic in many Western countries. However, it is still an under-researched topic in the Czech context. This is true not only for Ukrainians, who are the focus of this article, but also for other migrant groups. Taking into account the dearth of data on the educational level of migrants in the Czech Republic, in many respects the explorative analysis presented in this paper draws on unique evidence. Although the surveys were targeting slightly different facets of Ukrainian migration and because the timing of the fieldwork might be context-sensitive (one period during the economic boom and the other during the recession), they shed light on some important and previously unresearched aspects of Ukrainian migration.

Analysis of the educational structure of Ukrainian respondents provided in this article does not seem to support the popular stereotype of an average Ukrainian as a university-educated construction-site worker or cleaner. This is primarily due to the fact that the Czech Republic does not only attract well-educated Ukrainian migrants. According to both surveys, a large proportion of Ukrainian migrants have less than secondary education and most of those with reasonably high levels of schooling tend to have skilled jobs. Nevertheless, a comparison of the educational and occupational structures of Ukrainian migration provides evidence of a significant waste of human capital and suggests that well-educated migrants are not always successful on the labour market. The risk of over-education among migrants in the Czech Republic is generally relatively high and post-migration experience might not help them to ‘catch up’ in terms of matching their higher educational attainment to more appropriate occupations. This is especially true for Ukrainians, who not only face a substantial risk of over-education (22 per cent) but who also often start their work in the Czech Republic on the bottom rungs of the labour market. According to the analysis provided in this article, Ukrainians belong to a migrant group with one of the highest shares of those occupied in unskilled jobs. This cannot be explained by the individual characteristics of the migrants, their mostly unstable legal status or their lower educational level. Institutional obstacles to labour mobility through the use of work permits as a form of regulation may lower the expectations of migrants and slow down their integration in the Czech Republic.

It is clear that the regression analyses and estimations of probabilities presented in the analytical part of this paper are statistical predictions based on the parameters reported in the preferred model and available in the survey data. Although such models cannot take into account all factors that influence the real labour market success of migrants, they shed light on certain rather interesting relations. On the one hand, the results appear to challenge the perception that migrants with higher formal education from culturally close source countries like Ukraine will always be more successful than migrants with lower levels of formal education from culturally distant countries like Vietnam. On the other hand, the results of the analysis suggest that Ukrainians might face a similar risk of over-education to that of the second largest and considerably ‘better-off’ group of work permit holders – the Russian migrants. Apparently it is the degree of over-education that matters here. Put simply, imagine an average over-educated Ukrainian migrant, who finished secondary school (with GSCEs), doing an unskilled job at the very bottom of the labour market. At the same time, an average over-educated Russian migrant would be portrayed as a university graduate doing a semi-skilled job, for example, in sales and services. Institutional barriers, ethnic market niches, the positive self-selection of migrants, and the transferability of skills might play very important roles when it comes to the

success of migrants on the Czech labour market. Taking into account the sharp decline in the registered employment of Ukrainian migrants since 2008, research on the different aspects of the labour market integration of this largest migrant group would appear to have considerable importance.

Notes

¹ This article is based on the working paper commissioned by The Centre of Migration Research in the framework of the CARIM-East project, co-financed by the EU (<http://www.carim-east.eu/about-us/>).

² I do not intend to stress the temporality of Ukrainian migration to the Czech Republic. However, I prefer the more neutral term ‘migrant’ (rather than ‘immigrant’), regardless of whether or not the person proposes to settle in the host country.

³ In addition to the official numbers already mentioned, some estimates suggest that the number of unregistered migrants could be as high as that of migrants recorded in the official statistics (Nekorjak 2007; Drbohlav et al. 2010).

⁴ The occupational structure of employed Ukrainians is described later in the paper.

⁵ Later data on the employment of migrants in the Czech Republic are not available.

⁶ The results of the estimations depend upon selected thresholds. In most cases, the value of one standard deviation above and below the mean is used. However, in some cases it may be based on the modal value and ad-hoc measure for upper and lower bands.

⁷ At the time of the survey, immigrants from Bulgaria and Romania were non-EU citizens; however, for the purposes of this article, these respondents were excluded from the analysis.

⁸ The European Social Survey (ESS) seems appropriate for this purpose since the survey is large enough and (unlike, for example, the Labour Force Survey) collects information about the number of years spent at school (self-reported by respondents).

⁹ ESS data were used only to calculate the means for the native population (the coverage of foreigners in the ESS is very poor). Professions were coded in larger groups (2-digit ISCO codes) in order to calculate the means.

¹⁰ Keeping in mind the differences between national educational systems, I compared the average number of years spent at school for four educational groups of migrants (based on the survey data available) and natives (based on the ESS). The highest mean difference between natives and immigrants was among those who had a primary or less educational level. More-educated immigrants and natives declared relatively similar numbers of years spent at school, since the difference in mean statistics was not more than six months. The average length of schooling was generally slightly higher for Czechs than for immigrants.

¹¹ Apart from the age of the respondent and the length of stay in the country, all other independent variables (including country of origin) were dummy coded. A short description of the variables follows in the appendix.

¹² The probabilities for the dependant variable with the specified values of a given predictor (while all other independent variables were set to mean values) were calculated in STATA for the final model, with the coefficients presented in Table 1. The same method of calculation was used for all probability estimations mentioned in the article.

¹³ The significance of work experience prior to migration, particularly for Ukrainian labour migrants, was also studied by Strielkowski and Rausser (2013), who used the assumption of so-called ‘structural channelling’. Using data from a case study realised in the Transcarpathian region of Ukraine, the authors claim

that work experience in the Ukrainian construction sector increases the likelihood of being occupied in the same sector in the Czech Republic.

¹⁴ This finding is also supported by Kupets (2013), who studied the international mobility of Ukrainian teaching and research professionals and who explains why Ukrainian teachers tend to occupy low-skilled jobs abroad.

¹⁵ It would be difficult to define the required level of education for some types of entrepreneurial activity.

¹⁶ One disadvantage of this categorisation – when it is combined with a self-employed status – is covered in the next section.

¹⁷ As Table 2 shows, the coefficients expressing the relative risk ratios for being in unskilled jobs (as compared to being in semi-skilled) are not significant, therefore the probability of occupying these jobs is the same regardless of the family's location.

¹⁸ For this same Ukrainian migrant the probability of having a skilled job is similar (34 percent).

¹⁹ Here the probability for the dependant variable was calculated (based on the coefficients in the preferred model) using specified values for the sets of named predictors (Ukrainian nationality, tertiary education, length of stay in Czechia equal to 10 years, no permanent residence permit and very good language skills), while all other independent variables were set to mean values.

²⁰ The estimations are the same as those explained in Footnote 18, but the value of one dummy predictor for permanent residence permit is changed to 1.

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Appendix. Variables used in regression analysis

Employed Foreigners 2006

Mismatch – Dependent variable expressing the (mis)match between an immigrant's occupation and level of formal education, taking values of 1 if over-educated, 2 if relatively well matched and 3 if under-educated. This variable was coded from years of education the immigrant spent at school related to the average years of education of the Czech population in the same professions (ISCO 2 digit codes). Respondents with years of schooling one standard deviation above the mean for natives were coded as over-educated, whereas respondents with years of schooling one standard deviation below the average for natives were coded as under-educated.

Male – Dummy variable taking values of 1 if a male respondent and 0 if a female respondent.

Ukraine, Russia – Two dummy variables recoded from data on the citizenship (reference group *Other*) of the respondent, taking values of 1 if possessing Ukrainian/Russian citizenship and 0 if otherwise. Other nationalities were not coded into separate categories due to the limited number of cases.

Age – Age of the respondent expressed in complete years; based on the question *What is your age?*

Single, Nuclear family members not in the Czech Republic (CR) – Two dummy variables described the family situation of the respondent (reference group *Nuclear family in the Czech Republic*). The nuclear family was operationalised as partner/spouse and children. A set of questions was used to code respondents into three groups: *What is your marital status?*, *Do you have a steady partner?*, *Does your partner/spouse live in the Czech Republic?*, *Do you have children?*, *How many children do you have?* and *How many of your children live with you in the Czech Republic?* The variable *Single* takes a value of 1 if respondent has neither spouse/partner, nor children and 0 if otherwise. The variable *Nuclear family members not in the Czech Republic* takes a value of 1 if at least one of the children or the partner is elsewhere than in the Czech Republic and 0 if otherwise (i.e. if single or have all nuclear family members in the Czech Republic).

Length of stay in the Czech Republic – Variable expressing the length of a migrant's current/continuous stay in months. The questions were: *How long have you been currently living in the Czech Republic? In other words, how long have you been staying in the country without interruption, on the same permit, including all prolongations on the territory?*

Skilled job in the Czech Republic, Semi-skilled job in the Czech Republic – Two dummy variables were used to describe the current work of the respondent in the Czech Republic (reference group *Unskilled job in the Czech Republic*). An open question was used to gather the data on the current occupation of immigrants: *Please describe in detail what kind of job you have in the Czech Republic? Where do you work? What do you do?* Interviewers were instructed to record an answer in as much detail as possible, including job title, job description and, if applicable, the kind of machine the migrants work with. If a respondent stated several jobs, the information about the main activity was recorded. Initially answers were coded into 2-digit KZAM codes (Czech classification based on ISCO-88). For the purpose of our regression analysis the data were coded into three categories: Skilled job (ISCO Major groups 1–3), Semi-skilled job (ISCO Major groups 4–8) and Unskilled job (ISCO 9).

Skilled job in home country, Semi-skilled job in home country, Never worked in the home country – Three dummy variables describing the last work of the respondent in the country of origin. (The reference group is *Unskilled job in home country*). The wording of the question was: *What was your last job in your home*

country? Where did you work? What did you do? The interviewer's instruction was the same as in the question about current job. On the same principle, data were coded into three categories based on 2-digit KZAM codes. Some of the respondents had never worked in the home country (mostly due to their young age), therefore an additional dummy variable was used to describe the lack of economic activities of the respondent prior to migration to the Czech Republic.

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Job in the Czech Republic – Dependent variable expressing the type of job immigrants currently occupy and taking values of 1 = *Skilled job*, 2 = *Semi-skilled job* (used as a reference group) and 3 = *Unskilled job*. The wording of the question was: *Please describe in detail what kind of job you have in the Czech Republic. Where do you work? What kind of business activity do you pursue? What do you do?* Interviewers were instructed to record an answer in as much detail as possible, including job title, job description and, if applicable, the kind of machine the migrants work with. If a respondent stated several jobs, information about the main activity was recorded. Initially answers were coded into 2-digit KZAM codes (Czech classification based on ISCO-88). For the purpose of our regression analysis, the data were coded into the categories: Skilled job (ISCO Major groups 1–3), Semi-skilled job (ISCO Major groups 4–8) and Unskilled job (ISCO 9).

Male – Dummy variable taking value of 1 if male respondent, 0 if female.

Vietnam, Russia, Moldova, Ex-Yugoslavia – Four dummy variables recoded from data on the citizenship (reference group *Ukraine*) of the respondent; taking values of 1 if respondent is of given nationality (citizenship) and 0 if otherwise.

Age – Age of the respondent expressed in complete years; based on the question *What is your age?*

Single, Nuclear family members in the Czech Republic – Two dummy variables describing the family situation of the respondent (reference group *Nuclear family not in the Czech Republic*). The nuclear family was operationalised as partner/spouse and children. A set of questions was used to code respondents into three groups: *What is your marital status?*, *Do you have a steady partner?*, *Does your partner/spouse live in the Czech Republic?*, *Do you have children?* and *Do all your children live in the Czech Republic?* The variable *Single* takes a value of 1 if respondent has neither spouse/partner, nor children and 0 if otherwise. The variable *Nuclear family members in the Czech Republic* is taking the value of 1 if all members of the nuclear family are in Czechia and 0 if otherwise (i.e. if single or have at least one of the family members elsewhere).

Reasonable language skills, Very good language skills – Two dummy variables describing knowledge of the Czech language (reference group *Poor skills*). The variables are based on reports from the interviewers, who evaluated the language skills of respondents by answering the question: *How would you rate the respondent's command of Czech?*, using proposed answer categories: 1 = Very good, 2 = Quite good, 3 = Quite bad, and 4 = Very bad. Due to the low number of respondents with a very bad command of Czech, categories 3 and 4 were coded together and used as a reference group. The variable *Very good language skills* takes a value of 1 if skills were reported as very good, 0 otherwise.

Secondary education without diploma, Secondary education with diploma, Tertiary education – Four dummy variables expressing the highest educational achievement of the respondent (reference group *Basic education*). The question was worded as follows: *What is your highest attained education?*, and answer categories were as follows: 1 = *Primary*, 2 = *Secondary without state examination or GCSE (incomplete second-*

ary), 3 = *Secondary with state examination or GCSE (complete secondary)* and 4 = *Tertiary, including colleges and post-secondary schools*. The variable *Secondary with diploma* takes values of 1 if the respondent completed secondary school with GCSE exam, 0 if otherwise.

Permanent residence permit – Dummy variable taking values of 1 if respondent has a permanent residence permit and 0 if possessing another type of residence permit, including a long-term visa or long-term residence permit. The wording was as follows: *What is your current residence status in the Czech Republic?*, and answer categories were: 1 = *Short-term visa for up to 90 days*, 2 = *Long-term visa or long-term residence*, and 3 = *Permanent residence or asylum granted*. Due to the low number of respondents on a short-term visa up to 90 days, the first two categories were combined.

Employee – Dummy variable expressing the employment status of the respondent and taking values of 1 if the respondent is working as a waged employee and 0 if otherwise. The wording was as follows: *What is your status in that job? Are you...?*, and answer categories: 1 = *Employee of a business*, 2 = *Employee of an intermediary/personnel agency*, 3 = *Shareholder or executive of a limited liability company, member of a cooperative*, 4 = *Self-employed person working in a business based on a business licence*, 5 = *Self-employed person with employees*, 6 = *Self-employed person without employees*, 7 = *Co-working family member* and 8 = *Others*. For the purpose of our regression analyses (due to the lower number of respondents in some groups), detailed categories were merged in two groups: *Employees* (1 and 2) and *Others*.

Length of stay in the Czech Republic – Variable expressing the length of current/continuous stay in months. The questions were: *How long have you been living in the Czech Republic?* Respondents were asked to provide information about the length of stay in years and, if possible, months. Duration was calculated in months depending on the respondent's answer.